



**Collins**

# SCHOOL CATALOGUE 2022-23

★  
**Adheres to  
National  
Education  
Policy**

**Collins** · Inspiring learners today

## Collins Learning's Resources Adhere to the Principles of NEP 2020

The National Education Policy (NEP) of 2020 envisions universal access to education, from the Foundational to the Secondary Stages of schooling.

The new pedagogical and academic structure includes four stages (of 5+3+3+4 years) corresponding to ages 3-8, 8-11, 11-14, and 14-18 years respectively:

- Foundational Stage – 3 years of Pre-school plus Grades 1 and 2
- Preparatory Stage – Grades 3 to 5
- Middle Stage – Grades 6 to 8
- Secondary Stage – Grades 9 to 12

Collins Learning's resources are aligned with the principles and the vision of the NEP. Our books focus on:

- Achieving the desired learning outcomes at all levels
- Recognizing the **primacy of formative years** (ages 3-8), which includes building **foundational literacy and numeracy**
- Integrating **21<sup>st</sup> century skills in learning, teaching and assessments**
- Providing affordable digital aids as teaching-learning tools to bridge the digital divide and ensure that no child is left behind (in the use of technology to aid learning), thus **using technology** extensively to deliver education
- Providing opportunities for **continuous review of progress** based on regular assessment
- **Conceptual understanding** rather than furthering rote learning and learning-for-exams
- Fostering **inquiry-based, discovery-based, discussion-based, and analysis-based learning**
- Imparting **holistic education** through a **flexible, multidisciplinary approach** covering the sciences, social sciences, humanities, fine arts and sports for a multidisciplinary world in order to ensure the unity and integrity of all knowledge
- Promoting **peer tutoring** through a variety of hands-on, supervised activities for more effective learning and **skill building**
- Nurturing and developing **life skills** such as **communication, cooperation, teamwork** and **resilience**
- Honing **creativity** and **critical thinking** to encourage **logical decision-making** and innovation
- Encouraging **respect for diversity** and **local context** in all curriculum and pedagogy
- Creating awareness in children about **Sustainable Development Goals 2030**, and preparing them to contribute towards attaining these



# Collins School Catalogue 2022–23

The education sector across India has witnessed a paradigm shift in recent times. The pandemic has taught us a lot about adjusting to changes in new and creative ways. Due to an increase in the competitiveness in the marketplace coupled with the increasing need to expand quality education at the grassroots level, policymakers have slowly but steadily set the Indian education sector on the path to reforms. In adopting a 5 + 3 + 3 + 4 model of school education starting at age 3, the primacy of the formative years from ages 3 to 8 in shaping the child's future has been recognized. Another key aspect of school education in the new policy is the breaking down of the strict distinction between arts, commerce and science streams in high school. This will lay the foundation for a multi-disciplinary approach in school education as well.

In light of this new vision, we take great pride in presenting our new catalogue to you. This catalogue, besides showcasing the range of titles that we have published over the years, highlights our new range of products for the academic session 2023. All the products continue to adhere to NEP 2020 and reflect the changing trends in teaching and learning methodologies. Some of the key series published this year are briefly described in the subsequent paragraphs.

**Revised Tune In!** is an innovative listening and speaking course that consists of eight books for classes 1 to 8 with accompanying audio-visual resources that can be accessed in the corresponding e-book. The course uses a step-by-step practical approach with experiential tasks based on 21st century skills of communication, collaboration, creativity and critical thinking. It aims to boost confidence in students and help them gain communicative competence.

**Collins Maths Expert** is a series of eight books for grades 1 to 8. In this series, the approach is "Less Is More" and "Drill and Practice". It provides all the basic information considered essential in attaining the objectives of mathematics education.

**Collins Science Expert** is a series of 14 coursebooks for Classes 1 to 8. The coursebooks for grades 1 and 2 are aligned with Environmental Studies (EVS) and grades 3 to 5 with Science. For Classes 6 to 8, there are separate coursebooks for Physics, Chemistry and Biology. The series is based on the VAKT (visual, auditory, kinesthetic and tactile) learning style and the three domains of Bloom's Taxonomy that include cognitive (intellectual skills), affective (attitudinal nature) and psychomotor (actionable nature) development.

**Collins Digi Tech** is a series of eight computer science books that has been designed to cater to the learning requirements of digital natives. This series includes worksheets to develop computational-thinking and problem-solving skills of students. It provides opportunities for learning by doing, peer to peer tutoring and discovery-based learning. The Fun with AI and Link Up! boxes help learners to understand the impact of computers on our lives. The series covers Scratch, HTML and Java.

**Oasis** is an integrated semester series of 14 books for LKG to class 5. Each book includes English, Maths and General Awareness (pre-primary)/EVS (classes 1-2)/Science (classes 3 to 5) and Social Studies (classes 3 to 5). The series provides a comprehensive learning experience to young learners in their formative years. It effectively integrates its features with different areas of learning through an interdisciplinary and cross-curricular approach. The books for the pre-primary levels support learning across all development domains. The books for Classes 1 to 5 follow an integrated approach to make learning engaging for students through the emphasis on connections between classroom learning across subjects and day-to-day experiences.

**Knowledge Lighthouse (Revised)** is a series of General Knowledge books for grades 1 to 8. The series spans a diverse spectrum of topics taken from a wide variety of curricular as well as extracurricular domains. The skill pages address the learning needs of 21st century learners. There has been focus on including relevant topics, such as the pandemic and the SDG goals. The skills pages in every book support holistic learning through seamless integration of content.

The Teachers' Books accompanying each of our coursebooks provide a detailed introduction to the teaching method and offer a set of structured lesson plans that correspond to the activities provided in the coursebooks. The digital supplements in DigiSuite provide additional e-support to teachers. In tune with the current needs of education, we now have an updated version of our digital platform, Collins Infinity which offers blended learning solutions for classes 1 to 8.

We hope that both teachers and students alike will enjoy using our books. We look forward to your continued support and patronage.



**Rohit Dhar**  
Publisher  
Collins Learning

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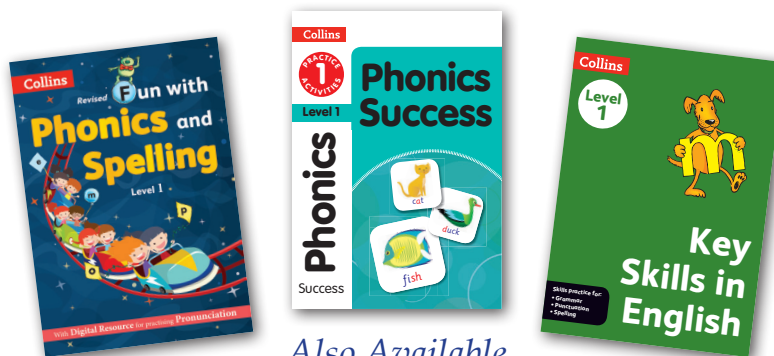
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# Foundational Stage

	Nursery	LKG	UKG	Grade 1	Grade 2
Cherry Blossoms	✓	✓	✓	✓	✓
Collins Little Learners	✓	✓	✓		
easy learning		✓	✓		
Collins Little Learners Hindi		✓	✓		
Collins Cursive Writing	✓	✓	✓		



Refer page nos. 28–32



Also Available

## Learning and Development During the Early Years

The early years are the most significant years for growth, development and learning. During this period, children need adequate opportunities for stimulating experiences as these favourably affect various learning abilities. Learning experiences, when chosen and planned properly, fuel the innate curiosity of children, and stimulate their thought processes.

The goal of learning during the early years is to enhance the all-round development of personality and to inculcate healthy attitudes, life skills and good values. Creative play, well thought-out games and developmentally appropriate activities help children develop the necessary skills to achieve these goals. The skills that children need to acquire can broadly be categorized as:

### Motor:

Motor skills pertain not only to gross motor activities like walking and jumping but also include fine motor activities like the ability to hold a pencil and write. The development of motor skills is facilitated through several graded activities.

### Personal, Social and Emotional:

Personal, social and emotional development, necessary for the overall personality development of children, is achieved using a combination of hands-on activities, role plays and thought-provoking stories and rhymes.

### Linguistic:

The ability to listen, speak, read and write is critical to success in formal learning environments.

### Mathematical:

The development of mathematical ideas and concepts is important at this stage since children will continue to build on this learning for most of their years of schooling.

### Knowledge and Understanding of the World:

This is achieved through activities that enable children to explore their surroundings at home and in the school, and interact with the people that they see around them.

**Health and Safety:** The idea of health and safety is introduced through activities, stories and retelling of real-life experiences to encourage children to focus on health and well-being.

### Creative:

Creative skills are developed through a host of activities involving art, craft, painting, roleplays, etc.

### Logical and Rational Thinking:

Activities that involve simple puzzles, pattern-completion and visual discrimination help children to develop logical and rational thinking skills.



# FOUNDATIONAL STAGE

FOUNDATIONAL STAGES 1 TO 5

## Cherry Blossoms

**Cherry Blossoms** is designed to meet the learning requirements of children in the age group of three years to eight years. The series adheres to the vision outlined in the **National Education Policy (NEP) 2020** for early years. This series also integrates the essence of **National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat)** guidelines, which extensively deal with foundational literacy and numeracy. From Nursery (Foundational Stage 1) through Class 2 (Foundational Stage 5), the series supports holistic learning and skill development through a variety of activities. It has separate coursebooks and practice books for English, Maths and General Awareness. It also has Art and Craft for all the levels and Rhymes and Stories for the first three levels, which together serve as a complete learning solution for the early years.

### KEY FEATURES

- Emphasizes learning by doing, coupled with frequent repetition for better skill development
- Targets skill development across all learning domains for children
- Encourages **creative and psychomotor development**, a critical requirement for early years, through activities integrated across all levels
- Reinforces **basic values and skills** through stories, activities, pictures
- Includes **extensive teacher support** material in the form of teacher manuals, flash cards for the first three levels and digital teaching and learning resources







## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHOR / SERIES EDITOR

**Dr Satyasree Gupta** has an in-depth understanding of pedagogy and the different curricula prevalent in India. She is a veteran educator, especially in the fields of Foundational Literacy and Numeracy, extending up to higher levels as she was an integral part of many reputed schools in India. She has authored several books, and mentored hundreds of educators across the globe. She holds a dual PhD in Education Management and Doctorate in Sciences.

**Rani Thippavazzula**, former Academic Director, Ravindra Bharathi Group is an eminent educationist with over two decades of experience in teaching, administration and curriculum design and development. As an Academic Advisor for chain schools pan India, she is proficient in developing learning products and is a specialist in Differentiated Instruction, Enterprise Education and Early Childhood Education.



**Teacher's Resource Books:** Comprises stories, activity banks, classroom management and assessment guidelines



**Multimedia eBook:** Consists of animations, audio, video, slide shows, and interactive exercises



**Print-ready Worksheets:** Additional worksheets for practice and reinforcement, present in the digital support



**Digital Flashcards:** Flashcards with embedded sounds and animations for letter formation and letter-sound association



**Animations and Songs:** Animated stories and rhymes set to tune



**Interactive Games:** Interactivities to reinforce concepts in a fun and engaging manner

# FOUNDATIONAL STAGE



## FOUNDATIONAL STAGES 1 TO 3

# Collins Little Learners

Collins Little Learners is a three-level course designed to meet the learning requirements of children in the age group of three years to six years. Focused on holistic learning and development, the series covers English, Maths, General Awareness, and Art and Craft for Foundational Stages 1 to 3.

It also includes Workbooks for English, Maths and General Awareness and a Book of Rhymes and Stories at each stage. Hindi is available for Foundational Stages 2 and 3.

### KEY FEATURES

- Emphasizes **learning by doing**, coupled with frequent repetition for better skill development
- Targets **skill development** across all eight learning domains for children
- Encourages **creative and psychomotor development**, a critical requirement for pre-school children, through activities integrated across all levels
- Reinforces **basic values and skills** through activities and stories
- Includes **extensive teacher support** material in the form of teacher manuals and digital teaching and learning resources



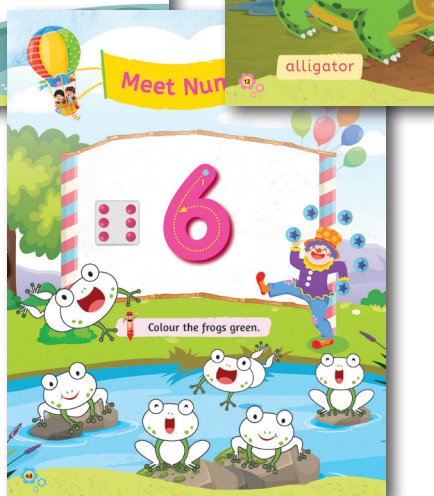
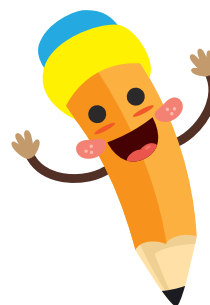
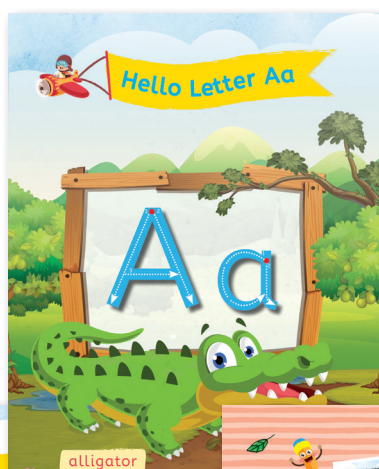


## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Flashcards and Stickers
- Collins DigiSuite

## ABOUT THE SERIES EDITOR

**Rani T.**, former Academic Director, Ravindra Bharathi Group is an eminent educationist with over two decades of experience in teaching, administration and curriculum design and development. As an Academic Advisor for chain schools pan India, she is proficient in developing learning products and is a specialist in Differentiated Instruction, Enterprise Education and Early Childhood Education.



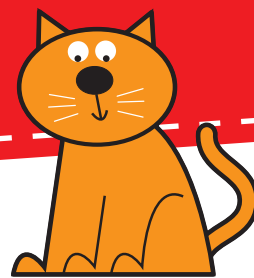
Collins DigiSuite		Multimedia eBook		Learning Tools		Flashcards
		Detailed Lesson Plan		Teacher's Resource Books		Printable Worksheets





# FOUNDATIONAL STAGE

LKG, UKG



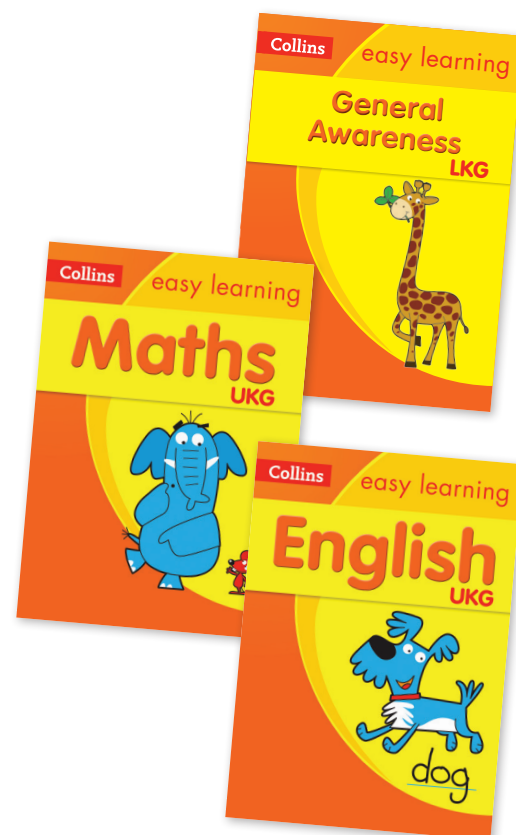
## easy learning

Designed to give children a real sense of achievement, **easy learning** practice books improve essential skills through activity-packed fun. These help in:

- building counting skills
- boosting confidence
- developing a love of learning

The colourful, motivating activities help to boost confidence and develop good learning habits for life.

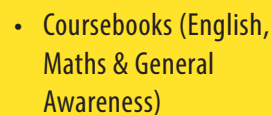
Answers and Parents' notes are included to help support a child's learning at home.



### KEY FEATURES

- **Activity notes:** Suggest additional activities that aid in the overall development of the child
- **Tracing activities:** Help you to talk to the child about the shape of each letter and number, and the pencil movement as the child traces over it
- **Parents' notes:** Divided into 'What you need to know', which explains the key subject idea, and 'Taking it further', which suggests activities and encourages discussion with the child on what they have learnt
- **Certificate:** Placed at the end of the book, this should be used to reward the child for their effort and achievement





Taking the child along with you to different places gives them exposure which in turn helps in developing observation skills, language skills and confidence. Also, talk to them about the ways to ensure safety while at these places.

# English

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
<b>Enhanced English Alive</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>New Exploring English</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>Revised Engaging English</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>Enriching English</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>Revised Collins English Grammar &amp; Composition</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>Revised Exploring Grammar</b>	✓	✓	✓	✓	✓	✓	✓	✓
<b>Tune In! (Revised)</b>	✓	✓	✓	✓	✓	✓	✓	✓

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
<b>Revised Fun with Phonics &amp; Spelling</b>	✓	✓	✓	✓	✓	✓	✓
<b>Phonics Success</b>	✓	✓	✓				
<b>Key Skills in English</b>	✓	✓	✓	✓	✓	✓	



The Collins English Language Teaching (ELT) 2023 product portfolio helps you navigate your English learning journey with a range of quality resources.

All our ELT textbooks adhere to the principles of the National Education Policy 2020. The books help students appreciate language through literature with a wide variety of themes and genres for the stories and poems. This year we have revised one of our best-selling courses, *Tune In!*, which is an innovative listening and speaking course that uses a step-by-step practical approach with experiential tasks based on 21st century skills thinking. It aims to boost confidence in students and help them gain communicative competence for real-world language use.

The Workbooks accompanying the coursebooks provide practice in a variety of language skills, including reading comprehension, vocabulary, grammar and writing. The Literature Readers help the learners develop critical appreciation of literature as well as inculcate good reading habits.

A wide range of HarperCollins Children's books by renowned authors, such as Ruskin Bond, Sudha Murty, Paro Anand, David Walliams, and Dr Seuss also make for great reading for children of all age groups. The *Collins Big Cat* series provides a rich school reading programme for primary levels.

Our professional development programmes for teachers and engaging activities for students provide a complete package that users can benefit from.

## What's Revised



*Build and enhance your Dictionary referencing skills*



# Enhanced English Alive

**Enhanced English Alive** is a multi-skill course in English that adheres to the guidelines of the **National Education Policy, 2020**. This edition retains the original essence of teaching communicative English using a cross-curricular approach and integrates the essence of **NIPUN Bharat** guidelines, which extensively deal with foundational literacy. The aim is to motivate learners to read independently, to improve their vocabulary, to develop their critical and creative thinking skills, and enhance their ability to express themselves both verbally and in writing.

This series also takes care of the requirements of **Structured Assessments For Analyzing Learning (SAFAL)**. Research-based activities and projects have been used to instill inquiry-based learning, while comprehension passages have been followed by extrapolative and value-based questions that involve analysis-based learning.



## KEY FEATURES

- **Reading:** Additional comprehension passages including prose and poems, followed by a variety of questions
- **Vocabulary:** A variety of exercises and activities on vocabulary topics mapped with the corresponding Coursebook
- **Grammar:** A variety of graded exercises based on the grammar concepts taught in the Coursebooks for practice and reinforcement
- **Listening and Speaking:** A variety of innovative activities aimed at improving students' communicative skills
- **Writing:** A well-graded section with a wide variety of creative and scaffolded writing tasks
- **Test Papers:** Short assessment papers provided at regular intervals to evaluate the vocabulary and grammar concepts covered in a group of chapters

## COURSE PACKAGE

- Coursebooks
- Workbooks
- Literature Readers 3 to 8
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

**Vijaya Subramaniam**, former Vice Principal at Sardar Patel Vidyalaya, New Delhi

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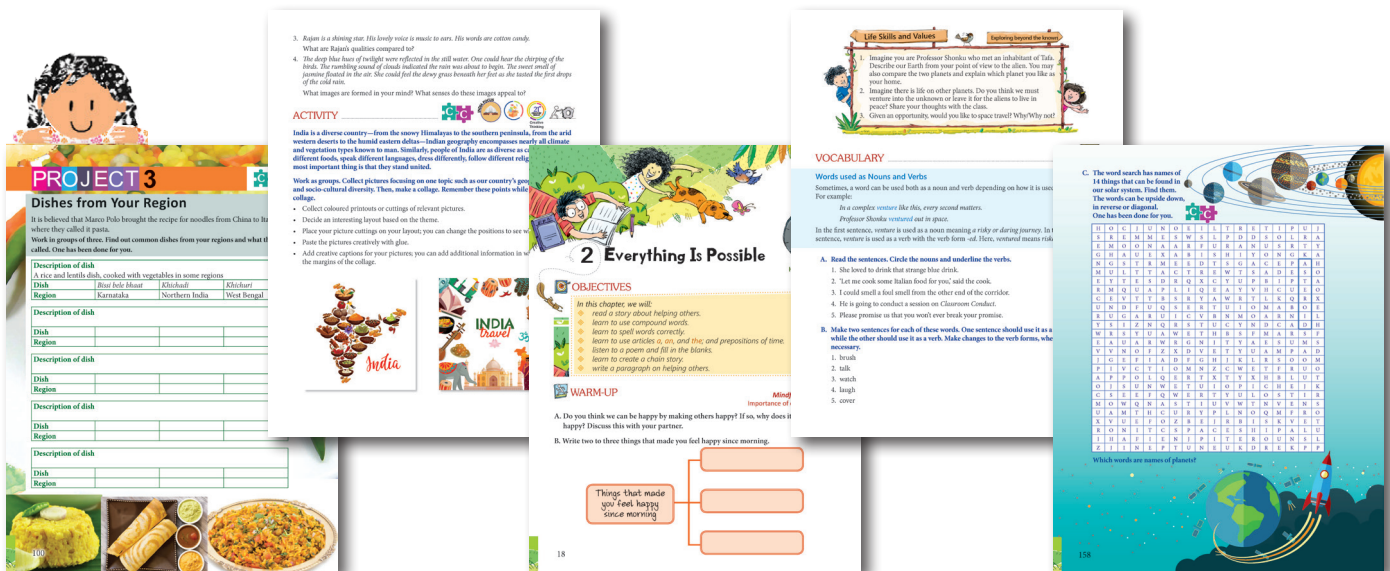
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**Renu Viswanath**, former Headmistress at Mother's International School, New Delhi



Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Additional Worksheets	 Detailed Lesson Plan
	 Teacher's Resource Books	 Test Generator	 Interactive Language Games	 Collins Picture Dictionary





# New Exploring English

**New Exploring English** is a multi-skill course that focuses on all aspects of language learning to help learners develop communicative competence. The content for the series adheres to the new National Education Policy, 2020. It offers high-quality English language materials to schools with clearly defined learning objectives. The series has been revised and updated based on user feedback.



## KEY FEATURES

- **Reading and Comprehension** cover a wide range of classic, contemporary and original texts by Indian and international authors, for developing key comprehension skills.
- **Read About Me** section provides a short biography of the author of each piece.
- **Summary** provides the gist of the text, with the aim of revising the important points in the story or the poem.
- **Vocabulary and Language Skills** encourage the use of dictionaries and enrich the learner's language.
- **Grammar** builds language proficiency through a variety of graded tasks and progressive learning.
- **Listening and Speaking** tasks hone active listening skills and build confidence in speaking English fluently.
- **Writing** tasks challenge the learners to explore new ways of expressing themselves creatively.
- **Project and Life Skills** pages encourage collaborative group work.



## COURSE PACKAGE

- Coursebooks
- Workbooks
- Literature Readers 3-8
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE SERIES EDITORS

**Dr Usha Ram**, former Principal, Laxman Public School, New Delhi; previously an elected member of the CBSE Governing Body of the Board

**Dr K. Padmini Shankar**, Professor in the Department of ESL Studies at the English and Foreign Languages University (EFLU), Hyderabad

**2. Best Bird**

In this unit, I will...

- talk and write about the things I can do.
- learn names of birds and animals' body parts.
- learn the usage of has and can.
- learn doing words and practise spelling words with i and y.
- colour a peacock.

Active participation: Creative expression of oneself

Warm-up

A. Write the name of each bird under its picture. Then tick [✓] the things you can do.

duck penguin parrot ostrich owl

1. I can talk. ☐ 2. I can run fast. ☐

4. I can dive into water. ☐

B. Now, say the things you can't do from E

**Project 1**

Active participation: and joy of participation

Making a face mask

It is important to wear masks in public spaces. Diseases spread from spreading. Learn how to make a

You will need:

- One handkerchief
- Two rubber bands

Step 1: Place the handkerchief on an even surface. Fold the top and the bottom part inward. Then, fold it in half again.

Step 2: Insert one rubber band on one end of the handkerchief. Insert the other rubber band on the other end.

Step 3: Fold the ends of the handkerchief.

Step 4: The ends should meet in the middle. They should also overlap slightly.

Step 5: Your mask is ready. Wear it. With the smooth side out and the ends against your face. Adjust the position of the rubber bands if the mask feels too tight. Wash the mask after each use.

Now make more masks for your friends and family.

**Reading**

Read this story about an owl.

I'm the best bird!

Look at me!

I can fly!

But I can dive!

I can hoot!

But I can talk!

**Vocabulary**

Animal movements

A. How do these animals move? Tick (✓) the correct option.

1. How do rabbits move?  
☐ a. They gallop.  
☐ b. They swim.  
☐ c. They hop.

2. How do birds move?  
☐ a. They soar.  
☐ b. They crawl.  
☐ c. They leap.

3. How do fish move?  
☐ a. They creep.  
☐ b. They climb.  
☐ c. They swim.

4. How do insects move?  
☐ a. They hover.  
☐ b. They trot.  
☐ c. They charge.

5. How do snakes move?  
☐ a. They run.  
☐ b. They slither.  
☐ c. They crawl.

6. How do horses move?  
☐ a. They canter.  
☐ b. They float.  
☐ c. They ride.

7. How do monkeys move?  
☐ a. They swing.  
☐ b. They gallop.  
☐ c. They run.

8. How do crabs move?  
☐ a. They scuttle.  
☐ b. They wriggle.  
☐ c. They slither.

B. Complete the sentences with these verbs.

slithered trotted charged prowled leapt hop

1. We watched in awe as a pod of dolphins \_\_\_\_\_ out of the ocean.

2. The black mamba snake quietly \_\_\_\_\_ towards its prey.

3. The herd of wildebeest \_\_\_\_\_ at the leopard.

4. Do you know why kangaroos \_\_\_\_\_?

5. The horse slowly \_\_\_\_\_ around the field.

6. All night, the lion \_\_\_\_\_ around the camp.

Collins DigiSuite		Answer Keys		Multimedia E-book		Additional Worksheets
		Teacher's Resource Books		Test Generator		Detailed Lesson Plan



CLASSES 1 TO 8

# Revised Engaging English

**Engaging English** is a language learning course, which aims to impart communicative competence through an appreciation of literature. The course adheres to the National Education Policy, 2020 through its focus on twenty-first century skills, cross-curricular learning, 'Happiness' content and art-integrated learning.

In the primary levels, the activities integrate the essence of NIPUN.



## KEY FEATURES

- **Let's Get Started** includes warm-up tasks with a focus on Sustainable Development Goals
- **Comprehension** checks factual, inferential, analytical, interpretative and evaluative skills
- **Way with Words** and **Grammar in Use** enrich vocabulary while teaching language structures
- **Study Skills** teaches dictionary usage, phonics and spelling
- **Listening and Speaking** develops oral and aural skills
- **Pen it Down** trains learners to express themselves creatively, logically and coherently
- **Literary terms, Did You Know?, Wordwise** and **Read More** provide additional information
- **Be Creative!/Research and Write** revisit the themes covered in each unit
- **Assessments** in Workbooks 3 to 8 include tasks aligned to the principle of SAFAL







## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

- Preeti Roychoudhury, former teacher at Loreto House, Kolkata
- Sadeqa Rahman Siddiqui, English teacher at La Martiniere for Boys, Kolkata
- Ruby Bose, English teacher at The Heritage School, Kolkata
- Somali Mitra, English teacher at Modern High School, Kolkata
- Anju Gupta, ELT author and editor



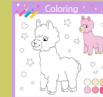
Collins DigiSuite



Answer Keys



Multimedia E-book



Additional Worksheets



Test Generator



Detailed Lesson Plan





## Enriching English

**Enriching English** is a language-through-literature course for classes 1 to 8, which aims to build the foundations of the English language. The series introduces students to the world of literature through a variety of classic and contemporary texts authored by upcoming as well as renowned authors. Students are introduced to the nuances of language through focused tasks that make learning an enjoyable activity.

The series comprises graded Readers and Language Companions, with support material in the form of Teacher's Resource Books and enhanced digital learning resources.



### KEY FEATURES

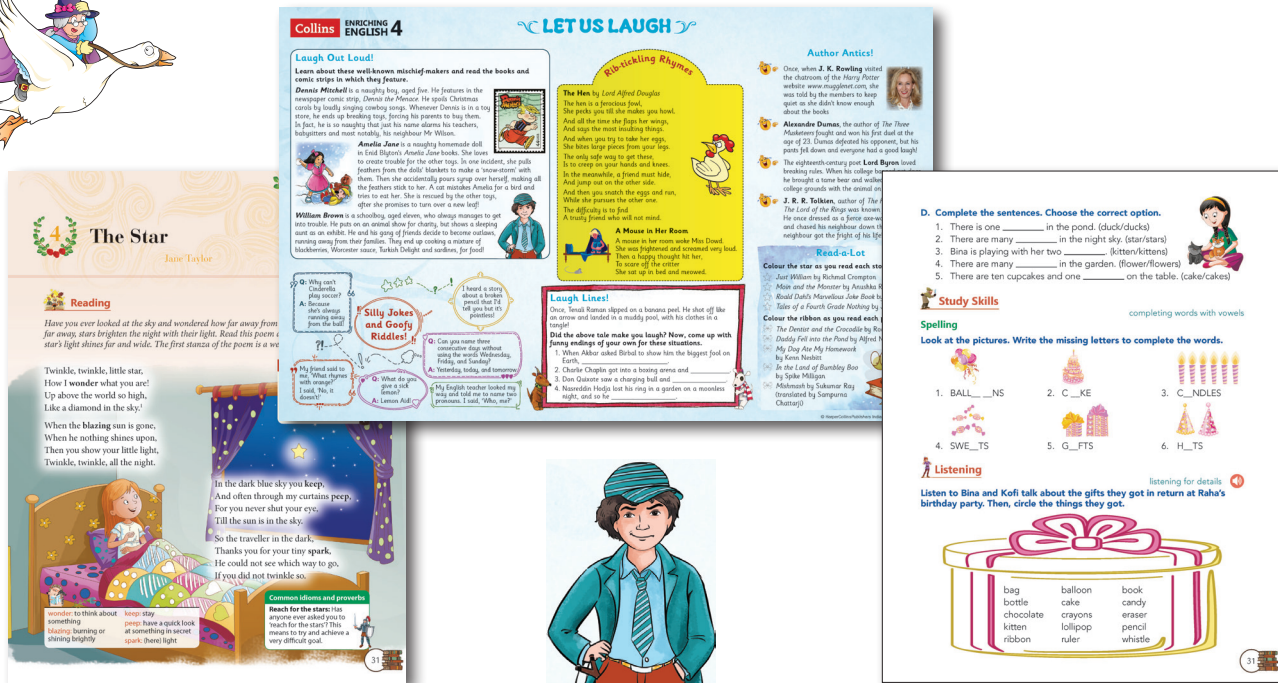
- **Comprehension** checks factual understanding through 'wh-' and 'reference-to-the-context' questions.
- **Food for thought, Literary terms and Common idioms and proverbs** provide trivia, and additional information on literary devices and vocabulary.
- **Vocabulary** includes exercises on contextual usage, modes of vocabulary acquisition and figures of speech.
- **Grammar** includes graded practice tasks accompanied by simple explanations.
- **Study Skills** includes graded phonics, spelling and dictionary activities.
- **Listening** develops aural comprehension skills through various kinds of factual questions.
- **Speaking** includes role plays, conversation practice and public speaking tasks through solo, pair and group work.
- **Writing** includes guided and free writing exercises that develop functional and creative writing skills.
- The **Activity** in the poetry chapters includes exercises which combine hands-on tasks with creative writing skills. Every task has plenty of scaffolding in the form of suggested vocabulary and reference samples.
- **Now I can ...** is a self-assessment checklist at the end of every chapter.
- **Read at Leisure** includes suggestions for further reading related to the author or theme of the reading passage.
- Cross-curricular **Projects**, of which there are three, cover literature-based activities that revisit the themes covered in each book.
- A **glossary of literary terms and genres** at the end of the book acts as a ready reference.

## COURSE PACKAGE

- Readers
- Language Companions
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

- Rashi Ravi Ganguly, English teacher and materials writer
- Aruna Puneekar, English teacher at The Sanskar Valley School, Bhopal
- Paromita Roy, former teacher at The Heritage School, Kolkata
- Sonia Duggal, teacher trainer and ELT materials writer
- Ritu Pankaj, English teacher and teacher trainer
- Shradha Anand, ELT materials writer and teacher trainer
- Radhika Tadepalli, English teacher and principal of a school in Delhi
- Somali Mitra, English teacher at Modern High School, Kolkata
- Chinmoyee Ghosh Choraria, English teacher at South City International School, Kolkata



Collins DigiSuite	Answer Keys	Multimedia E-book	Interactive Language Games	Additional Worksheets	Detailed Lesson Plan
	Teacher's Resource Books	Test Generator	Project & Sample Questions	Collins Picture Dictionary	





CLASSES 1 TO 8

# Revised Collins English Grammar and Composition

**Revised Collins English Grammar and Composition** is a carefully graded series spanning eight levels, which aims to enable learners to master the rules of the English language so that they can use it with ease. It adheres to the National Education Policy, 2020.



## KEY FEATURES

- A **Self-Assessment Test** helps determine the learner's competency level
- **Let's Get Started** acts as an introduction to the topic
- **Grammar Bytes** highlight additional facts related to the topic
- **Watch Out!** lists common errors and exceptions to rules
- Extensive **exercises** and practice drills reinforce concept acquisition
- **Don't Forget!** does a quick recap of the important points in the unit
- **Let Us Write** includes guided and independent writing tasks related to the unit
- Three periodic **Tests** help learners evaluate their progress
- The **comprehension** and **composition** units hone reading and writing skills.
- The revised edition has five new comprehension chapters.
- **Grammar on the Go** revisits important grammar concepts by focusing on usage



## COURSE PACKAGE

- Textbooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

- **Hemalatha Nagarajan**, Professor at the English and Foreign Languages University (EFLU), Hyderabad
- **Prachi Deva**, English teacher at The Shriram Millennium School, Noida
- **Catherine Meryl Nongrum**, former teacher at Loreto Convent School, Shillong
- **K. Padmini Shankar**, Professor at EFLU, Hyderabad
- **Preeti Roychoudhury**, teacher at Calcutta International School, and a former teacher at Loreto House, Kolkata

## ABOUT THE SERIES EDITOR

**Samson Thomas**, Professor of English at EFLU, Hyderabad



### Self-Assessment

Complete the test to find out how much you already know.

**Circle the naming words.**

- The sun shines brightly.
- Birds fly in the sky.
- Flowers grow on plants.
- Birds live on trees.
- I read books.

**Underline the doing words.**

- The sun shines brightly.
- Birds fly in the sky.
- Flowers grow on plants.
- Birds live on trees.
- I read books.

**Fill in the blanks with the correct describing words from the box.**

soft tall pink heavy cold

- My dress is \_\_\_\_\_ in colour.
- It is a \_\_\_\_\_ tree.
- My cat has \_\_\_\_\_ fur.
- Jim has a \_\_\_\_\_ bag.
- Ice is \_\_\_\_\_.

### Collins English Grammar and Composition 5

#### Types of Pronouns

**Personal**  
I, me, we, us, you, he, she, him, her, it, they, them

**Possessive**  
mine, yours, ours, his, hers, theirs

**Demonstrative**  
this, that, those, these

**Reflexive**  
myself, yourself, himself, herself, itself, ourselves, themselves

**Interrogative**  
who, whose, whom, which, what

#### Tenses

Verb	Present Continuous	Present Perfect	Past Continuous	Past Perfect
eat	is eating	has eaten	was eating	had eaten
go	is going	has gone	was going	had gone
see	is seeing	has seen	was seeing	had seen
ride	is riding	has ridden	was riding	had ridden
do	is doing	has done	was doing	had done
play	is playing	has played	was playing	had played
work	is working	has worked	was working	had worked
begin	is beginning	has begun	was beginning	had begun
come	is coming	has come	was coming	had come
break	is breaking	has broken	was breaking	had broken
sleep	is sleeping	has slept	was sleeping	had slept
talk	is talking	has talked	was talking	had talked
leave	is leaving	has left	was leaving	had left
wake	is waking	has woken	was waking	had woken
ring	is ringing	has rung	was ringing	had rung

#### Types of Prepositions

Prepositions of Time	Prepositions of Place	Prepositions of Movement	Manner (How/what manner?)	Place (where?)	Time (when?)	Degree (How much/what extent?)	Frequency (How often?)
on	in	to	sweetly	anywhere	yesterday	quite	always
by	at	across	loudly	away	now	almost	ever
in	on	into	bravely	above	soon	enough	never
till	by	along	brightly	back	today	too	often
around	near	around	nicely	far	tomorrow	little	sometimes
since	between	over	happily	here	later	most	daily
for	towards	through	heavily	there	tonight	much	rarely
until	behind	through	merrily	nearly	every	usually	usually
before	in front of	up	easily	outside	early	so	frequently
after	under	down	luckily	where	yet	very	

#### Quick Recap

A statement which states a fact, habitual action, universal truth or opinion is called an **assertive sentence**. It ends with a full stop (.). It may be of two types: positive and negative.

A sentence which asks a question and ends with a question mark (?) is called an **interrogative sentence**. It may be of two types: yes/no questions and wh-questions.

A sentence which expresses a sudden or strong feeling of happiness, sadness, joy or surprise and ends with an exclamation mark (!) is called an **exclamatory sentence**.

A sentence which gives an instruction, advice, command, makes a request or an offer is called an **imperative sentence**.

In a sentence, the verb must always agree with the subject in number and person. The verb in the plural must be singular if the subject is singular. If the subject is plural, then the verb will be plural as well. This is called **agreement of subject and verb**.

### Writing Correctly

**Words Often Confused**

Direct speech	Indirect speech
here	there
today	that day
this morning	the morning
tomorrow	the day after tomorrow
next week	the following week
next month	the following month
ago	before
then	at that time
last night	the night before
here (from now on)	there
now	at that time

**Change in Time and Place Indicators**

Look at this table to understand how words indicating place and time are changed in indirect speech.

**Examples:**

He said to his brother, "You should wake up early and go for a jog."

She said to her brother, "You should wake up early and go for a jog."

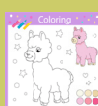
She said to her brother, "You should wake up early and go for a jog."

She said to her brother, "You should wake up early and go for a jog."

Collins DigiSuite



Answer Keys



Additional Worksheets



Multimedia E-book



Teacher's Resource Books



Detailed Lesson Plan



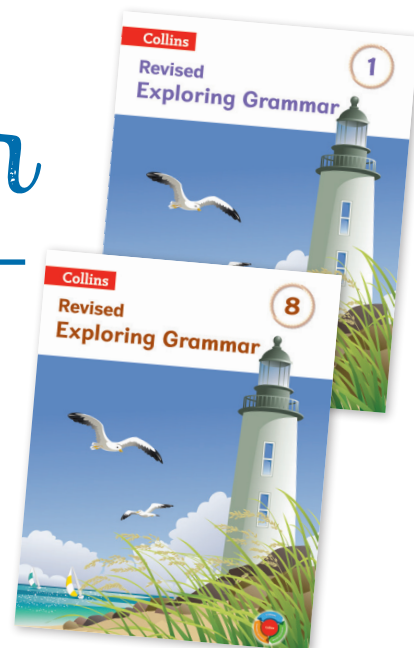
Test Generator





# Revised Exploring Grammar

**Revised Exploring Grammar** is a series that has been developed to facilitate the teaching of grammar to young learners. Judiciously blending the structural and functional aspects of grammar, the series enables learners to apply grammar in communicative contexts. In this revised edition, grammar topics are introduced in a progressive, step-by-step manner using simple explanations and examples for easy and sound learning.



## KEY FEATURES

- Comprehensive and carefully graded grammar syllabus and progression through units
- Clean and clear layout, with learning objectives, new grammar (**Learn!**), development of grammar (**Build!**) and revision (**Remember!**) sections marked for ease of use
- A range of task types to make the learning of grammar varied and enjoyable
- **Score more!** section at the end of each chapter and revision worksheets throughout the book for assessment
- **My checklist** to maintain a record of grammar topics learnt in the book







## COURSE PACKAGE

- Textbooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE SERIES EDITORS

**Penny Hands**, M.Sc. Applied Linguistics, is the Managing Editor for the course

**Dr Usha Ram**, former Principal, Laxman Public School, New Delhi; previously an elected member of the CBSE Governing Body

**Dr K. Padmini Shankar**, Professor at EFLU, Hyderabad

**Sample Page 1: Simon Says**

**Play the game 'Simon says'. Follow your friend's instructions.**

Simon says: Touch your head.

Simon says: Touch your nose.

Simon says: Touch your ears.

Simon says: Touch your mouth.

Simon says: Touch your eyes.

**Match the animals with the sounds they make.**

1. cat	a. moo
2. mouse	b. trumpet
3. duck	c. bark
4. cow	d. roar
5. lion	e. meow
6. elephant	f. squeak
7. hen	g. quack
8. dog	h. cluck
9. monkey	i. neigh
10. sheep	j. chatter
11. horse	k. chirp
12. bird	l. bleat

**Sample Page 2: I like music**

**8 I like music.**

**In this unit, we will...**

- learn about some simple verbs.
- learn to add -s to simple verbs when using them with he, she, it or singular nouns.

**Learn!**

Verbs are doing words. They talk about actions. **Dance, sing, like, run and walk** are doing words.

**I like my classmates.**

**I run in the park every morning.**

**Look at the pictures. Complete the sentences.**

dolls cricket dance

My name is Sara. I like dolls.

My name is Mary. I like cricket.

**Build!**

Colours are describing words too.

**Colour the picture. Follow the colour key.**

The grass = green  
The door = red  
The flowers = orange  
The ball = blue  
The house = brown

**Sample Page 3: Simon Says**

**Play the game 'Simon says'. Follow your friend's instructions.**

Simon says: Touch your head.

Simon says: Touch your nose.

Simon says: Touch your ears.

Simon says: Touch your mouth.

Simon says: Touch your eyes.

**Match the animals with the sounds they make.**

1. cat	a. moo
2. mouse	b. trumpet
3. duck	c. bark
4. cow	d. roar
5. lion	e. meow
6. elephant	f. squeak
7. hen	g. quack
8. dog	h. cluck
9. monkey	i. neigh
10. sheep	j. chatter
11. horse	k. chirp
12. bird	l. bleat

**Sample Page 4: I like music**

**8 I like music.**

**In this unit, we will...**

- learn about some simple verbs.
- learn to add -s to simple verbs when using them with he, she, it or singular nouns.

**Learn!**

Verbs are doing words. They talk about actions. **Dance, sing, like, run and walk** are doing words.

**I like my classmates.**

**I run in the park every morning.**

**Look at the pictures. Complete the sentences.**

dolls cricket dance

My name is Sara. I like dolls.

My name is Mary. I like cricket.

**Build!**

Colours are describing words too.

**Colour the picture. Follow the colour key.**

The grass = green  
The door = red  
The flowers = orange  
The ball = blue  
The house = brown

**Sample Page 5: Simon Says**

**Play the game 'Simon says'. Follow your friend's instructions.**

Simon says: Touch your head.

Simon says: Touch your nose.

Simon says: Touch your ears.

Simon says: Touch your mouth.

Simon says: Touch your eyes.

**Match the animals with the sounds they make.**

1. cat	a. moo
2. mouse	b. trumpet
3. duck	c. bark
4. cow	d. roar
5. lion	e. meow
6. elephant	f. squeak
7. hen	g. quack
8. dog	h. cluck
9. monkey	i. neigh
10. sheep	j. chatter
11. horse	k. chirp
12. bird	l. bleat

**Sample Page 6: I like music**

**8 I like music.**

**In this unit, we will...**

- learn about some simple verbs.
- learn to add -s to simple verbs when using them with he, she, it or singular nouns.

**Learn!**

Verbs are doing words. They talk about actions. **Dance, sing, like, run and walk** are doing words.

**I like my classmates.**

**I run in the park every morning.**

**Look at the pictures. Complete the sentences.**

dolls cricket dance

My name is Sara. I like dolls.

My name is Mary. I like cricket.

**Build!**

Colours are describing words too.

**Colour the picture. Follow the colour key.**

The grass = green  
The door = red  
The flowers = orange  
The ball = blue  
The house = brown

**Sample Page 7: Simon Says**

**Play the game 'Simon says'. Follow your friend's instructions.**

Simon says: Touch your head.

Simon says: Touch your nose.

Simon says: Touch your ears.

Simon says: Touch your mouth.

Simon says: Touch your eyes.

**Match the animals with the sounds they make.**

1. cat	a. moo
2. mouse	b. trumpet
3. duck	c. bark
4. cow	d. roar
5. lion	e. meow
6. elephant	f. squeak
7. hen	g. quack
8. dog	h. cluck
9. monkey	i. neigh
10. sheep	j. chatter
11. horse	k. chirp
12. bird	l. bleat

**Sample Page 8: I like music**

**8 I like music.**

**In this unit, we will...**

- learn about some simple verbs.
- learn to add -s to simple verbs when using them with he, she, it or singular nouns.

**Learn!**

Verbs are doing words. They talk about actions. **Dance, sing, like, run and walk** are doing words.

**I like my classmates.**

**I run in the park every morning.**

**Look at the pictures. Complete the sentences.**

dolls cricket dance

My name is Sara. I like dolls.

My name is Mary. I like cricket.

**Build!**

Colours are describing words too.

**Colour the picture. Follow the colour key.**

The grass = green  
The door = red  
The flowers = orange  
The ball = blue  
The house = brown

**Sample Page 9: Simon Says**

**Play the game 'Simon says'. Follow your friend's instructions.**

Simon says: Touch your head.

Simon says: Touch your nose.

Simon says: Touch your ears.

Simon says: Touch your mouth.

Simon says: Touch your eyes.

**Match the animals with the sounds they make.**

1. cat	a. moo
2. mouse	b. trumpet
3. duck	c. bark
4. cow	d. roar
5. lion	e. meow
6. elephant	f. squeak
7. hen	g. quack
8. dog	h. cluck
9. monkey	i. neigh
10. sheep	j. chatter
11. horse	k. chirp
12. bird	l. bleat

**Sample Page 10: I like music**

**8 I like music.**

**In this unit, we will...**

- learn about some simple verbs.
- learn to add -s to simple verbs when using them with he, she, it or singular nouns.

**Learn!**

Verbs are doing words. They talk about actions. **Dance, sing, like, run and walk** are doing words.

**I like my classmates.**

**I run in the park every morning.**

**Look at the pictures. Complete the sentences.**

dolls cricket dance

My name is Sara. I like dolls.

My name is Mary. I like cricket.

**Build!**

Colours are describing words too.

**Colour the picture. Follow the colour key.**

The grass = green  
The door = red  
The flowers = orange  
The ball = blue  
The house = brown



Collins DigiSuite	 Multimedia E-book	 Test Generator
	 Teacher's Resource Books	 Answer Keys





## Revised Tune In!

**Tune In!** is an innovative course in listening and speaking skills designed to train students to listen more attentively and speak effectively. In the revised edition, the course uses a step-by-step practical approach to help students prepare for communicative competence for real-world language use. The course additionally comes with dictation audios, art integrated activities for increasing the interest of learners in literature, using common phrases correctly and avoiding incorrect usage and colloquialisms.



### KEY FEATURES

- **Audio clips** recorded by former AIR veterans and voice artists teach correct pronunciation and intonation, stress and pause.
- **Videos clips** by professional actors and voice artists showcase real-life scenarios and appropriate body language.
- **Word Wizard** prompts learners to speak by suggesting words and phrases they could use.
- **Grammar Guide** teaches useful English structures and expressions to help learners speak correctly.
- **Manners matter!** guides learners on appropriate gestures, body language, tone, stress, etc. to be used while communicating effectively.
- **Info byte** provides quick tips and tricks about sounds and spoken language.
- **Dictation** time hones learners' listening and spelling skills.
- **Fun Activity** has an enjoyable language-based activity.
- **Take a break!** are well-designed activities to improve the holistic learning of the language.
- **Saying it better!** teaches common phrases and guides learners to avoid incorrect and colloquial language usage.
- **Children's Literary Fest** is an art-integrated activity that focuses on increasing the learners' interest in literature.



REVISED



## COURSE PACKAGE

- Textbooks
- Teacher's Resource Books
- Collins DigiSuite (available both for students and teachers)

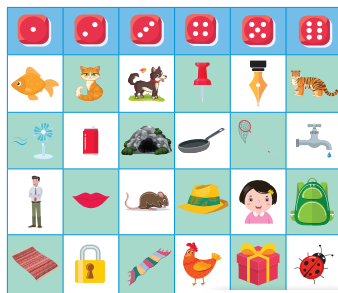


TAKE  
a  
break

### A Game of Dice

Roll the dice. Look at the picture next to the number. Say the first sound of the word.

Additional: Say another word that begins with that sound. It should not be from the picture board given below.



### Dictation time

E. Listen and write



Listen to the passage and fill in the blanks. Then, read the passage aloud.

It is a ..... that we get hiccups when someone we know is remembering us. The ..... explanation says that hiccups are caused in the ..... of our chest. When this muscle ..... it closes our vocal ..... very ..... producing the sound of a hiccup. Another funny ..... left palm means wealth is coming our way! Do you think it is true or just a .....?

### Interacting and communicating

F. Ask and answer



Work in pairs. Listen to the conversation between Bharat and his parents. Then work with your partner to ask and answer the questions that follow.



## Children's Literary Fest

Something strange happened in your school library during the Halloween festival. A few characters escaped the pages of their books!

Unable to go back, you see them walking disoriented around the library. The only way they can return to the books they belong to is by interacting with other characters and share their story.

Help the lost characters interact among each other. In order to portray the persona well, you can also dress up as the character you're playing. Before you begin, read the dialogue between Alice and Macbeth that takes place in the library.

Alice	Macbeth
Where am I and who might you be?	I am King Macbeth. We are stuck in a library.
Isn't this Wonderland?	No, my dear young lady. Do I know you?
I am sorry. I am Alice, from Alice's Adventure in Wonderland. Which book are you from?	I am from a play named after me, Macbeth, created by William Shakespeare. Who created you?
Lewis Carroll! In 1865, He was originally called Charles Lutwidge Dodgson. He was a photographer, inventor, mathematician and poet. Tell me something about Shakespeare.	Shakespeare was a great dramatist and a poet. He created 37 plays, 154 sonnets and two volumes of poetry. Did you know Shakespeare is known as the greatest writer in English who invented about 1700 words?
That's a lot for one man. May I know when were you born?	I am much older to you. I was created in 1606.

### Spell Check



Listen to the words. Look at the spelling of the words. One of the letters in each word is incorrect. Correct the spelling and write the words in the given space.

1 glide	2 dries
3 prant	4 blush
5 crook	6 prum
7 grab	8 dread

Now, read aloud the words you have written.

## Saying it better!

### Common mistakes

A: How do you do?  
B: I am fine, thank you.

I am going to cut the phone now.

The British Museum is showing the Sword of Tipu Sultan this week.

The tourists will return back to Singapore on Monday.

Indian batsmen scored 300 runs in the first inning.

### Use this instead

A: How do you do?  
B: How do you do?

("How do you do" is used only when you meet someone for the first time in your life.)

I am going to hang up the phone now.

The British Museum is displaying the Sword of Tipu Sultan this week. (Items are put on display in a museum.)

The tourists will return to Singapore on Monday. (Return implies go back. Return back is a redundancy.)

Indian batsmen scored 300 runs in the first inning. (Innings is a division of a cricket match. Inning is used in baseball.)

## For Students



Interactive e-book with audio, video and interactivities

## For Teachers

Along with the features mentioned for students, the Teacher's DigiSuite contains Teacher's Resources with:



Lesson Plans  
Answer Keys  
Additional Assessments



# Fun with Phonics & Spelling

**Fun with Phonics and Spelling (Revised Edition)** is a series of seven books linked to the reading and spelling requirements of each primary year group (ages 4-11).

This series is supported by Collins DigiSuite, a digital learning resource for students and teachers.



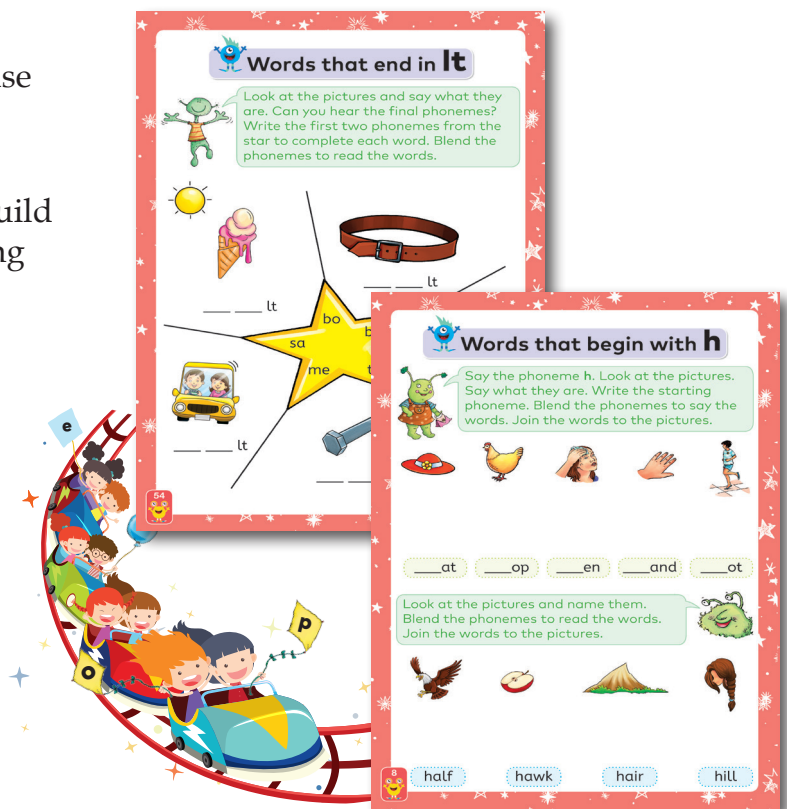
## KEY FEATURES

- Includes fun puzzle activities to practise and support phonics, word-building, spelling, and vocabulary
- Examples and exercises designed to build and reinforce understanding of spelling rules and patterns
- Ample practice material in each book
- Digital resource for practising pronunciation



### Practise with puzzles:

- Word searches
- Crosswords
- Other activities



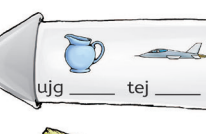



## COURSE PACKAGE

- Textbooks
- Collins DigiSuite


**Words that begin with  
j, w and z**

Look at the pictures and say what they are. The pictures and words in each rocket have the same beginning phoneme. Unjumble the phonemes and write the words on the lines.

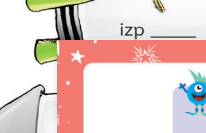
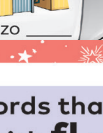
u j g    t e j    m a j  
 \_\_\_\_\_

i z p    o z o  
 \_\_\_\_\_




**Words that begin  
with fl and fr**


These words begin with the blends fl and fr. Join the phonemes from each section to make the words.





## Words that end in ll



These words end in ll. Look at the pictures in the balloons and say what they are. Blend the phonemes in the aliens' feet to read the words. Write what you can see on the balloon in the other foot. The words in both feet rhyme.








## Words that begin with

# pl and pr

Look at the pictures and say what they are. The pictures all begin with pl or pr. Write the missing blend in the mini










## Words that begin with **fl** and **fr**

These words begin with the blends **fl** and **fr**. Join the phonemes from each section to make the words. Write the words in the torch light. Blend the phonemes to read the words. One has been done for you.







<b>fl</b>	ow	er	flower
	a	g	
	u	ff	
	oo	r	



<b>fr</b>	o	m	
	e	sh	
	a	me	
	o		




## Words that




## Words that begin with **pl** and **pr**


Look at the pictures and say what they are. The pictures all begin with **pl** or **pr**. Write the missing blend in the mini crosswords. There are some phonemes there already to help you. Blend the phonemes to read the words.




		a	n	e
		n		
		e		
		t		




		u	g	
		m		




		a	t	y
		e		




		a	m	





		i	n	t
		c		
		e		




		a	m	
		y		




**Words that begin with f**

Look at the pictures. Blend the phonemes to read the words. Write the words in the rocket like the example. Write one phoneme in each box.

fog    fin  
fat    fox



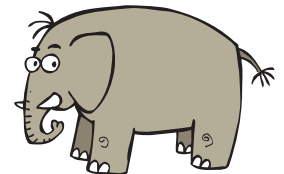
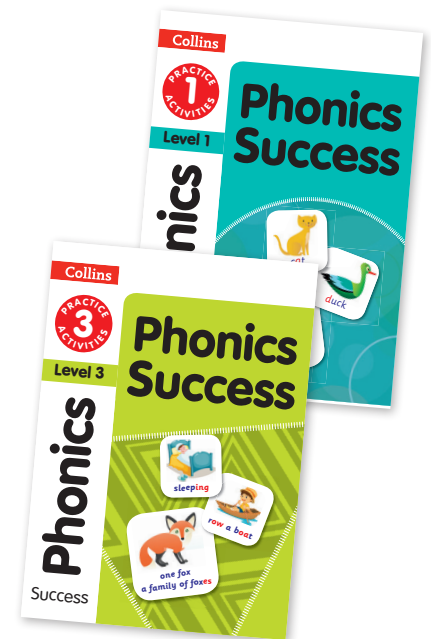


# Phonics Success

**Phonics Success** is a series that enables teachers to work together with learners at an easy and enjoyable pace and helps them build a strong foundation in phonics.

## KEY FEATURES

- Practice of key phonic elements such as consonant, vowel, blend, phoneme and grapheme
- Carefully illustrated with relevant artwork to support comprehension and retention of elements
- Notes for teachers to enable effective transaction of material in the classroom
- **What have I learned?** section at the end of the book that can be used for assessing learners' progress



**Words beginning ch-**

Say the word.  
Hear the sound.

chop

Write the letters.

**Circle the ch- words**

Circle the things that start with **ch**. Say the words.

**Teacher's tip** The teacher could play a game in which the learners make up (but do not write) sentences with 'ch'. For example: Chuck the chimp chooses cheese. Charlie chased a chicken. Cheryl chooses cherries.

34

**e in the middle**

**Read the rhyme**

ten men and a hen

**e words**

Say the words.  
Write the letters for the sounds. Write the words.

men

10

Write another rhyming word.

en

20

**Upper- and lower-case letter matching**

**Matching letters a-m**

Match each rocket to its planet.

**Teacher's tip** Use the names of the letters, not the sounds they represent. If the learner still has difficulty recognising the letters, provide plasticine or modelling clay and help them to make some upper- and lower-case letters to match (beginning with the first four).

12



# COURSE PACKAGE

• Textbooks

**Vowel digraphs**

## Words with oy

**oy**  
boy

**Read the rhyme**  
Circle **oy** in the rhyme.

Preeti is a girl. Joy is a boy.  
They fell out over a toy.  
"Let's enjoy it, not destroy it."  
Don't annoy me," said Pre

16

**Vowel digraphs**

## Words with ay

**Make the words**  
Make some words. Write the words. Read the words.

d p s → **ay** → day

t r c l p → **ay** →

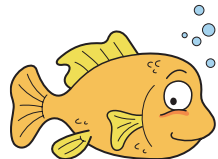
s t s t s p r → **ay** →

Before beginning this page you could encourage the learner to have fun  
mes. For example: "Go away!" "Stay on the pathway." "It's  
of clay." "Play every day." "Th

**Letters of the alphabet**

## The alphabet a-d

**Letters a-d**  
Write the letters.  
Say the names of the letters.  
Colour them on the alphabet ladder.



**Words ending -ss**

**Read the words**  
Read the words. Write the words.

**h-i-ss**

**m-e-ss**

**Read the rhyme**  
Hug and **kiss**  
Little Miss **Bliss**

**Write the words**  
Write some words that end with **ss**.  
Use these letters: **o b l e**

→ **ss**  
→ **ss**

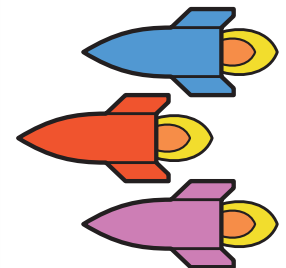
**Initial letters of words**

## Letters and sounds i, f, a, e

What's in the box?  
Say the words.  
Write the first letter of each word.

i f

a e



**What have I learned?**

**Note to teachers**  
Some learners might benefit from completing one exercise at a time. Other learners (if they are confident readers) might be able to read an entire page, or even two pages of a time.  
Explain to the learner that the tests will show what he/she has learned. Tell the learner that there will be some words he/she might never have heard before but that they can be sounded using what he/she knows about letters and sounds.  
Explain to the learner what to do. For correct answers, use words such as "Well done", "You did well." If incorrect, praise the learner for having a try. "It doesn't matter if you get things wrong. That's how we know what you need to practice."

Read the words and names.

**Exercise 1**

claim	slate	invite	flight
brewer	hollow	flavour	neighbour
charcoal	palm	honey	saucer

**Exercise 2**

board	freight	shield	believe
shriek	tomatoes	annoying	quilt
prepare	airline	dearth	world

**Exercise 3**

earthquake	satchel	hatchet	adventure
mixture	fetching	whistling	scrambled
racial	suction	station	lizard

95

**Look-alike, sound-alike words**

**Match the words**  
Match the words that have 'look-alike', 'sound alike' spellings.  
Read the words.

would borrow carrot feather

handle parrot worm could

tomorrow word candle heater

**Teacher's tip**  
Explain that sometimes it helps when spelling a tricky word if you know other words that are like it in some way. Show some examples, e.g.  
• because/measure ('ea' and 'i' might cause problems)  
• health/earth ('ea' might be a problem)  
• danger/anger, but longer/danger  
• shape/cane

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**Vowel digraphs**

## Words with aw

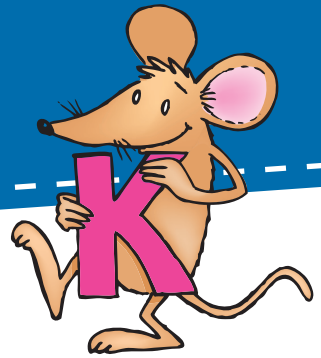
**yaw n**  
yawn

**Read the rhyme**  
Circle **aw** in the rhyme.

We hammer and saw. We paint and draw.

I have four paws. I grip with my claws.

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# Key Skills in English

**Key Skills in English** is a series of six books designed to boost young learners' key language skills. Covering levels 1 to 6, the books facilitate learner autonomy as well as encourage parental involvement.





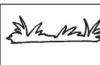






## KEY FEATURES

- Activities to provide focused practice in reading and writing
- Across the series, tasks of graded difficulty levels to enable differentiated learning
- Practice for a range of sub-skills, including vocabulary, spelling, punctuation, phonics, and grammar
- Web support for learners on the Collins website, downloadable answers and progress charts



**Phonics**

**A** Write the correct initial sounds (initial sounds are the first parts of a word). **gr pl dr br bl**


 __um	 __ess	 __ass
 __ack	 __apes	 __ird
 __agon	 __ush	 __ish

**B** Choose the correct word for each sentence.

1. I saw a \_\_\_\_\_ (dragon, drum) in his cave.
2. I was hungry and ate some \_\_\_\_\_ (grass, grapes).
3. I swept the floor with the \_\_\_\_\_ (brick, brush).
4. Amira wore a green \_\_\_\_\_ (dragon, dress).
5. I gave the \_\_\_\_\_ (plug, plant) some water.
6. Coal is \_\_\_\_\_ (blood, black).

**Reading**

**A** Read the story. Colour the picture.



**The Silver on the Hearth**  
(a traditional story from Afghanistan)

Once there was a poor farmer who wished for silver in his fireplace. One day he found a big pot full of silver coins in a field. He thought, "I wished for silver in my fireplace. This money must belong to somebody else."

When the farmer told his wife about the pot of coins, she was angry. She talked to the man next door, "If you get the pot for me I will share the coins with you," she said.

The neighbour found the pot, but when he looked inside it was full of snakes! He thought the farmer's wife had tricked him. That night he threw the snakes down the farmer's chimney. When the farmer got up in the morning he found a big pile of silver coins in his fireplace. His wish had come true.



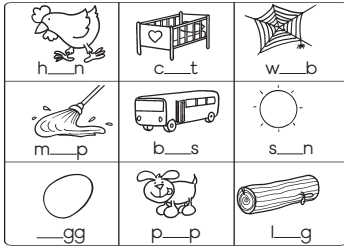


## COURSE PACKAGE

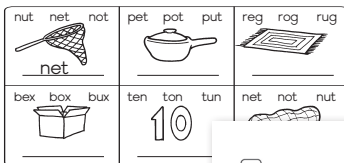
- Textbooks
- Answer keys

### Phonics: Vowel Sounds

A Write e, o or u.



B Write the correct word.



### Reading

A Read the story.

#### Echo

Echo was one of the many Greek *goddesses*, but she had one great *fault*. She talked too much. One day, she spoke rather rudely to the great god Juno, and he was so angry that he *forbade* her to use her voice again. She would only be able to repeat what she heard, he told her. However since she was so fond of having the last word, she could only repeat the last words of others. Echo felt that she was now a sort of parrot. She was ashamed and hid in the forest.

A youth named Narcissus used to hunt in the forest. One day, he became separated from his friends, and Echo saw him. She crept closer, but Narcissus heard her rustling among the bushes, and wondered who was hiding in the *undergrowth*.

"Who is here?" he called out. "Here!" answered Echo. "Here I am, Come!" shouted Narcissus. "I am come," answered Echo, and appeared from the trees.

When Narcissus saw a stranger, however, he turned and walked slowly away, leaving Echo sad and lonely.

After this, Echo never again showed herself. She faded away until only her voice was left. Her voice has been heard for many, many years, in forests, near mountains and cliffs and caves. She *mimics* the cries of seagulls and mocks the barking of dogs. But she always *repeats* a caller's last word.

### Activities

A Write yes or no.

1. Brown hares look a lot like rabbits.
2. Brown hares have black fur.
3. Brown hares have short ears.
4. A brown hare's home is called a form.
5. Brown hares like to live in trees.
6. Brown hares eat mice.
7. Baby hares are called leverets.
8. Brown hares eat grass in winter.



B Try this word search.



hare winter  
ears form  
colour grass  
crops summer  
flowers spring

h	e	l	b	o	k	g	c
f	a	n	h	m	c	r	o
l	r	r	a	m	f	a	l
o	s	f	e	g	o	s	o
w	i	n	t	e	r	s	u
e	e	s	u	m	m	e	r
r	s	p	r	i	n	g	d
s	c	e	e	r	e	e	e

### Grammar

#### Capital Letters

Capital letters are used for:

- a) The names of places – Italy, Spain, Bengali.
- b) Words formed from the names of places – Brazilian, Sri Lankan, Dutch.

A Rewrite these sentences using capital letters.

1. my pen friend collects irish stamps.
2. many norwegian fishing trawlers fish off the coasts of canada and greenland.
3. the italian singer sang at the music festival in shimla.
4. frederic chopin, a polish composer, was born near warsaw.
5. in the new supermarkets you can buy french pastries and dutch cheese.
6. the kenyan team will play south africa in johannesburg on saturday.
7. last february i received a letter from my pen pal in the maldives.
8. ben lee bought a swiss watch on friday.

B Write the nationality of the people from these place names.

England	English	Vietnam	_____
Australia	_____	Pakistan	_____
Germany	_____	Russia	_____
Holland	_____	India	_____
Ireland	_____	Argentina	_____
Namibia	_____	Spain	_____
France	_____	Sweden	_____

C Complete the chart with other words that use capital letters.

Names of people	Names of places	Days, months	Brand names	Initials
Rashid Khan	London	Wednesday	Coca Cola	WHO
Gurpreet Singh	Egypt	July	Sony	USA
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

### Reading

A Read the story. Colour the picture.



#### The Turnip

(a traditional story from Russia)

An old man planted a turnip. The turnip grew very big. The old man tried to pull it up, but it didn't move. He got his wife.

The old woman grabbed the old man and the old man grabbed the turnip. They pulled and pulled, but the turnip didn't move. So the old woman got the dog. The dog grabbed the old woman, the old woman grabbed the old man and the old man grabbed the turnip. They pulled and pulled, but the turnip didn't move. So the dog got the cat.

The cat grabbed the dog, the dog grabbed the old woman, the old woman grabbed the old man and the old man grabbed the turnip. They pulled and pulled and... crash! They all fell over. They had pulled

### Language

#### Using Words

A Write has or have.

1. The pups \_\_\_\_\_ meat for dinner but the cat \_\_\_\_\_ fish.
2. We \_\_\_\_\_ to meet the lady who \_\_\_\_\_ the books.
3. A whale \_\_\_\_\_ lungs but a fish \_\_\_\_\_ gills.
4. The girls \_\_\_\_\_ measles and the boys \_\_\_\_\_ the mumps.
5. The soldiers \_\_\_\_\_ guns and their captains \_\_\_\_\_ swords.
6. \_\_\_\_\_ you heard the orders he \_\_\_\_\_ given us?
7. \_\_\_\_\_ she seen the present you \_\_\_\_\_ bought?
8. A weightlifter \_\_\_\_\_ to \_\_\_\_\_ very strong arms.
9. I \_\_\_\_\_ a funny joke to tell you!
10. That joke \_\_\_\_\_ to be the worst I \_\_\_\_\_ ever heard!



B Write did or do.

1. Where \_\_\_\_\_ you leave your money?
2. She \_\_\_\_\_ not know if he had \_\_\_\_\_ his chores.
3. Father \_\_\_\_\_ the cooking while Mother \_\_\_\_\_ her painting.
4. What have you \_\_\_\_\_ with my pencil?
5. I've \_\_\_\_\_ all I'm going to do.
6. Arushi \_\_\_\_\_ very well in her tests.
7. \_\_\_\_\_ it happen on Tuesday or Wednesday?
8. I \_\_\_\_\_ my homework as soon as I got home from school.
9. \_\_\_\_\_ a famous artist paint it or was it \_\_\_\_\_ by an art student?
10. I \_\_\_\_\_ not want to know how the magician \_\_\_\_\_ the trick.

C Write did, done, has or have.

1. I \_\_\_\_\_ just arrived home from school and I \_\_\_\_\_ loads of homework that \_\_\_\_\_ to be \_\_\_\_\_ before I can meet my friends. If I \_\_\_\_\_ my homework \_\_\_\_\_ before four o'clock, then I can \_\_\_\_\_ my friends over. They \_\_\_\_\_ loads of homework to do too unless they \_\_\_\_\_ it already.

### Activities

A Answer these questions.

1. What is special about the great white shark?
2. Where do great white sharks live?
3. Name one ability a great white shark uses to track down its prey.
4. Why is the great white shark's grey back useful?
5. Why do experts think great white sharks attack humans?
6. Do sharks eat people?
7. Why are great white sharks endangered?
8. What do you think the laws protecting the great white shark might say?

B Look up the words in *italics* in your dictionary. Write a sentence for each one.

C Summarise the story in your own words. Use about ten sentences.



### Reading

A Read the text.

#### The Hummingbird



The tiny hummingbird gets its name from the sound it makes when flapping its wings. This colourful bird flaps its wings 50-60 times a second. How quickly can you click or snap your fingers in a second? Perhaps twice! By rapidly beating its wings, the hummingbird can remain in the same position, fly backwards and even rise straight up like a helicopter.

The hummingbird feeds on the nectar of flowers while hovering in flight. Its long thin beak and hairy tongue are specially suited to prod and probe the hearts of flowers. It also eats little insects.

This bird is remarkable for its array of red, blue and green colours. Although it is the smallest bird in the world, it will fearlessly attack crows and hawks that invade its territory and nest.

The cup-like nest it builds is an architectural wonder. A mass of grasses, mosses and fibres are woven together with strands of cobwebs, to form a tiny nest about the size of a walnut shell. The nest will hold two snow-white eggs. These are the smallest birds' eggs in the world.

When the eggs are hatched, the mother feeds the nestlings by thrusting her bill down their throats. Then, vibrating her body, she regurgitates the sweet nectar from her stomach.

The pretty hummingbird is found in North and South America and in Canada.



# Science

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10
<b>Collins Science Expert (New)</b>	✓	✓	✓	✓	✓	✓	✓	✓		
<b>Collins Incredible Series</b>	✓	✓	✓	✓	✓	✓	✓	✓		
<b>Enhanced Science Now</b>	✓	✓	✓	✓	✓	✓	✓	✓		
<b>Collins Perfect Science Assessments</b>						✓	✓	✓	✓	✓
<b>Collins Science Workbook</b>						✓	✓	✓		

## Also available



## Environmental Studies

Collins has a dynamic list of Science titles packed with inspirational resources, designed to help you deliver outstanding science content throughout the school years.

This year we published the series **Collins Science Expert** for Classes 1 to 8 based on the VAKT learning styles (visual, auditory, kinesthetic and tactile) and the three domains of Bloom's Taxonomy that include cognitive (intellectual skills), affective (attitudinal nature) and psychomotor (actionable nature) development, with a special focus on Experiential Learning for overall development of students. The coursebooks for classes 1 and 2 are aligned with Environmental Studies (EVS) and classes 3 to 5 with Science. For Classes 6 to 8, there are separate coursebooks for Physics, Chemistry and Biology.

## New







CLASSES 1 TO 8

## Collins Science Expert

**Collins Science Expert** is a series of 14 coursebooks for Classes 1 to 8. The coursebooks for grades 1 and 2 are aligned with Environmental Studies (EVS) and grades 3 to 5 with Science. For Classes 6 to 8, there are separate coursebooks for Physics, Chemistry and Biology. The series is based on the VAKT (visual, auditory, kinesthetic and tactile) learning style and the three domains of Bloom's Taxonomy that include cognitive (intellectual skills), affective (attitudinal nature) and psychomotor (actionable nature) development.



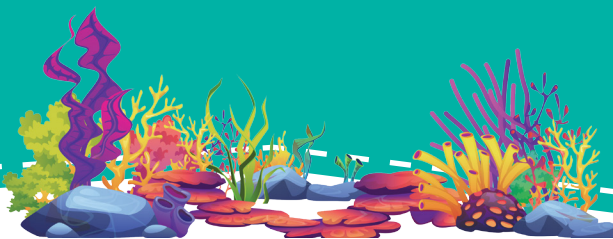
**NEW**

### KEY FEATURES

- **Be a Scientist (Classes 3 to 5):** Introduction to science process skills to help develop scientific attitudes
- **Prior Knowledge:** List of topics to help construct connections between old and new knowledge
- **Let's Get Started:** Interactive exercise to begin a chapter
- **Learning Objectives:** List of main topics that will be covered in a chapter
- **Word To Know:** Meaning of difficult words
- **Find Out:** Research-oriented questions requiring learners to look beyond the classroom
- **Do You Know?** Additional information on a topic
- **Greenathon:** Snippets relevant to environmental conservation and awareness
- **Quick Revision:** Revision questions within the chapter
- **Talk Time:** Questions for classroom discussion
- **Activities:** Lab activities to hone experimental skills
- **Concept Map:** Snapshot of the chapter in the form of a graphic organizer for quick recapitulation
- **Keywords:** Definitions of important terms
- **Exercise:** Questions to evaluate students' understanding and comprehension



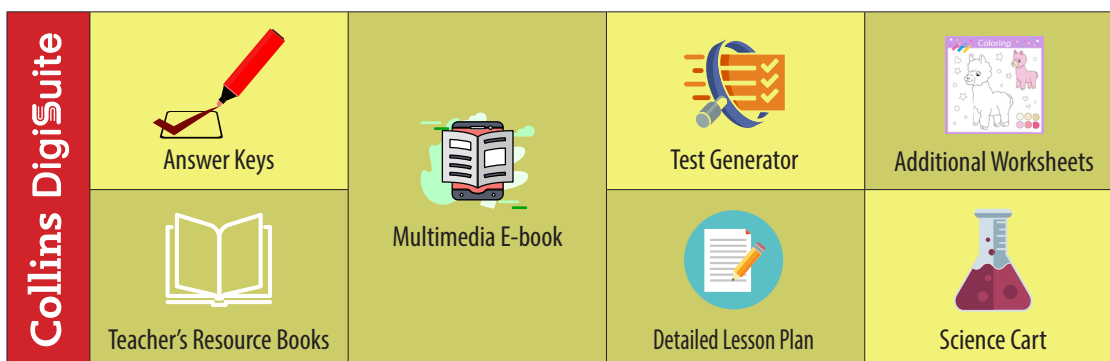
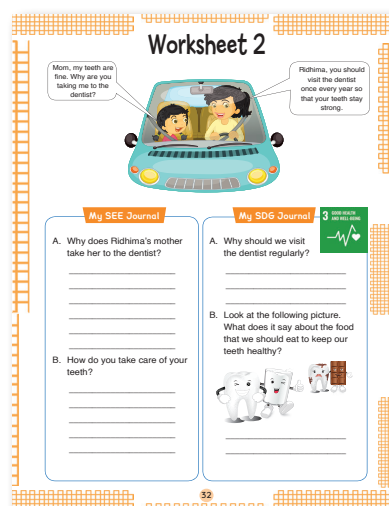
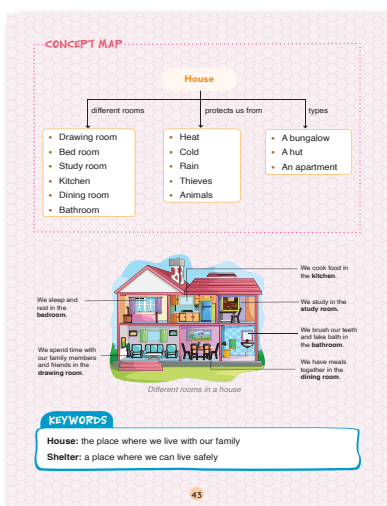
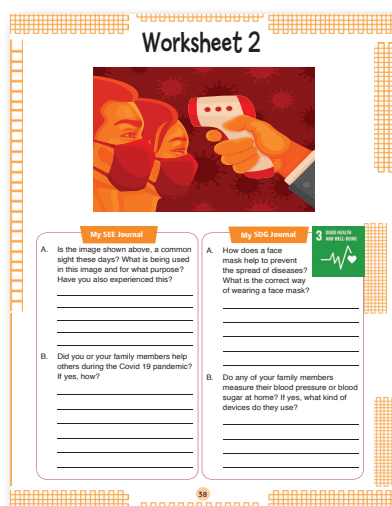




## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

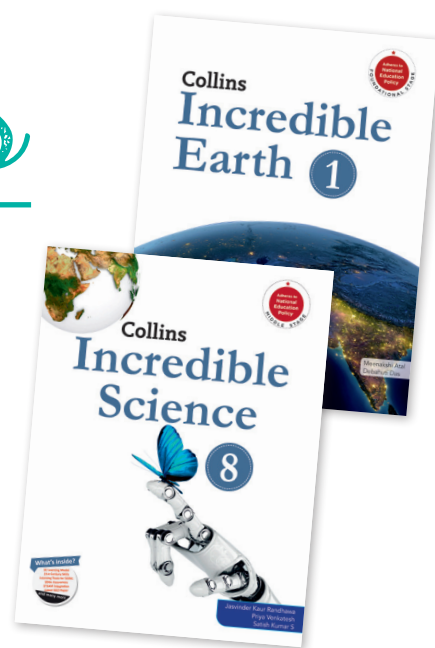
- **Skill Booster:** Section aimed at imparting 21st Century Skills along with Cross-curricular Links, India Focus, Art Integration, Experiential Learning and Bloom's Taxonomy
- **Worksheet:** Interesting questions imparting skills catering to social, emotional and ethical (SEE) needs and United Nations' Sustainable Development Goals (SDGs)
- **Review Corner:** Variety of questions for review and assessment
- **My Environment My Responsibility (Classes 1 and 2 and Bio 6 and 8):** Special pages to spread awareness and a sense of responsibility towards the environment
- **Eco Craft (Classes 1 and 2):** Hands-on activities to enhance learning beyond the classroom
- **Happy Accidents (Classes 3 to 5 and Chem 6 to 8):** Interesting snippets on discoveries and inventions by chance/accidents that led to beneficial ways
- **Innovation:** The Steppingstone (Classes 3 to 5): Hands-on activities to enhance learning beyond the classroom
- **STEAM Worksheets/Projects (Bio 7 and Physics 6 to 8):** Interesting project ideas integrating Science, Technology, Engineering, Arts and Mathematics to solve real-world problems
- **Role of Science in Benefitting the Society (Classes 6 to 8):** Snippets on the contributions made by scientists for the development of the society





# Collins Incredible Series

**Collins Incredible** is a series of eight books for Classes 1 to 8. Collins *Incredible Earth 1 and 2* have been designed considering the multidisciplinary nature of Environmental Studies. Collins *Incredible Science 3 to 8* are focused on developing scientific skills and their application in real life. The key features of Collins *Incredible Series*, based on the 5E Learning Model, are completely aligned with the National Education Policy (NEP) 2020 and the vision of the National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat). This series also strives to make a shift from rote-learning to competency-based learning, in accordance with Structured Assessment For Analyzing Learning (SAFAL).



The components of SAFAL – critical thinking, inquiry-based learning and analysis-based learning – are woven into the features such as Skills Enrichment Zone, Worksheets, the latest National Science Olympiad Paper, SEE Learning, Earth/Science Fair and Khagol Talim (Astronomy Education) Worksheets. This series also aims to make the students aware of the Sustainable Development Goals (SDGs) of the United Nations so that they can become SDG Pioneers, Champions or Ambassadors.

## KEY FEATURES

- Nature Trail/Science Around Us
- I Am a Scientist
- Skills Enrichment Zone
- STEAM Challenge Worksheet
- SEE Learning
- Earth/Science Fair





## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

### Classes 1 to 5

**Meenakshi Atal**, former Vice Principal of The Heritage School, Kolkata, is an eminent educationist and teacher trainer with over four decades of experience.

**Debahuti Das** of The Heritage School, Kolkata, has a teaching career extending over two decades and has been a pioneer in evolving innovative methods of teaching.








### Classes 6 to 8

**Jasvinder Kaur Randhawa**, Formerly teacher at New Era Public School, Mayapuri, New Delhi; with more than 27 years of experience in teaching and education, she brings in her skills in e-learning, educational leadership and curriculum development in her content.

**Priya Venkatesh**, Biology Teacher, Gregorian Public School, Maradu, Cochin; with more than 15 years of experience in teaching, she brings in her vast knowledge of teaching science in her content.

**Satish Kumar S**, Faculty, Chinmaya International Residential School; with more than 21 years of experience in teaching, he brings in his vast experience in engaging with students in his content.



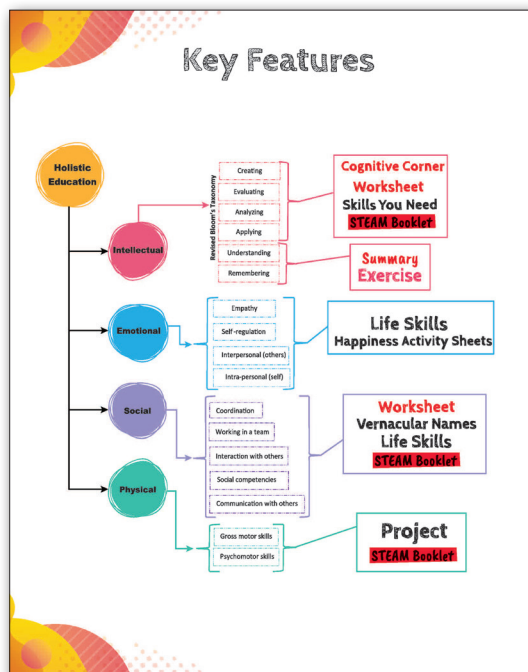
Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Test Generator	 Additional Worksheets
	 Teacher's Resource Books		 Detailed Lesson Plan	 Science Cart





# Enhanced Science Now

**Enhanced Science Now** is a series of eight books for Classes 1 to 8. This series adheres to the guidelines of the *National Education Policy (NEP) 2020* and adopts the *holistic learning theory*. This enhanced edition retains the focus of the original, where the development of lateral thinking, analytical, research and deduction skills in students were encouraged. This edition has been enhanced with key features that would help in the holistic development of a student through interesting questions, projects and activities while providing experiential learning and fostering innovative thinking and creativity.



### About the Features

**Summary** – Snapshot of the chapter in the form of a graphic organizer for quick revision

**Exercise** – Questions dealing with lower levels (Remembering and Understanding) of revised Bloom's taxonomy

**Cognitive Corners** – Section dealing with higher levels (Applying, Analyzing, Evaluating and Creating) of revised Bloom's taxonomy

**Critical Thinking** – Questions to address cognitive development such as thinking, reasoning, analysis, inference and drawing conclusions

**Picture Study** – Questions to help develop observation and inference skills

**Project** – Ideas for experiential learning and subject enrichment with cross-curricular links

**Life Skills** – Thought-provoking passage and relevant questions to help develop sensible life skills such as self-awareness, empathy and attitude towards self and others

**Worksheets** – Pictorial exercises at the end of each chapter based on the United Nations Sustainable Development Goals

**Collins** **SUSTAINABLE DEVELOPMENT GOALS**  
Collins Learning supports the Sustainable Development Goals

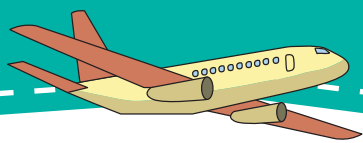
**Skills You Need** – A variety of interesting information and activities to introduce skill courses with some form of experiential learning

**Happiness Activity Sheets** – A variety of interesting activities based on life skills, self-awareness, other awareness, emotional needs and mental needs

**Vernacular Names** – List of plants and animals used in the book and their names in a few Indian regional languages

**STEAM Booklet** – An engaging STEAM-based activity booklet for the future problem solvers, critical thinkers, innovators and inventors





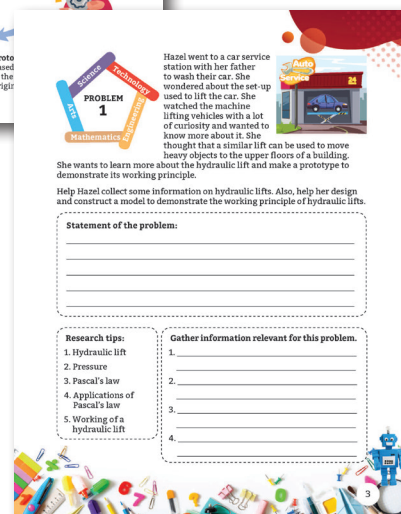
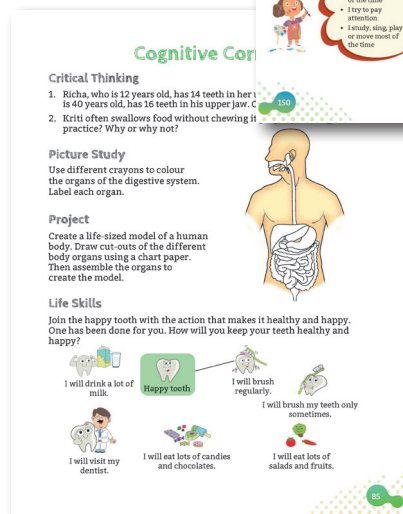
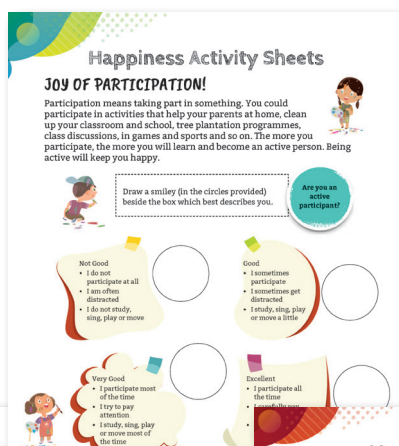
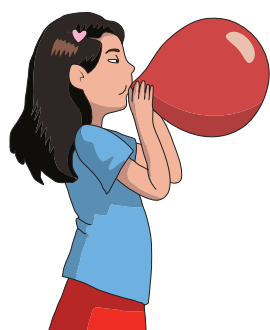
## COURSE PACKAGE







- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE SERIES EDITORS

Jyothsna Natraj, teacher at Vidya Mandir Senior Secondary School, Chennai

Dr Geetha Iyer, former Head of Sahyadri School KFI, Pune

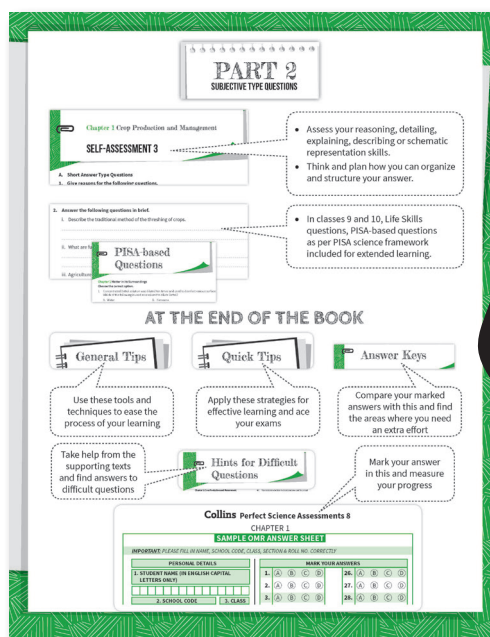
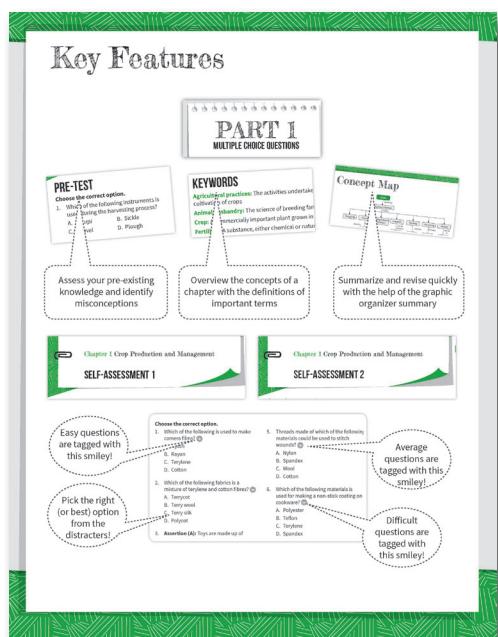


Collins DigiSuite	 Answer Keys	 Test Generator	 Additional Worksheets
	 Teacher's Resource Books	 Multimedia E-book	 Detailed Lesson Plan

# Collins Perfect Science Assessments

**Collins Perfect Science Assessments** is a comprehensive science self-assessment series for classes 6 to 10, for schools across all boards. This series adheres to the guidelines of the National Education Policy (NEP) 2020 in which self-assessment is stated as one of the tools for transforming the culture of assessment. This series follows a holistic approach and promotes active engagement with learning. It aims to make the students move away from rote learning; and hence, elevate the status of the student from a passive learner to an active learner and facilitate learner autonomy, higher cognitive abilities and metacognitive engagement. A smooth transition of questions from easy, average to difficult would enable better understanding of concepts, self-analysis and hence excellence in any competitive exam.

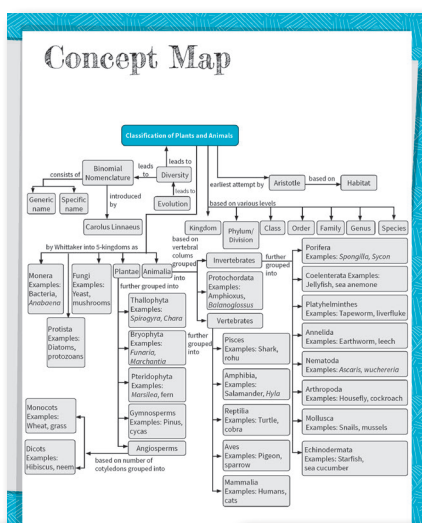
The workbooks can also be used by teachers for review and assessments in an academic year, if they want to, as each assessment paper has a variety of questions.



Register on  
<https://cpsa.collins.in/omr/>  
to attempt the  
questions online.

## ABOUT THE AUTHOR

**Excelschool Solutions (ESS)** is the premier learning division of Excel Soft technologies catering to the K12 segment. ESS endeavors to provide educational institutions with learning tools and technologies to enrich their pedagogical model. With a vast array of curricular and co-curricular solutions, ESS partners with over 8000+ schools worldwide in redefining the context of learning. ESS engages with institutions across the spectrum with learning aids, learning events, projects, lesson packs, activity labs, teacher training and audits. These solutions are closely planned and delivered by a 50 + member team comprising of research scholars, PhDs, M.Eds as well as very experienced teachers.



### Chapter 8 Motion

#### SELF-ASSESSMENT 1

##### Choose the correct option.

- If a bus moving on a straight road increases its speed uniformly from rest to 20 m/s over a time interval of 1 min, then the distance travelled during this time interval is \_\_\_\_\_.
  - 150 m
  - 300 m
  - 600 m
  - 900 m
- Which of the following statements is true?
  - The distance covered by an object is always less than its displacement.
  - The distance covered by an object is always greater than its displacement.
  - The distance covered by an object can be more than or equal to its displacement.
  - The distance covered by an object can be less than or equal to its displacement.
- A person throws a ball upwards with a certain velocity. If it attains a height of 5 m and comes back, then \_\_\_\_\_.
  - the total distance covered by the ball is 5 m
  - the total distance travelled by the ball is zero
  - the total displacement is 10 m
  - the total displacement is zero
- An object travels 4 km from P to Q towards North and then 3 km from Q to R towards West. What is its displacement?
  - 25 km
  - 7 km
  - 1 km
  - 5 km
- A car is driven from New Delhi to Haridwar. The initial reading and the final reading of the odometer are 13100 km and 14500 km, respectively. What is the distance travelled by the car?
  - 14500 km
  - 13100 km
  - 1400 km
  - 27600 km
- If two bodies of different masses X and Y are dropped from different heights  $H_1$  and  $H_2$ , then the ratio of the time taken by the two bodies to drop through these distances is \_\_\_\_\_.
  - $H_1/H_2$
  - $H_2/H_1$
  - $(H_1/H_2)^{1/2}$
  - $(H_2/H_1)^{1/2}$
- When a body covers a certain distance in direct proportion to the square of the time elapsed, then the acceleration is said to be \_\_\_\_\_.
  - increasing
  - decreasing
  - constant
  - zero

### Chapter 8 Motion

#### SELF-ASSESSMENT 3

##### A. Short Answer Type Questions

##### 1. Give reasons for the following questions.

- The magnitude of the displacement cannot be greater than the distance travelled.
- An object moving through a certain distance can have zero displacement.
- Uniform circular motion is considered to be an accelerated motion.
- The average velocity of a body can be zero.
- Speed and velocity are not always equal in magnitude.

##### 2. Answer the following questions in brief.

- What can we infer about the motion of an object whose distance-time graph is a straight line parallel to the time-axis?
- Differentiate between speed and velocity.
- A bike covers first 70 km in 2 hours and then another 70 km in the next 3 hours. What is the average speed of the bike?

## PISA-based Questions

### Chapter 1 Matter in Our Surroundings

#### Choose the correct option.

- Concentrated Dettol solution is diluted ten times and used to disinfect various surfaces. Which of the following is used as a solvent to dilute Dettol?
  - Water
  - Kerosene
  - Petrol
  - Absolute alcohol
- Which of the following tests is performed to detect the presence of Dettol in water?
  - pH test
  - Flame test
  - Odour test
  - Density test
- Assertion (A):** Dettol particles get evenly distributed in the universal solvent.  
**Reason (R):** Particles of matter have space between them.
  - Both A and R are true and R is the correct explanation of A.
  - Both A and R are true but R is not the correct explanation of A.
  - A is true but R is false.
  - R is true but A is false.

### Chapter 2 Is Matter Around Us Pure?

The chromatography technique of separation was initially developed in 1903 by Mikhail Tsvet, a Russian botanist. Mikhail used the difference in the polarity of different molecules in a mixture as the criteria for the separation of these molecules. He extracted the different colour pigments from plants by using liquid-adsorption column chromatography. He used calcium carbonate as the adsorbent (stationary phase) and petroleum ether/ethanol mixtures (mobile phase) as the solvent to separate the plant pigments (chlorophylls and carotenoids). Ever since its discovery, chromatography has evolved into a powerful tool in the lab for the separation and identification of different compounds in a mixture. Today, there are several types of chromatography that are being used in different labs across the world. Paper, liquid, thin layer, gas, high performance liquid, and ion exchange chromatography are some of its types.

## General Tips

Science is something that is seen in and around us. If you can connect almost everything about you and around you with science, it will be easy for you to understand and enjoy studying science as a subject. Here are some tips to assist the process of learning different areas of science.

- GET HOLD OF THE SYLLABUS**  
Have a soft or hard copy of the current syllabus.
- MAKE A STUDY PLAN**  
Make a tabular column of the chapter-wise weightage according to an exam's blueprint.
- MAKE NOTES FOR IMPORTANT TOPICS**  
For quick reference, note down important points while listening to the class or reading texts. Make a note of 50 words and their meanings and formulas. Don't skip the sample problems.
- MAKE CONNECTIONS**  
Try and relate the learning from science to the day-to-day activities and events.
- ASK RELEVANT QUESTIONS**  
The only questions one should have while learning something is "why" and "how". Why is it like this? How can this be altered? Read the reference documents from different sources.
- KEEP YOUR BASICS STRONG**  
Test your understanding of the concepts frequently by taking some assessments and exams.
- BE AND STAY ORGANIZED**  
Have all the books or equipment and stationary handy and clean.
- FIND A MENTOR OR A STUDY GROUP**  
Choose a mentor or group of similar interest to discuss, clear doubts, and revise at regular intervals.
- STAY HEALTHY**  
Eat healthy food, keep yourself hydrated, exercise, meditate, do yoga, get enough sleep, and keep your mind motivated.
- MAINTAIN FOCUS**  
Complete calculations and deduction towards learning a concept leads to faster understanding and comprehension. Put away gadgets so that you can focus.



# Collins Science Workbook

**Collins Science Workbook** is a series of three workbooks for classes 6 to 8, which are aimed at providing comprehensive practice for the development and understanding of scientific concepts. The worksheets are in accordance with the recommendations of the National Curriculum Framework 2005 and the syllabus prescribed by National Council of Educational Research and Training (NCERT).



### KEY FEATURES

- **Recap of the chapter** Main concepts of the chapter for quick recall
- **Concept Map** Summary of the chapter in the form of a flowchart
- **Worksheets** Five worksheets per chapter
- **Worksheet 1** Objective type questions based on the first half of the chapter
- **Worksheet 2** Short answer type questions based on the first half of the chapter
- **Worksheet 3** Objective type questions based on the second half of the chapter
- **Worksheet 4** Short answer type questions based on the second half of the chapter
- **Worksheet 5** Objective and subjective type questions based on the entire chapter

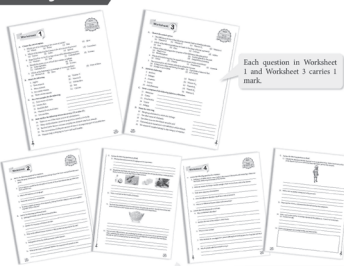


## Key Features

Each chapter comprises five multifaceted worksheets. First half of the chapter is covered in Worksheet 1 and Worksheet 2. The second half of the chapter is covered in Worksheet 3 and Worksheet 4. The complete chapter is covered in Worksheet 5.

Worksheets 1, 2, 3 and 4 can be used as a short review and assessment of key topics. Worksheet 5 provides a comprehensive approach and contains questions of all the topics of the chapter to reinforce problem-solving skills.

## Marking Schemes



Each question in Worksheet 1 and Worksheet 3 carries 1 mark.

Worksheet 2 and Worksheet 4 comprise of three sections A, B and C in sections A, B and C carries 1, 2 and 3 marks respectively.

## Worksheet 1



## A. Choose the correct option.

- Which of the following carries water to all parts of a plant?  
(a) Phloem (b) Xylem (c) Chlorophyll (d) Primary root
- Which of the following is an autotroph?  
(a) Green plant (b) Insectivorous plant (c) Saprophyte (d) Parasite
- Which of the following is a stack of thylakoids?  
(a) Stomata (b) Guard cells (c) Grana (d) Xylem
- Which of the following is green in colour?  
(a) Iodine solution (b) Chlorophyll pigment (c) Potassium hydroxide solution (d) Starch solution
- Which of the following cells surround stomata on either side?  
(a) Cuticle (b) Phloem (c) Xylem (d) Guard cells

## B. State whether the following statements are true (T) or false (F).

- Algae obtain food from photosynthesis.
- Only autotrophic plants prepare their food.
- Leaf veins carry water to the leaf.
- Water is transported through phloem tissues in plants.
- Xylem is present in the bark or outermost part of the stem in a tree or a plant.

## C. Name the following.

- A non-flowering plant that photosynthesizes
- A single-celled organism that prepares its own food like plants
- Bean shaped structures around stomata
- A test in which a green leaf turns blue-black
- Chlorophyll-containing structures in plant cells

## D. Fill in the blanks using the correct words.

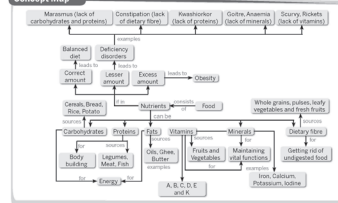
- The \_\_\_\_\_ convert light energy into chemical energy. (autotroph/autotrophs)
- Plants require \_\_\_\_\_ to prepare their food. (chlorine/chlorophyll)
- Sun is the source of energy for plants to \_\_\_\_\_. (photosynthesis/respire)
- Plants have a network system to transport food and \_\_\_\_\_.
- The chemical \_\_\_\_\_ is used to test for the presence of starch. (iodine/iodine)

## 2 Components of Food

## Recap of the Chapter

- The food we eat contains nutrients that are required for our body to grow and stay healthy.
- The major nutrients required by our body are carbohydrates, proteins, fats, vitamins and minerals in addition to dietary fibre and water.
- Carbohydrates are the main source of energy and form a major part of our staple diet.
- Proteins are the building blocks of the human body.
- There are two types of vitamins—fat soluble and water soluble, that help us to develop immunity against many diseases.
- Minerals are required for making our bones strong, building muscles and proper functioning of the body.
- Roughage is called dietary fibre. It helps in getting rid of undigested food and waste from the body.
- Balanced diet contains all the nutrients in right proportions.
- Deficiency of nutrients causes deficiency diseases while excess intake of nutrients causes obesity.

## Concept Map

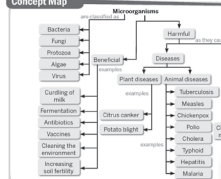


## 2 Microorganisms

## Recap of the Chapter

- The organisms that are very small and can only be seen through a microscope are called microorganisms or microbes.
- Microorganisms are found in all weather conditions.
- Laboratories generally use simple and compound microscopes.
- Microorganisms can be divided into five major groups: bacteria, algae, fungi, protozoa and virus.
- The microorganisms that cause diseases are known as pathogens or germs.
- Pathogens can enter the body of other organisms through the following routes: air, food and water, contact, carriers, cuts and wounds.
- Fermentation is a process of conversion of sugar into acid or alcohol and carbon dioxide by the action of microbe.
- Acidithiobacillus ferrooxidans* is a bacterium used for bioleaching.
- Microbes are used to produce antibiotics and vaccines.
- Microorganisms such as bacteria and fungi can spoil food, particularly the food items containing moisture.
- Techniques used for the preservation of food are sun drying, heating, salting, sugaring, using oil and storage, pasteurization, freezing, canning and using chemical preservatives.

## Concept Map



## Worksheet 1

## A. Choose the correct option.

- Which one of the following is the source of starch?  
(a) Wheat (b) Butter (c) Fish (d) Ghee
- Which of the following food items is the rich source of proteins?  
(a) Carrots (b) Cakes (c) Sprouts (d) Cucumbers
- Sugar found in our food is a type of one of the following nutrients.  
(a) Vitamin (b) Fat (c) Carbohydrates (d) Proteins
- Identify the main source of food that contains roughage.  
(a) Leafy vegetables (b) Fats (c) Carbohydrates (d) Proteins
- Which of the following is an example of unsaturated fat?  
(a) Mustard oil (b) Ghee (c) Butter (d) None of these

## B. Match the following.

- |                          |                   |
|--------------------------|-------------------|
| 1. Apple                 | (a) Vitamin C     |
| 2. Trace mineral         | (b) Vitamin D     |
| 3. Major mineral         | (c) Soluble fibre |
| 4. Fat soluble vitamin   | (d) Iron          |
| 5. Water soluble vitamin | (e) Calcium       |

## C. Give two examples for the following.

- Rich sources of starch
- Soluble fibre
- Insoluble fibre
- Vitamin K-rich food items
- Saturated fats

## D. State whether the following statements are true (T) or false (F).

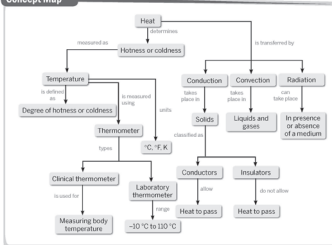
- Taproot is one of the major sources of carbohydrates.
- Water soluble vitamins cannot be prepared or stored in our body.
- The food items that we consume everyday are obtained only from animals.
- The consumption of adequate amount of water is an important.
- Vitamins help in keeping our bones and teeth healthy.

## 6 Heat and Temperature

## Recap of the Chapter

- The form of energy that flows from a hot object to a cold object is called heat.
- Temperature is the degree of hotness or coldness of an object.
- Thermometer is an instrument used to measure temperature of a body.
- The transfer of heat from a hotter part to a colder part of an object without the actual movement of the particles is known as conduction.
- Convection is the transfer of heat with the help of actual movement of particles in a liquid medium.
- Radiation is the mode of heat transfer without the aid of a medium.

## Concept Map



## Worksheet 1

## A. Choose the correct option.

- Which of the following scientists concluded that 'cell' is the basic building block of a plant?  
(a) Robert Hooke (b) Jakob Schleiden (c) Theodor Schwann (d) Lennaeus Hooke
- The cells in plants possess one of the following shapes.  
(a) Spherical (b) Hexagonal (c) Rectangular (d) All of these
- Which of the following were observed by Robert Hooke under a crude microscope in 1665?  
(a) Animal cells (b) Cork cells (c) Plant cells (d) Cells in pond water
- Which of these steps is usually done last to observe a specimen under the microscope?  
(a) Collecting the specimen (b) Sliding the specimen (c) Staining the specimen (d) Mounting the specimen on a slide
- Which of the following is a multicellular organism?  
(a) Amoeba (b) Paramecium (c) Plants (d) Bacteria

## B. State whether the following statements are true (T) or false (F).

- All living organisms are made up of a single cell.
- Yeast is an example for a multicellular organism.
- A group of organs that perform different functions make up a tissue.
- Escherichia coli* is a unicellular organism.
- White blood cells can change their shape.

## C. Name the following.

- The smallest living organism
- The longest cell
- The branched and cylindrical cells
- The basic unit of any living organism
- A group of cells together form

## D. Match the following.

- |                 |                      |
|-----------------|----------------------|
| 16. Animals     | (a) Wiggly tail      |
| 17. Bacteria    | (b) Multicellular    |
| 18. Skin cells  | (c) Different shapes |
| 19. Plant cells | (d) Unicellular      |
| 20. Sperm cells | (e) Hat-shaped       |

## Worksheet 1



## A. Choose the correct option.

- Which among the following mirrors is used as the rear view mirror of vehicles?  
(a) Cylindrical mirror (b) Plane mirror (c) Convex mirror (d) Concave mirror
- Identify the mirror that can form both real and virtual images.  
(a) Cylindrical mirror (b) Plane mirror (c) Convex mirror (d) Concave mirror
- If an object kept in front of a convex mirror is moved away from the mirror, the size of its image  
(a) decreases (b) increases (c) remains same (d) none of these
- If an object is kept very close to a concave mirror, then the image formed by the mirror is  
(a) Real, inverted, magnified (b) Virtual, erect and magnified (c) Virtual, erect and diminished (d) Real, inverted, diminished
- If an object is kept away from a convex mirror, then the image formed by the mirror is  
(a) Real, inverted, magnified (b) Virtual, erect and magnified (c) Virtual, erect and diminished (d) Real, inverted, diminished

## B. State whether the following statements are true (T) or false (F).

- When light falls on a surface, a part of it hits the surface and returns back.
- If we shine a laser torch onto a wall during night, the path of light is a curved line.
- Rough surfaces reflect more light compared to polished surfaces.
- An image can either be real or virtual.
- Converging rays of light form a real image.

## C. Name the following.

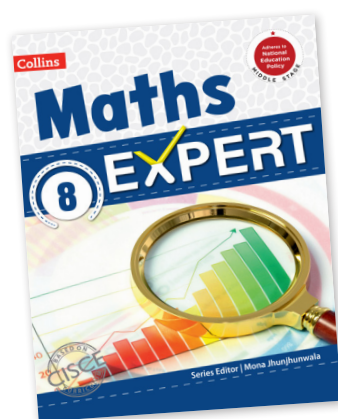
- An image which can be obtained on a screen is a \_\_\_\_\_ image.
- The property of light travelling in a straight line is called \_\_\_\_\_.
- A polished shiny surface which reflects light \_\_\_\_\_.
- The mirror that always forms an erect image \_\_\_\_\_.
- The type of mirror required to make a periscope \_\_\_\_\_.

## D. Fill in the blanks using the correct words.

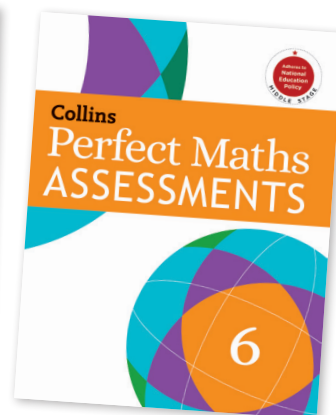
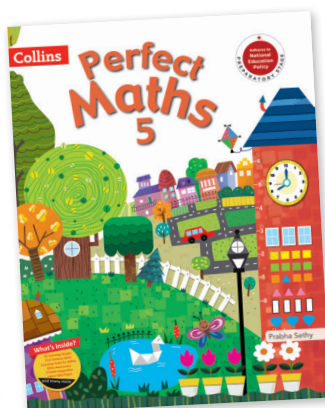
- A person standing in front of a plane mirror starts moving parallel to the mirror in one direction. The image moves in the \_\_\_\_\_ direction (same/opposite direction).
- When you look into a spoon, you see your inverted image. This is because the spoon acts as a \_\_\_\_\_ mirror (concave/convex mirror).
- A concave mirror is cut into two equal halves along the diameter. The image formed by each piece is of the \_\_\_\_\_ size as that of the full mirror. (same/different)
- An object kept in front of a convex mirror is moved towards the mirror. The image formed by the mirror moves \_\_\_\_\_ (towards/away from the mirror).
- An object kept in front of a concave mirror is moved towards the mirror, the size of the image formed by the mirror \_\_\_\_\_ (increases/decreases).

# Maths

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8	Class 9	Class 10
Collins Maths Expert (New)	✓	✓	✓	✓	✓	✓	✓	✓		
Perfect Maths	✓	✓	✓	✓	✓	✓	✓	✓		
Updated Maths Zone	✓	✓	✓	✓	✓	✓	✓	✓		
Collins Perfect Maths Assessments						✓	✓	✓	✓	✓
Mental Maths	✓	✓	✓	✓	✓	✓	✓	✓		
Let's Practise	✓	✓	✓	✓	✓	✓	✓	✓		
Collins Maths Workbook						✓	✓	✓		



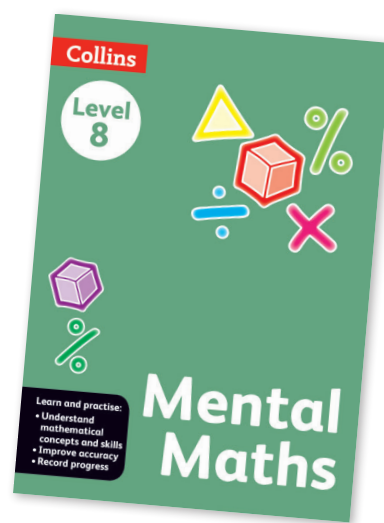
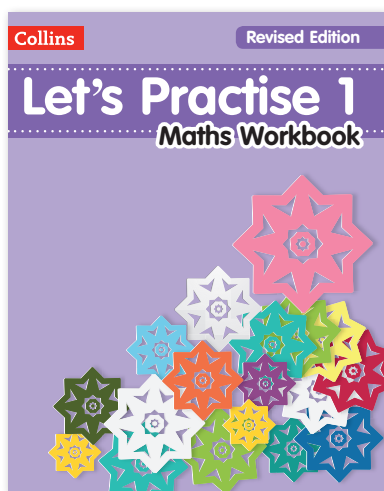
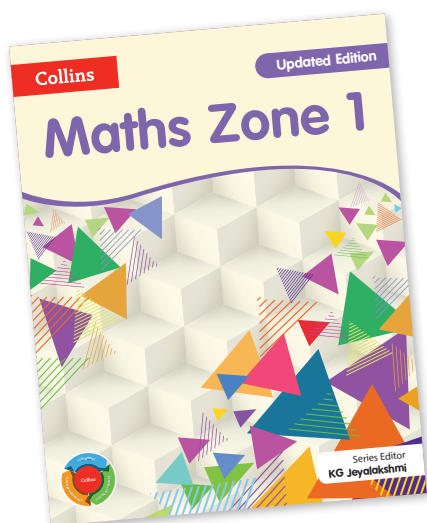
What's New



Collins has an exciting range of mathematics coursebooks and workbooks catering to different curricula across the country.

Our Maths courses adhere to the principles outlined in the National Education Policy 2020 and follow the '5Es' – Engage, Explore, Explain, Extend, and Evaluate.

This year we brought out **Collins Maths Expert** (Classes 1 to 8), which is based on extensive practice based approach for numeracy skills with a special focus on critical thinking, problem solving life skills. The series beautifully integrates NEP elements (Experiential Learning, Art Integration, Cross-Curricular, India Focus and 21st Century Skills) and Sustainable Development Goals to make mathematics engaging for students through emphasizing connections between mathematics and day-to-day experiences.





# Collins Maths Expert

**Collins Maths Expert** is a series of eight books for Classes 1 to 8. With an extensive practice based approach for numeracy skills, the series also aims to inculcate calculative, critical thinking with problem solving life skills. The series is designed keeping in mind the competencies framed under National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat).

With numerous solved examples, quick reference for important points, interactive exercises, graphic organizers and variety of questions in exercise and worksheets; this series is suitable for a hands on and intensive drilling based learning.



**NEW**

## KEY FEATURES

- **Bridge Chapter:** A variety of questions based on the previous grade for quick recapitulation
- **Prior Knowledge:** List of topics to help construct connections between old and new knowledge
- **Learning Objectives:** List of main topics that will be covered in a chapter
- **Let's Get Started:** Interactive exercise to begin a chapter
- **Solved Examples:** A variety of worked out examples based on each topic
- **Remember:** Important points for quick reference
- **Alert:** Snippets to clear common misconceptions and mistakes
- **Exercise:** Purposefully designed in-text exercises
- **Word Problems:** Textual questions based on real-life situations
- **Key Concepts:** A graphic organizer to recap the chapter
- **Revision Exercise:** Variety of questions based on the topics covered in the chapter
- **Test Paper:** Variety of questions based on the entire book
- **Answer Keys:** Solutions to Exercise and Revision Exercise
- **Poster:** Hands-on/STEAM-based posters to develop 21st Century Skills







## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

### REVISION EXERCISE

- Choose the correct option.
  - Which is the greatest number?  
i. 4    ii. 2    iii. 7    iv. 5
  - The number 6 is written as  
i. five    ii. four    iii. six    iv. two
  - Which is the smallest number?  
i. 1    ii. 0    iii. 6    iv. 9
  - Which group shows 7 balloons?  
i.    ii.    iii.    iv.
- Fill in the blanks.
  - \_\_\_\_\_ is just before 13.
  - \_\_\_\_\_ is just after 17.
  - \_\_\_\_\_ is in between 11 and 13.
  - \_\_\_\_\_ and \_\_\_\_\_ are between 14 and 17.
  - \_\_\_\_\_ and \_\_\_\_\_ are between 16 and 20.
- Write the numbers and the number names of the following.
  - Number \_\_\_\_\_ Number name \_\_\_\_\_
  - Number \_\_\_\_\_ Number name \_\_\_\_\_
- Count the number of pictures and circle the correct number for each of the following.
  - ☐ 10 ☐ 8 ☐ 6

### With Carrying

**Example 11:**  $26 \times 15$

**Solution:** Step 1: Multiply the ones and regroup.

H	T	O
	2	6
×	1	5
1	3	0

First,  $6 \times 5 = 30$ . Write 0 below 5 in the ones column. Carry forward 3 of 30 to the tens column.  $2 \times 5 = 10$ ; now add 3 (carried forward). Thus,  $10 + 3 = 13$ . Write 13 before 0.

Step 2: Multiply the tens.

H	T	O
	2	6
×	1	5
1	3	0
2	6	0

Write 0 below 0 in the ones column. Then,  $6 \times 1 = 6$ . Carry forward 3 of 30 to the tens column.  $2 \times 1 = 2$ . So,  $86 \times 32 = 2752$ .

**Regrouping Ones and Tens**

**Example 12:**  $86 \times 32$

**Solution:**

H	T	O
	8	6
×	3	2
1	7	2
2	5	8
2	7	5

We have circled 1 to distinguish it from the earlier carried forward number 1.

So,  $86 \times 32 = 2752$ .

## 2 Addition

#### Prior Knowledge

- Properties of addition
- Adding 2-digit numbers with and without regrouping
- Adding 1-, 2- or 3-digit numbers with 3-digit numbers without regrouping
- Solving daily-life problems on addition
- Estimating the sum of given numbers

#### Learning Objectives

- Addition of 3-digit numbers with regrouping
- Addition of 4-digit numbers without and with regrouping
- Addition of 5-digit numbers without and with regrouping
- Word problems on addition
- Estimation of the sum

### Let's Get Started

Look at the flowers and the number each represents. Replace the flowers with numbers and solve the sums given below.

= 54    = 16    = 11

- + =
- + =
- + + =
- + + =
- + + =
- + + =

### AVERAGE

Average of a certain number of values/quantities indicates what the equal distribution of that quantity would have been.

**REMEMBER**

- The terms 'values' and 'quantities' refer to the numbers of a given set of data.

Average =  $\frac{\text{Sum of all the values in the group}}{\text{Total number of values in the group}}$

Another name for average is arithmetic mean, commonly referred to as the **mean** of a set of values.

**Example 25:** Sita eats 4 sweets on Monday, 9 sweets on Tuesday and 5 sweets on Wednesday. Find the average number of sweets she eats per day.

**Solution:** To find the average number of sweets Sita ate per day, divide the total number of sweets by the number of days, that is divide 18 by 3.

Total number of sweets Sita ate in 3 days =  $4 + 9 + 5 = 18$

Average =  $\frac{\text{Sum of all the values}}{\text{Number of days}} = \frac{4 + 9 + 5}{3} = \frac{18}{3} = 6$

This means that on these 3 days, if she had eaten equal number of sweets out of the total 18 sweets, she would have eaten 6 sweets per day.

**Example 26:** Priyanka walked 3 km on day 1, 5 km on day 2, 6 km on day 3 and 6 km on day 4. Find the average number of kilometres she walked per day.

**Solution:** Total number of kilometres she walked =  $3 + 5 + 6 + 6 = 20$

Number of days = 4

Average number of kilometres she walked per day =  $\frac{20}{4} = 5$

So, Priyanka walked an average of 5 km per day.

**Example 27:** Find the average of the first 5 multiples of 5 starting from 10.

**Solution:** The first 5 multiples of 5 starting from 10 are 10, 15, 20, 25 and 30.

Average =  $\frac{\text{Sum of all the values}}{\text{Total number of values}} = \frac{10 + 15 + 20 + 25 + 30}{5} = \frac{100}{5} = 20$

So, the average of the first 5 multiples of 5 starting from 10 is 20.

## MATHS FAIR

Let us build a square pyramid

**Let's Start!**

- Measure and draw four equal triangles on the cardboard, using a pencil and a ruler. Remember that the larger your triangles, the bigger your pyramid will be.
- Cut the triangles using your scissors.
- Glue the sides of all four triangles together to form a pyramid shape. You can also use sellotape to hold the sides firmly.
- Draw a square on another cardboard piece such that its side is longer than the base of the triangles. Cut out the square.
- Now glue the bottom of the pyramid into the middle of the cardboard piece.
- Draw several vertical and horizontal lines on each side of the pyramid with a dark brown or black permanent marker to imitate the appearance of pyramids.
- Pour sand over the pyramid and the base while the glue is still wet. If sand is not available, you can pour glitter, but sand will give more realistic look. And your pyramid is ready.

## DO IT YOURSELF

The Great Pyramid of Giza is the oldest of the seven wonders of the ancient world, and the only one to remain largely intact. Apart from Egypt, pyramids were found in other countries also, including India. Find more about pyramids and write a few interesting facts here.

Pyramids are always named after their bases. The pyramid that we have made just now is a square pyramid. If you want to make a triangular pyramid, what changes will you make? Write the steps here.

You must have read about pyramids along with pyramids. How are pyramids different from triangles? Can you make a triangular pyramid? Write the steps here. Also, take a picture of your project and paste it in the box.

At I Need To \_\_\_\_\_

Let's Read \_\_\_\_\_

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Answer Keys

Multimedia E-book

Test Generator

Additional Worksheets

Teacher's Resource Books

Detailed Lesson Plan

Mathometer



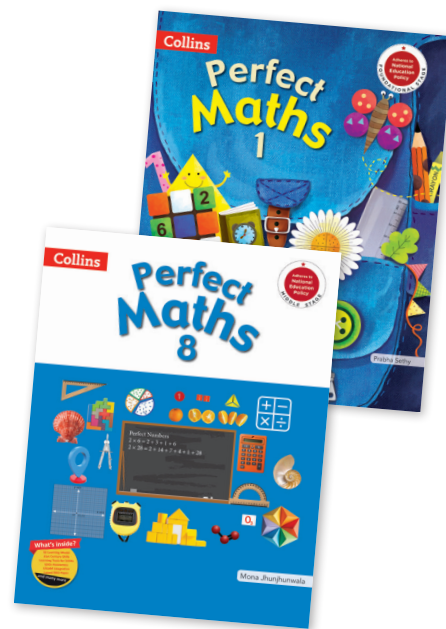
CLASSES 1 TO 8

## Perfect Maths

**Perfect Maths** is a series of eight books for classes 1 to 8. This series adheres to the guidelines of the *National Education Policy (NEP) 2020* and is aligned with the vision of the *National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat)*. This series, based on the 5E Learning Model, strives to make a shift from rote-learning to competency-based learning, in accordance with *Structured Assessment For Analyzing Learning (SAFAL)*.

The components of SAFAL – critical thinking, inquiry-based learning and analysis-based learning – are woven into the features such as Exercises, Mental Maths, Chapter Revision, Skill Up!, Worksheets, Reasoning Worksheets, Review/Assessment Corner and PISA Corner (Classes 6 to 8).

Key features of this series have been meticulously designed to effectively integrate the main elements of NEP 2020 (21st Century Skills, Art Integration, Experiential Learning, Cross-curricular and India Focus). The series also aims to make the students aware of the *Sustainable Development Goals (SDGs)* of the United Nations so that they can become SDG Pioneers, Champions or Ambassadors.



### KEY FEATURES

- Maths Around Us
- Maths Lab Activity
- Skill Up!
- Worksheets
- SEE (Social, Emotional, Ethical) Learning
- Maths Mela
- Eminent Mathematicians



## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

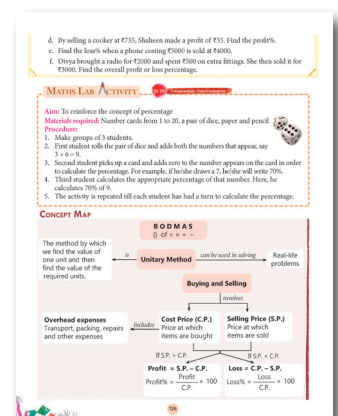
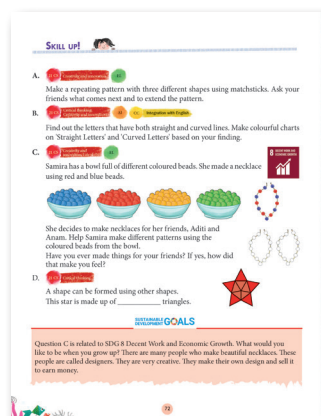
## ABOUT THE AUTHORS:







### CLASSES 1 TO 5

**Prabha Sethy**, formerly a teacher at Welham Boys' School, Dehradun, with more than 30 years of experience in teaching mathematics, brings in resources from everyday life into her content.

### CLASSES 6 TO 8

**Mona Jhunjhunwala**, currently teacher at The Heritage School, Kolkata, with more than 19 years of experience in teaching mathematics in both CBSE and CISCE curricula, brings in her vast knowledge and passion for teaching mathematics in her content.



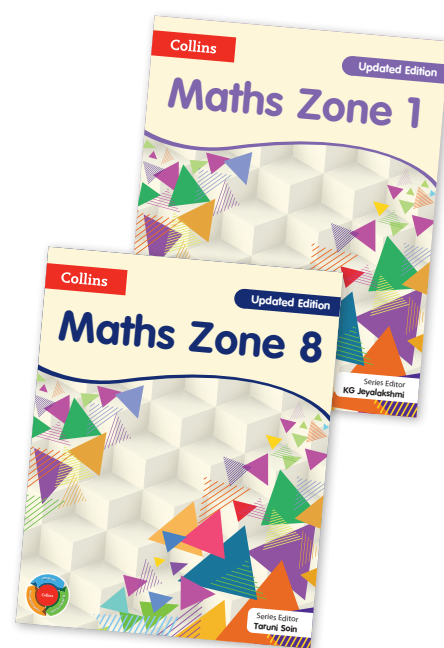
Collins DigiSuite	 Answer Keys	 Test Generator	 Additional Worksheets
	 Teacher's Resource Books	 Multimedia E-book	 Detailed Lesson Plan



CLASSES 1 TO 8

## Maths Zone

**Maths Zone (Updated Edition)** is a series of eight books for Classes 1 to 8. The series conforms to the objectives outlined in the National Curriculum Framework. The updated edition of Maths Zone, trying to make a difference with its new features, incorporates the latest requirements across various boards. With its activity-oriented approach, the series aims to inculcate lateral thinking, analytical, research and deduction skills in students.



### KEY FEATURES

- **Remember** brings the focus to certain important points covered
- **Exercises** after each topic to revise the concept just learnt
- **Mental Maths** to help practise calculation skills and deductive reasoning
- **Cross-curricular Links** (for Classes 1 to 5) integrate knowledge across subjects
- **Common Errors** to help children understand and avoid the mistakes they often make
- **Revision Exercises** at the end of each chapter for a comprehensive review of the concepts
- **Maths Lab Activity** to test skills of investigation, observation and deduction
- **Higher Order Thinking Skills (HOTS)** and Challenge questions to sharpen the thinking skills
- **Worksheets** to reinforce practice with fun exercises
- **Projects** to extend the concepts learnt to real-life applications
- **Summary** (for Classes 6 to 8) gives a snapshot of the chapter for quick recapitulation
- **Vedic Maths** (Classes 3 to 8) to master shortcut techniques which aid in faster calculations





## COURSE PACKAGE

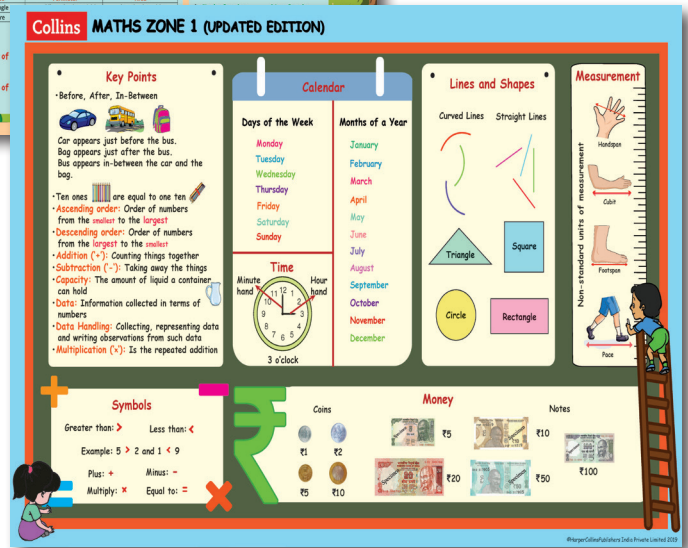
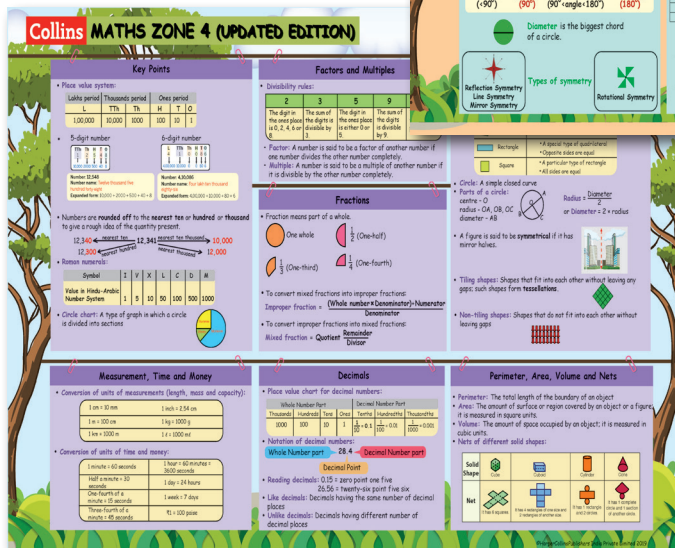
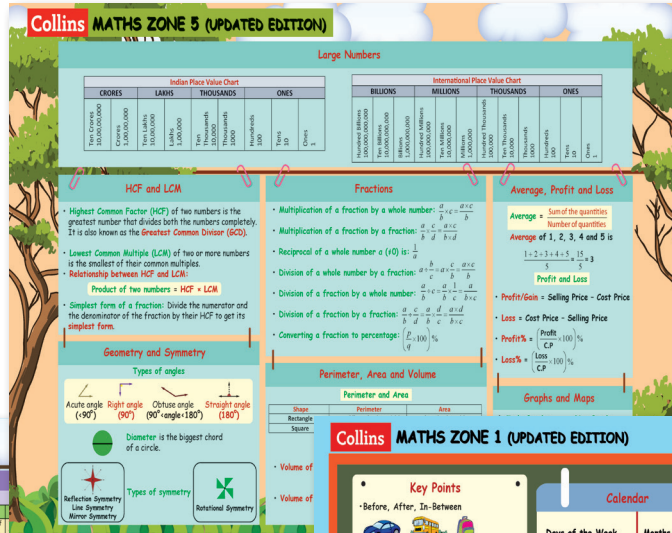
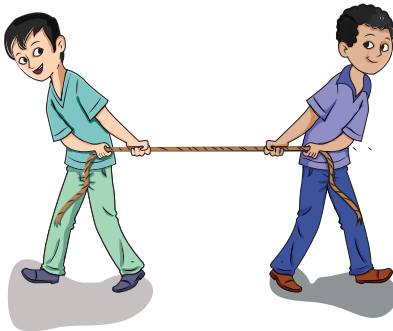
- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite










## ABOUT THE SERIES EDITORS

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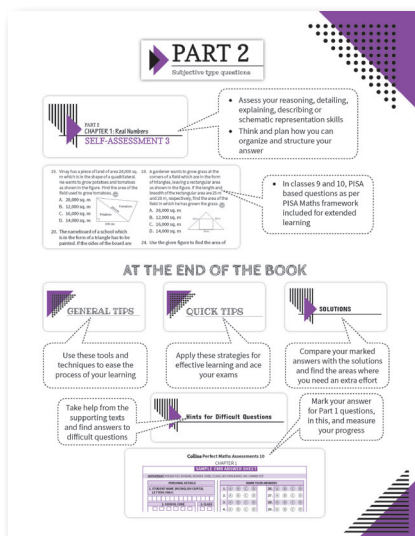
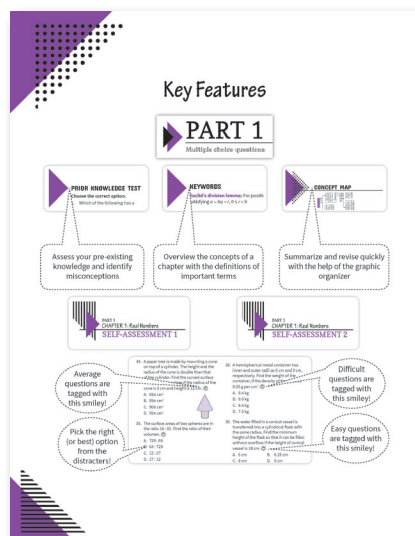
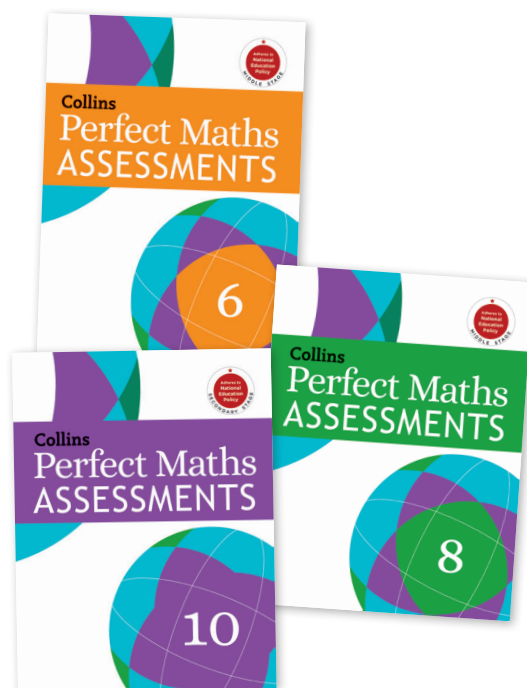


Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Test Generator	 Additional Worksheets
	 Teacher's Resource Books		 Detailed Lesson Plan	 Mathometer

# Collins Perfect Maths Assessments

**Collins Perfect Maths Assessments** is a comprehensive maths self-assessment series for classes 6 to 10, for schools across all boards. This series adheres to the guidelines of the National Education Policy (NEP) 2020 in which self-assessment is stated as one of the tools for transforming the culture of assessment. This series follows a holistic approach and promotes active engagement with learning. It aims to make the students move away from rote learning; and hence, elevate the status of the student from a passive learner to an active learner and facilitate learner autonomy, higher cognitive abilities and metacognitive engagement. A smooth transition of questions from easy, average to difficult would enable better understanding of concepts, self-analysis and hence excellence in any competitive exam.

The workbooks can also be used by teachers for review and assessments in an academic year, if they want to, as each assessment paper has a variety of questions.



## ABOUT THE AUTHOR

**Excelschool Solutions (ESS)** is the premier learning division of Excel Soft technologies catering to the K12 segment. ESS endeavors to provide educational institutions with learning tools and technologies to enrich their pedagogical model. With a vast array of curricular and co-curricular solutions, ESS partners with over 8000+ schools worldwide in redefining the context of learning. ESS engages with institutions across the spectrum with learning aids, learning events, projects, lesson packs, activity labs, teacher training and audits. These solutions are closely planned and delivered by a 50 + member team comprising of research scholars, PhDs, M.Eds as well as very experienced teachers.

### CHAPTER 4

#### Quadratic Equations

##### PRIOR KNOWLEDGE TEST

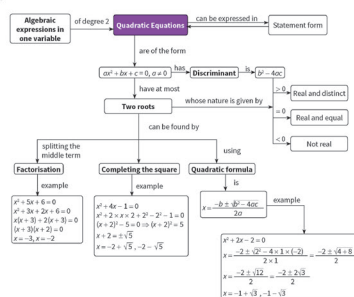
Choose the correct option.

1. What is the product of  $(x-2)(2x+3)$ ?  
A.  $x^2 - x - 6$  B.  $2x^2 - x - 6$   
C.  $2x^2 + x - 6$  D.  $2x^2 + x + 6$
2. Which of the following is a factor of  $x^2 - 7x + 12$ ?  
A.  $(x-3)$  B.  $(x+3)$   
C.  $(x+4)$  D.  $(x-6)$
3. What is the value of  $1.11^2 - 0.89^2$ ?  
A. 0.0044 B. 0.044  
C. 0.44 D. 4.4
4. Find the factors of  $40a^2 - 25b^2 + 40bc - 16c^2$ .  
A.  $(7a-5b+4c)(7a-5b+4c)$   
B.  $(7a+5b+4c)(7a-5b+4c)$   
C.  $(7a+5b-4c)(7a+5b+4c)$   
D.  $(7a-5b-4c)(7a+5b+4c)$
5. Which of the following is not a factor of  $2x^2 - 32$ ?  
A. 2 B.  $x^2 - 4$   
C.  $x+2$  D.  $x^2 + 8$

##### KEYWORDS

**Quadratic equation:** An algebraic equation having the highest power of the variable as 2  
**Standard form of a quadratic equation:**  $ax^2 + bx + c = 0$ ,  $a \neq 0$ , is the standard form of a quadratic equation  
**Root of a quadratic equation:** A real number  $\alpha$  is called a root of the quadratic equation  $ax^2 + bx + c = 0$ ,  $a \neq 0$ , if  $a\alpha^2 + b\alpha + c = 0$   
**Discriminant of a quadratic equation:** If  $ax^2 + bx + c = 0$ ,  $a \neq 0$ , is a quadratic equation, then  $b^2 - 4ac$  is called the discriminant  
 A quadratic equation  $ax^2 + bx + c = 0$  has  
 • two distinct real roots, if  $b^2 - 4ac > 0$   
 • two equal real roots, if  $b^2 - 4ac = 0$   
 • no real roots, if  $b^2 - 4ac < 0$   
**Quadratic formula:** If  $b^2 - 4ac \geq 0$ , then the roots of the quadratic equation  $ax^2 + bx + c = 0$  are given by the formula  $\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

### CONCEPT MAP



### PART 1 CHAPTER 8: Introduction to Trigonometry SELF-ASSESSMENT 1

Choose the correct option.

1. Which of the following is true?  
A.  $\cos A$  is the ratio of  $\sin A$  and  $\tan A$ .  
B. The value of  $\sin A$  is always less than 1.  
C.  $\csc A$  is the reciprocal of  $\sec A$ .  
D. The short form of cosecant of angle  $A$  is  $\cos A$ .
2. If  $\sec \theta = \frac{1}{\sqrt{2}}$ , what is the value of  $\sec \theta$ ?  
A.  $\frac{1}{\sqrt{2}}$  B.  $\sqrt{2}$   
C. 1 D.  $\frac{\sqrt{3}}{2}$
3. If  $\csc A = \sqrt{6}$ , find the value of  $\tan A$ .  
A.  $\frac{1}{\sqrt{6}}$  B.  $\frac{1}{\sqrt{5}}$   
C.  $\sqrt{5}$  D.  $\sqrt{6}$
4. If  $\tan \theta = \frac{3}{4}$ , find the value of  $\frac{1 - \sin \theta}{1 + \sin \theta}$ .  
A. 4 B. 1  
C.  $\frac{1}{4}$  D. 2
5. If  $\sqrt{5} \tan \theta = 5 \sin \theta$ , find the value of  $4 \cos^2 \theta - \sin^2 \theta$ .  
A. 5 B. 1  
C.  $\frac{1}{5}$  D. 0
6. If  $\sin \theta = \frac{3}{\sqrt{10}}$ , find the value of  $\frac{\csc^2 \theta + \cot^2 \theta}{\csc^2 \theta - \cot^2 \theta}$ .  
A. 1 B.  $\frac{1}{9}$   
C.  $\frac{5}{9}$  D.  $\frac{11}{9}$
7. If  $\sec \theta = \frac{13}{12}$ , what is the value of  $\frac{2 \cos \theta - 3 \sin \theta}{4 \cos \theta - 9 \sin \theta}$ ?  
A. 1 B. 3  
C. 9 D.  $\frac{12}{13}$
8. If  $\cot \theta = \frac{b}{a}$ , find the value of  $\frac{a \sin \theta - b \cos \theta}{\sin \theta + \cos \theta}$ .  
A.  $a+b$  B.  $a-b$   
C.  $2a+b$  D.  $2a-b$
9. If  $\cos A = \frac{2\sqrt{2}}{3}$ , what is the value of  $\csc A \cos A + \cot A \sin A$ ?  
A.  $\frac{4\sqrt{2}}{3}$  B.  $\frac{8\sqrt{2}}{3}$   
C.  $2\sqrt{2}$  D.  $4\sqrt{2}$

### PART 1 CHAPTER 10: Circles SELF-ASSESSMENT 2

Choose the correct option.

26. A circle with centre  $O$  has a diameter of 30 cm. How many tangents can be drawn from a point  $P$ , which is 24 cm away from the centre?  
A. 0  
B. 1  
C. 2 equal tangents  
D. 2 unequal tangents
27. Tangents drawn at the ends of the diameter of a circle are \_\_\_\_\_.  
A. parallel  
B. perpendicular  
C. equal  
D. Both B and C
28. Find the distance of a point from the centre of a circle of radius 18 cm. The length of the tangent drawn from the point to the circle is 24 cm.  
A.  $9\sqrt{2}$  cm B.  $15\sqrt{3}$  cm  
C. 30 cm D. 32 cm
29. Tangents from a point  $X$  to a circle with centre  $O$  intersect it at  $A$  and  $B$ . Find the angle subtended by the chord  $AB$  at the centre, if  $\angle AXB = 108^\circ$ .  
A.  $36^\circ$   
B.  $72^\circ$   
C.  $50^\circ$   
D.  $108^\circ$
30. Find the length of the tangent  $XY$ , if the diameter of the green circle is 22 cm and  $OY = 61$  cm.  
A. 60 cm  
B. 56.89 cm  
C.  $52\sqrt{3}$  cm  
D. 24 cm
31. A line perpendicular to the tangent to a circle and passing through the point of contact is called the \_\_\_\_\_ to the circle.  
A. chord B. segment  
C. normal D. sector
32. Two concentric circles,  $C_1$  and  $C_2$ , are given below. Find the radius of the bigger circle, if  $OM = 35$  cm and the length of the chord  $XY = 24$  cm.  
A. 42.43 cm  
B. 37 cm  
C. 33 cm  
D. 25.64 cm
33. Tangents from a point  $P$  to a circle with centre  $O$  intersect it at  $X$  and  $Y$ . Find the area of  $\triangle POY$ , if  $PO = 13$  cm and  $\angle OPY = 90^\circ$ .  
A.  $338 \text{ cm}^2$   
B.  $169 \text{ cm}^2$   
C.  $139 \text{ cm}^2$   
D.  $129 \text{ cm}^2$

### Collins Perfect Maths Assessments 10 CHAPTER 1 SAMPLE OMR ANSWER SHEET

IMPORTANT: PLEASE FILL IN NAME, SCHOOL CODE, CLASS, SECTION & ROLL NO. CORRECTLY

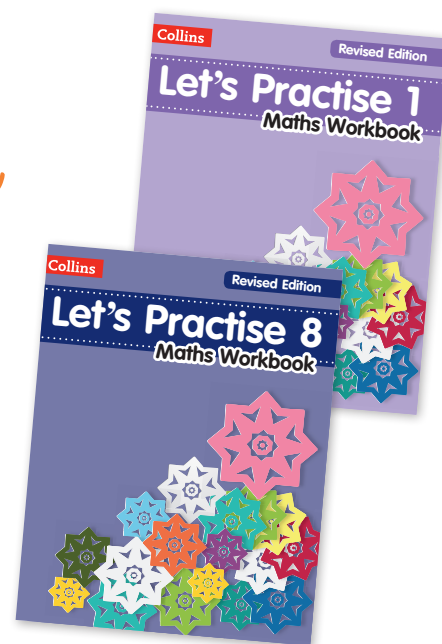
PERSONAL DETAILS		MARK YOUR ANSWERS	
1. STUDENT NAME (IN ENGLISH CAPITAL LETTERS ONLY)		2. SCHOOL CODE	
3. CLASS		4. SECTION	
5. ROLL NO.		6. CLASS	
1.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	26.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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5.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	30.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
6.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	31.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
7.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	32.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
8.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	33.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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11.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	36.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
12.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	37.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
13.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	38.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
14.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	39.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
15.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	40.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
16.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	41.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
17.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	42.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
18.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	43.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
19.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	44.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
20.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	45.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
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22.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	47.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
23.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	48.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
24.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	49.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D
25.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D	50.	<input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D



CLASSES 1 TO 8

## Let's Practise Maths Workbook

**Let's Practise (Revised Edition)** is a series of eight workbooks for classes 1 to 8, which are aimed at giving comprehensive practice to support child's development of mathematical skills. The series is planned primarily as a series of worksheets presented in a variety of simple and engaging styles. The worksheets are benchmarked against the guidelines of the National Curriculum Framework and NCERT syllabus requirements.



### KEY FEATURES

- **Quick Facts** to recall the important points learnt in a chapter
- **Worksheets** in each chapter to reinforce understanding of the fundamental concepts
- **Revision Worksheet** at the end of each chapter to provide focused and comprehensive practice
- **Mental Maths** to develop essential mental maths skills
- **Challenge** to sharpen thinking skills
- **Puzzle Corner** to enhance the application of the concepts learnt in a fun way
- **Value-based Question** to understand the basic values through the application of practical aspects
- **Reasoning Worksheets** to help develop reasoning and problem-solving skills
- **Vedic Maths** (Classes 3 to 8) to master shortcut techniques which aid in faster calculations



# COURSE PACKAGE

• Workbooks



## Challenge

Reema, Mary and Neha bought 30 bangles each. Reema's mother gave her 8 more bangles. Neha broke all her bangles, so Reema gave 10 of her bangles to Neha. Who has the most number of bangles and who has the least number of bangles?

## Value-based Question

There are 30 students in a class. Shashi brought 18 chocolates and Mini brought 12 chocolates. They distributed these chocolates in the class. How many chocolates does each child get? What value do we learn from this?

## Puzzle Corner

Connect the numbers to help two animals reach their respective houses.



## Mental Math

- How many tens are there in 63?
- How many ones are there in ninety?
- Write the number name of 58.
- How many bundles of ten make seventy?
- Which is smaller among 73, 42 and 60?
- Which is bigger among 16, 99 and 85?

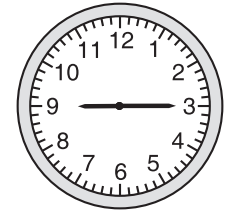
## Reasoning Worksheets

### WORKSHEET 1

- Which among the following does not belong to the group?  
a. b. c. d.
- You score a century on hitting a 6 after me. Who am I?  
a. 94 b. 96 c. 98 d. 100
- Choose the missing number for the given result.  

3	7	7
1	4	5
2	3	5

  
a. 9 b. 8  
c. 7 d. 6
- What is the length of the given pencil?  
  
a. 16 cm b. 15 cm  
c. 14 cm d. 8 cm
- How many squares are there in the following picture?  
  
a. 18 b. 14  
c. 12 d. 9
- Given that  
 $\square + \square + \triangle = 693$ ;  $\square + \square = 525$ ;  $\triangle + \square = 450$   
What is the value of  $\square$ ?  
a. 75 b. 168 c. 243 d. 100



## Reasoning Worksheets

### WORKSHEET 1

- Anil took some money from his friend and bought the following items:  

Item	Cost of each item (₹)	Number of items bought
Jacket	900	2
T-shirt	555	6
Shoes	2300	3
Socks	175	10

  
He returned the money taken in a year by paying equal amounts every month. How much did he pay each month?  
a. ₹14,280 b. ₹2380 c. ₹1428 d. ₹1190
- Pick the odd one out.  
(Hint: Observe the angle between the hands of the clock.)  
a. b. c. d.
- Arrange the following cards in the ascending order of their area.  

Card	Area
Happy Birthday	18
Happy Anniversary	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1
Happy Birthdays	1

  
a. 3, 5, 1, 2, 4 b. 4, 2, 1, 3, 5 c. 4, 2, 1, 5, 3 d. 1, 2, 3, 4, 5

### WORKSHEET 2

Volume using Blocks

- What is  $\frac{1}{2}$  of a right angle?  
a.  $15^\circ$  b.  $30^\circ$  c.  $45^\circ$  d.  $90^\circ$
- Find the area of the figure given below.  
  
a. 9 sq. cm b. 14 sq. cm c. 10 sq. cm d. 12 sq. cm
- What fraction of the block is unshaded?  
  
a.  $\frac{2}{5}$  b.  $\frac{4}{5}$  c.  $\frac{3}{5}$  d.  $\frac{41}{100}$
- Pick the odd one out with respect to their turns.  
a. b. c. d.

## Vedic Math

**Multiplication by All from 9 and last from 10**  
For multiplying two numbers that are both close to the base numbers 10, 100, 1000, etc., we use the quick method of All from 9 and the last from 10 sutra.  
When you apply this sutra to any number, it gives the complement of that number. For the last number (digit in the ones place), the complement should be calculated from 10. For all the remaining digits, the complement should be calculated from 9.  
The complement of one-digit number should be calculated as the difference from 10; the complement of a 2-digit number should be calculated as the difference from 100; the complement of a 3-digit number should be calculated as the difference from 1000 and so on.  
For example, the complement of 6 is 4; the complement of 78 is 22; the complement of 825 is 175.  
Once the concept of All from 9 and the last from 10 is understood properly, multiplication of numbers using complements is very easy to understand.  
**Example 1: Multiply  $87 \times 93$  (Numbers below the base)**  
Write down the two numbers and their complements to the right of the number.  

87	-13	Step 1: Complement of 87 is 13. Write it as minus 13 to show that it is 13 less than 100
93	-07	Complement of 93 is 7. Write it as minus 7 to show that it is 7 less than 100.

  
**Step 2: Multiply the complements  $(-13 \times -7 = +91)$ . Place a stroke line to show two parts of the answer.**  

80	91
0	0

  
**Step 3: Cross-subtract (or cross-add, as per the case)  $87 - 13$  (also  $93 - 07 = 80$  (no number needs to be carried over))**  
So, the answer is 8091.  
**Example 2: Multiply  $94 \times 66$  (Numbers below the base)**  
Write down the two numbers and their complements to the right of the number.  

94	-06	Step 1: Complement of 94 is 6. Write it as minus 6 to show that it is 6 less than 100
66	-34	Complement of 66 is 34. Write it as minus 34 to show that it is 34 less than 100.

  
**Step 2: Multiply the complements  $(-6 \times -34 = +204)$ . Place a stroke line to show two parts of the answer.**  

62	04
2	2

  
**Step 3: Cross-subtract (or cross-add, as per the case)  $94 - 34$  (also  $66 - 06 = 60 + 2$  (carried over)) = 62**  
So, the answer is 6204.

### WORKSHEET 5

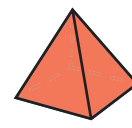
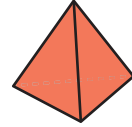
The 24-hour clock

- Choose the correct answer.  
a. Six thirty hours = ..... (6:30 a.m./6:30 p.m.)  
b. Eleven hours = ..... (11:00 p.m./11:00 a.m.)  
c. Twenty two forty five hours = ..... (10:45 p.m./10:45 a.m.)  
d. Twenty hours = ..... (8:00 a.m./8:00 p.m.)  
e. Fourteen twenty hours = ..... (2:20 p.m./2:20 a.m.)
- Complete the table.  

Name of the activity	12-hour clock	24-hour clock
a. Singing class	6:00 p.m.	hours
b. Lunch time	hours	1300 hours
c. Tea time	4:30 p.m.	hours
d. Study time	hours	1900 hours
e. Dinner time	8:30 p.m.	hours
- Match the clock to the time.  
a. b. c. d. e.   
i. 1930 hours ii. 1500 hours iii. 2115 hours iv. 2345 hours v. 1655 hours
- State whether the following statements are true (T) or false (F).  
a. The time shown in the clock is 2 hours 36 minutes.  
b. The time shown in the clock is 4 hours 15 minutes.

## Revision Worksheet

- Which of the following nets will form the shape given alongside?  
a. b. c. d.
- Draw the floor map of the following deep drawing.
- Count and write the number of unit cubes in the following solids.  
a. b. c. d. e.
- Draw the different views (front, top and side) of the given 3-D shapes.  
a. b. c. d. e.
- Draw the different views (front, top and side) of the given 3-D shape.
- Match the shapes to their nets by drawing lines.  
a. b. c. d. e.   
i. ii. iii. iv. v.





CLASSES 1 TO 8

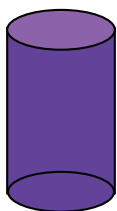
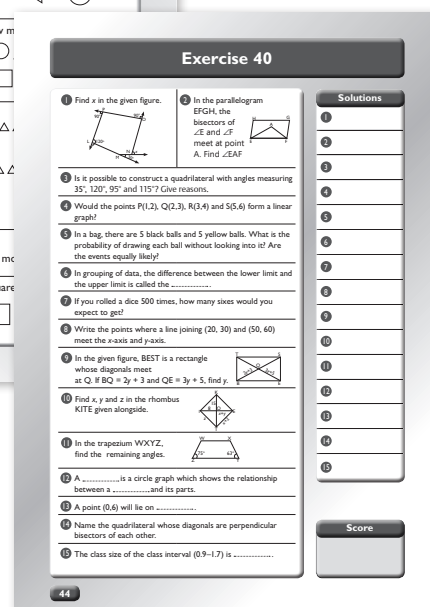
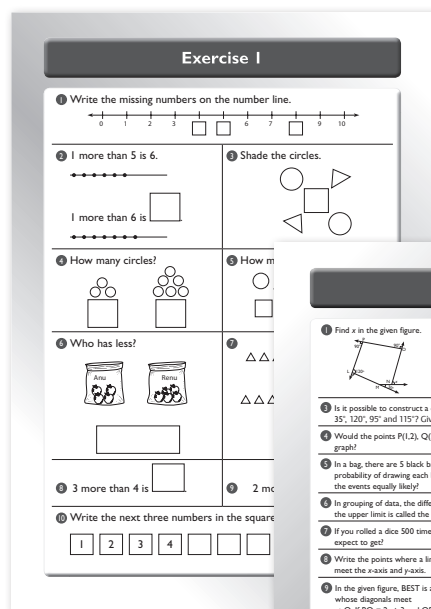
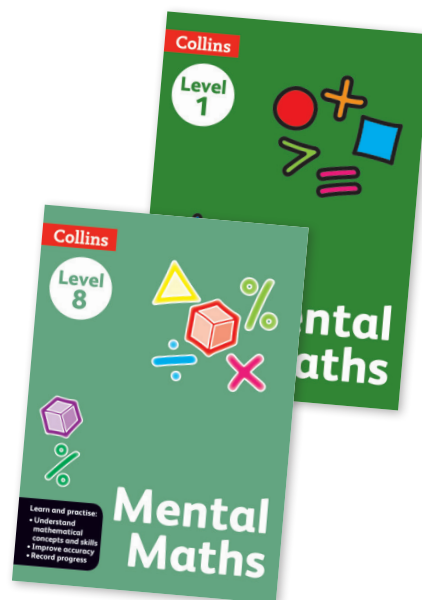
## Mental Maths

Collins **Mental Maths** is a series of eight books available from Levels 1 to 8 which is linked to the curriculum requirement of each primary group as per NCF guidelines.

### KEY FEATURES

A fun way to test understanding of mathematical concepts and skills

- Allows students to assess their progress with result charts
- Supports school work at home
- Worksheets become progressively more challenging to ensure advancement
- Develops strong skills for exam success
- Each worksheet contains a revision element to ensure that students have fully understood the previous worksheet
- Includes notes for teachers and parents to help students' learning





## COURSE PACKAGE

• Workbooks

### Exercise 22

- ..... + 8 = 10
- $(6 \times 3) + (3 \times 5) = \dots\dots\dots$
- What is the sum of 18, 36 and 27?
- What is the next number? 1250, 1150, 1050, .....
- Anju has to share equally her box of 48 chocolates with her two brothers. How many does she get?
- Write down four numbers that have 2 as a factor:
- $1 - 0.9 = \dots\dots\dots$
- $2\frac{1}{2} = \frac{\dots}{\dots}$
- $\frac{1}{2} + \frac{1}{2} = 1$
- $0.5 + 0.5 = \dots\dots\dots$
- If today is Friday, what day will it be in two weeks' time?
- Add the even numbers: 30, 31, 32, 33
- What are the values of A and B?

A	B	6
4	9	14
12	8	7

9  $99 \times 21 = (99 \times 20) + (99 \times \dots\dots\dots)$

#### Solutions

- 2
- 27
- 63
- 1000
- 16
- 2, 4, 6, 8
- 0.1
- $2\frac{1}{2} = \frac{5}{2}$
- 1
- 1
- Friday
- 66
- A = 4, B = 9

Score

26

### Concepts tested

Chapter Number	Chapters	Exercises
1.	Integers	1, 2, 5, 39, 40
2.	Fractions and Decimals	3, 4, 38, 39, 40
3.	Rational Numbers	5, 6, 7, 38
4.	Exponents	8, 9, 14, 39
5.	Algebraic Expressions	10, 11, 14, 40
6.	Simple Equations	12, 13, 14, 40
7.	Ratio, Proportion and Unitary Method	15, 16, 21, 38
8.	Percentage and Its Applications	17, 18, 21, 38, 39, 40
9.	Commercial Mathematics	19, 20, 21, 38, 39, 40
10.	Lines and Angles	22, 23, 28, 38, 39, 40
11.	Triangles and Their Properties	24, 25, 28, 38, 40
12.	Congruence of Triangles	26, 27, 32, 38, 39, 40
13.	Practical Geometry	29, 32
14.	Symmetry	30, 32, 39
15.	Visualising Solid Shapes	31, 39, 40
16.	Perimeter and Area	33, 34, 37, 38, 39
17.	Data Handling and Probability	35, 36, 37, 38, 39, 40

2

### Exercise 5

- Express  $\frac{-120}{-770}$  in standard form.
- Which of these is equivalent to  $\left(\frac{12}{15}\right)^2$ ?  
a.  $\left(\frac{-24}{50}\right)$  b.  $\left(\frac{-24}{-50}\right)$  c.  $\left(\frac{24}{-50}\right)$
- Arrange the rational numbers in ascending order:  
 $\left(\frac{2}{3}\right), \left(\frac{-4}{3}\right), \left(\frac{7}{-9}\right), \left(\frac{2}{15}\right)$
- Arrange the rational numbers in descending order:  
 $\left(\frac{-5}{9}\right), \left(\frac{1}{-10}\right), \left(\frac{-5}{10}\right), \left(\frac{1}{5}\right)$
- Find a rational number between  $\left(\frac{1}{2}\right)$  and  $\left(\frac{1}{3}\right)$
- Solve  $\left(\frac{-2}{5}\right) + \left(\frac{6}{-10}\right) - \left(\frac{9}{15}\right) + \left(\frac{3}{4}\right)$
- The sum of two rational numbers is  $\left(\frac{1}{4}\right)$ . If one number is  $\left(\frac{-1}{16}\right)$ , what is the other number?
- A number subtracted from  $\frac{3}{5}$  gives  $\frac{12}{35}$ . Find the number.
- Simplify:  $\left(\frac{-121}{144}\right) \times \left(\frac{-288}{143}\right)$
- Divide:  $\left(\frac{224}{81}\right) \div \left(\frac{-512}{225}\right)$
- A rope is  $15\frac{1}{2}$  m long. If two pieces of lengths  $6\frac{1}{4}$  m and  $8\frac{1}{4}$  m are cut from it, what is the length of the remaining rope?
- A wire of length  $120\frac{3}{4}$  m has been cut into 30 pieces of equal length. What is the length of each piece?
- The product of two rational numbers is  $\frac{2}{3}$ . If one of the rational numbers is  $\frac{1}{4}$ , find the other rational number.
- How many bottles of water will be needed to fill up a  $27\frac{1}{2}$  litres container if each bottle can hold 0.5 litres of water?
- The reciprocal of a negative rational number is a ..... (negative/positive) rational number.

#### Solutions

- $\frac{12}{77}$
- b
- $\left(\frac{2}{3}\right), \left(\frac{-4}{3}\right), \left(\frac{7}{-9}\right), \left(\frac{2}{15}\right)$
- $\left(\frac{-5}{9}\right), \left(\frac{1}{-10}\right), \left(\frac{-5}{10}\right), \left(\frac{1}{5}\right)$
- $\frac{5}{6}$
- $\frac{1}{4}$
- $\frac{1}{4}$
- $\frac{1}{5}$
- $\frac{1}{4}$
- $\frac{1}{4}$
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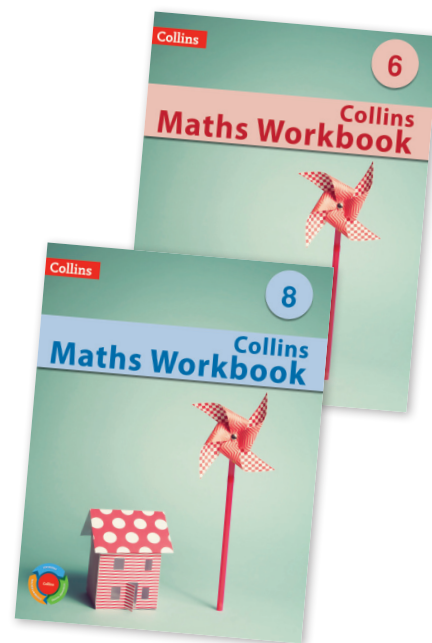
Score

5

### Solutions

Exercise 1	Exercise 2	Exercise 3	Exercise 4	Exercise 5
1. 5	1. 1025	1. 1, 2, 4, 5, 10, 20	1. 1440	1. 195
2. 17	2. 7	2. 27	2. $1, 2, 3, 4, 6, 8, 12, 16, 24, 36, 48, 72, 96, 144, 180, 216, 288, 360, 432, 576, 720, 864, 1080, 1440, 1800, 2160, 2880, 3600, 4320, 5760, 7200, 8640, 10800, 14400, 18000, 21600, 28800, 36000, 43200, 57600, 72000, 86400, 108000, 144000, 180000, 216000, 288000, 360000, 432000, 576000, 720000, 864000, 1080000, 1440000, 1800000, 2160000, 2880000, 3600000, 4320000, 5760000, 7200000, 8640000, 10800000, 14400000, 18000000, 21600000, 28800000, 36000000, 43200000, 57600000, 72000000, 86400000, 108000000, 144000000, 180000000, 216000000, 288000000, 360000000, 432000000, 576000000, 720000000, 864000000, 1080000000, 1440000000, 1800000000, 2160000000, 2880000000, 3600000000, 4320000000, 5760000000, 7200000000, 8640000000, 10800000000, 14400000000, 18000000000, 21600000000, 28800000000, 36000000000, 43200000000, 57600000000, 72000000000, 86400000000, 108000000000, 144000000000, 180000000000, 216000000000, 288000000000, 360000000000, 432000000000, 576000000000, 720000000000, 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# Collins Maths Workbook



**Collins Maths Workbook** is a series of three workbooks for classes 6 to 8, which are aimed at giving comprehensive practice to support child's development of mathematical skills. The series is planned primarily as a series of multifaceted worksheets presented in a variety of simple and engaging styles. The multifaceted worksheets are benchmarked against the guidelines of the *National Curriculum Framework* and NCERT syllabus requirements.

## KEY FEATURES

- **Recall** Important points learnt in a chapter for quick review
- **Worksheets** in each chapter to reinforce understanding of the fundamental concepts
- **Revision Worksheet** at the end of each chapter to provide focused and comprehensive practice
- **Cognitive Corner** A variety of questions to help the students monitor, develop and communicate their thinking processes, such as:
  - **Mental Maths** to develop essential mental maths skills
  - **Challenge** to sharpen thinking skills
  - **Puzzle** to enhance the application of the concepts learnt in a fun way
  - **Life Skills** to create awareness, empathy and a positive attitude towards self and others
- **Reasoning Worksheets** to help develop reasoning and problem-solving skills
- **Vedic Maths** to master shortcut techniques which aid in faster calculations



## Cognitive Corner

## Mental Maths

- What number should be deducted from 17 to get 8?
- How many 16s are needed to make the sum 144?
- How many 4s are to be removed from 156 to get 0?
- Complete the following pattern of numbers.
 

(a) $1 \times 8 + 1$	= 9	(b) $12 \times 8 + 2$	= 98
(c) $123 \times 8 + 3$	= 987	(d) $1234 \times 8 + 4$	= _____
(e) $12345 \times 8 + 5$	= _____	(f) $123456 \times 8 + 6$	= _____
(g) $1234567 \times 8 + 7$	= _____	(h) $12345678 \times 8 + 8$	= _____
(i) $123456789 \times 8 + 9$	= _____		
- Find the missing digit in the following subtraction tables.
 

	2	9		0
-			6	5
	2	1	3	4

	2	9		0
-			6	5
	2	1	3	4

## Challenge

- Observe the following.
- Sum of the digits row-wise =  $(7 + 0 + 5) + (2 + 4 + 6) + (3 + 8 + 1) = 12$
- Sum of the digits column-wise =  $(7 + 2 + 3) + (0 + 4 + 8) + (5 + 6 + 1) = 12$
- Sum of the digits diagonal-wise =  $(3 + 4 + 5) + (7 + 4 + 1) = 12$
- Such a square is called a magic square.
- Now, complete the following magic squares.
- |    |    |    |
|----|----|----|
| 13 | 14 |    |
|    | 12 | 16 |
| 15 |    | 11 |
  - |    |    |   |
|----|----|---|
| 14 | 13 | 0 |
|    | 8  | 5 |
| 15 |    |   |

## Worksheet 2 Median and Mode of Ungrouped Data

## A. Choose the correct option.

- The median of the numbers 10, 3, 6, 10, 4, 8 is  
(a) 5 (b) 7 (c) 3 (d) 6
  - The mode value of the scores of English test was found to be 88. What does this imply?  
(a) 88 is the average score (b) 88 is the highest score  
(c) None of the students scored 88 (d) Most of the students scored 88
  - Which of the following is not true?  
(a) A data can have more than one median (b) A data can have only one median  
(c) A data can have more than one mode (d) A data can have only one mode
- B. Find the error in the following and correct them. One has been done for you.
- The mode of the data 3, 7, 5, 8, 7, 3, 5, 9 is 7.  
Correction: As 3 is also repeated two times, the modes of the data are 3 and 7.
- The median of the data 13, 7, 6, 5, 7, 2, 4 is 5.
  - The mode of the data 13, 57, 198, 3, 13, 75 is 198.
  - 30 is both median and mode of the data 10, 20, 30, 40, 70, 50, 90.

## C. Answer the following.

- Find the median of 19, 25, 21, 23, 31, 33, 39, 35, 37.
  - Find the median and mode of 125, 152, 152, 215, 412, 214, 125, 152, 125, 125.
  - Find the mode of 45, 54, 45, 54, 52, 25, 25, 45, 51, 45, 25, 54, 45, 25, 41, 12.
- D. Solve the following word problems.
- The runs scored by 7 players in a cricket match are as follows: 101, 100, 99, 4, 82, 28, 28. Find the median and mode.
  - The size of the shoes of some children at a camp is as follows: 4, 6, 4, 5.5, 5, 7, 3, 4.5, 3.5, 6.5. Find the median and mode.
  - The amount of pocket money of some children is as follows: ₹200, ₹150, ₹125, ₹125, ₹150, ₹150, ₹160, ₹170, ₹175, ₹200, ₹125, ₹130, ₹145, ₹140, ₹155.

## 5 Understanding Elementary Shapes

## Recall

- The length of a line segment is the distance between its two end points.
  - Ruler and divider are used to compare the lengths of line segments.
  - When two rays start from a common point, they form an angle. Angles can be measured using protractor.
- | Types of angles | Criteria                                     |
|-----------------|--|
| Acute           | Measures between $0^\circ$ and $90^\circ$    |
| Right           | Measures $90^\circ$                          |
| Obtuse          | Measures between $90^\circ$ and $180^\circ$  |
| Reflex          | Measures between $180^\circ$ and $360^\circ$ |
- Special angles: zero angle ( $0^\circ$ ), straight angle ( $180^\circ$ ), complete angle ( $360^\circ$ ).
  - Two lines that intersect each other at right angles are known as perpendicular lines.
  - The perpendicular to the line segment that divides it into two equal parts is known as its perpendicular bisector.
  - Triangle is a simple closed figure made of three line segments.

## Types of triangles based on sides

Type of triangle	Criteria
Equilateral	All sides are equal.
Isosceles	Two sides are equal.
Scalene	All sides are different.

## Types of triangles based on angles

Type of triangle	Criteria
Acute-angled	All angles are acute.
Right-angled	One angle is a right angle.
Obtuse-angled	One angle is obtuse.

- A quadrilateral with one pair of parallel sides is called a trapezium.
- A quadrilateral in which two pairs of adjacent sides are equal is called a kite.
- A quadrilateral in which two pairs of opposite sides are parallel and equal is a parallelogram.
- A parallelogram with all sides equal is called a rhombus.
- A parallelogram with all angles as right angles is called a rectangle.
- A rectangle in which all sides are equal is called a square.
- Polygons in which all the sides are equal and all the angles are equal are known as regular polygons; otherwise, they are called irregular polygons.
- A prism is a three-dimensional figure whose top and base are polygons, and the other faces are rectangles. A pyramid is a three-dimensional shape whose base is a polygon and all other faces are triangles connected at a point known as the vertex.

## Revision Worksheet

## A. Write T for true and F for false.

- The ones digit in the square of the number 1245144 is 4.
- Taking a square root is the inverse process of squaring.
- There are two square roots for any given natural number—one is positive and another is negative.
- In the square root of the decimal numbers, the decimal point should be placed exactly after the same number of digits as it is in the decimal number.
- The square root of product of the numbers is equal to the product of the square root of those numbers.

## B. Match the following numbers with their square roots.

- |          |         |
|----------|---------|
| 6. 441   | a. 4.4  |
| 7. 1369  | b. 7.21 |
| 8. 19.36 | c. 37   |
| 9. 82    | d. 44   |
| 10. 841  | e. 21   |
|          | f. 29   |

## C. Fill in the blanks by choosing the correct option given in the brackets.

- A number that is ending with zeros can be a square number only if it has \_\_\_\_\_ (odd/even) number of zeros at the end.
- The number of zeros in the square of a number is \_\_\_\_\_ (thrice/twice) the number of zeros in the number itself.
- The square of any odd natural number can be expressed as the \_\_\_\_\_ (sum/product) of two consecutive positive integers.
- If a perfect square has  $n$  digits, then its square root will have \_\_\_\_\_ ( $\frac{n}{2}, \frac{n+1}{2}$ ) digits, if  $n$  is even or \_\_\_\_\_ ( $\frac{n}{2}, \frac{n+1}{2}$ ) digits, if  $n$  is odd.
- If  $\sqrt{156} = 34$ , then  $\sqrt{15.6} =$  \_\_\_\_\_ (0.34/3.4).

## Worksheet 6 Simple Interest

## A. Complete the table. One has been done for you.

Principal (₹) P	Time (years) T	Rate of Interest R	Simple Interest (₹) SI
30,000	1	6%	$30,000 \times \frac{6}{100} = 1800$
30,000	2	6%	
30,000	3	6%	
30,000	4	6%	
30,000	5	6%	
30,000	6	6%	

## Now, write the formulas for the following.

- SI = \_\_\_\_\_
- P = \_\_\_\_\_
- T = \_\_\_\_\_
- R = \_\_\_\_\_
- The rate of interest per ₹100 per year is called \_\_\_\_\_.
- Amount = Principal + \_\_\_\_\_
- The amount of money one borrows for his needs or one lends to others is called \_\_\_\_\_.
- The extra money that is repaid to the lender in addition to the money borrowed for some time is called \_\_\_\_\_.
- The total money which is repaid to the lender at the end of agreed time is called \_\_\_\_\_.

## C. Assuming that the rate of interest is 5 paise per month per rupee, match the following.

- |                                       |              |
|---------------------------------------|--------------|
| 10. Interest per six months per rupee | (a) ₹60      |
| 11. Interest per year per rupee       | (b) 60%      |
| 12. Interest per month per ₹100       | (c) ₹5       |
| 13. Interest per year per ₹100        | (d) 60 paise |
| 14. Rate per cent                     | (e) 30 paise |
|                                       | (f) 5 paise  |

## Cognitive Corner

## Mental Maths

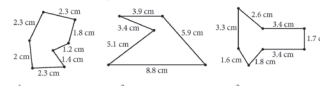
- Find the ratio of the smallest odd prime number to the smallest odd composite number.
- Given a proportion  $24 : 18 = x : 5$ , find the value of  $x$ .
- If 15 bags of rice weigh 675 kg, how much do 10 bags weigh?
- In a city, 40% are females, males constitute 5% more than females and the remaining are children. What is the percentage of children in the city?
- 60% of 55 students qualified to take an entrance exam. How many students are disqualified?
- If 10,500 is reduced to 6,900, what is the per cent of reduction?
- If 27,500 is increased to 33,000, what is the per cent of increase?
- Ramesh sold a watch for ₹1973 at a profit of ₹273. Find the CP of the watch.
- If the CP of an article is ₹884 and it is sold for a profit of ₹684, find its SP.

## Challenge

- In a cricket match, Kohli scores  $\frac{1}{2}$  times the runs scored by Dhoni and Dhoni scores 4 times the runs scored by Yuvraj. Find the ratio of the runs scored by Kohli, Dhoni and Yuvraj in the lowest terms.
- In the given figure, not drawn to scale, the ratio of the area of the larger square to the smaller square is 8 : 4. If 25% of the larger square is shaded, what percentage of the whole figure is not shaded and shaded?

## Revision Worksheet

## A. Find the perimeters of the figures shown below.



## B. Calculate the perimeter of the given nets. One has been done for you.

Figure	Calculation
4.	Perimeter of the net = Sum of the lengths of all sides = $14 \times 6 = 84$ cm
5.	
6.	

## C. What will be the cost of a rope required to fence a square park of side 6.5 m with 5 rounds if the rate of the rope is ₹25 per metre?

## D. If the length of a rope is 420 cm, then find the length of each side of the following.

- An equilateral triangle
- A square
- A regular pentagon
- A regular hexagon
- A regular heptagon

# EVS and Social Studies

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
Bumblebee	✓	✓	✓	✓	✓			
Cascade	✓	✓	✓	✓	✓	✓	✓	✓
Excursions (Revised)	✓	✓	✓	✓	✓	✓	✓	✓
Collins Map Practice Book						✓	✓	✓



In our EVS books, we promote multidisciplinary approach that sensitizes children to the environment and also instills in them values and life skills.

The Social Studies books help children make sense of the world through stimulating content and tasks. We brought out two new course in adhering to the principles outlined in the NEP 2020.

In addition, the *Map Practice Workbooks* help students develop and practise their map reading skills.



*Also Available*





# EVS & SOCIAL STUDIES

CLASSES 1 TO 5

## Bumblebee

**Bumblebee** is an innovative skill-based course on Environmental Studies for classes 1 to 5. The series focuses on **21st Century Learning** and inculcates in young learners the skills important to excel in the age of information. It encourages them to explore their world and foster environmental awareness and sustainability. This series of five books adheres to the **National Education Policy, 2020**. The activities enrich learners with foundational literacy and numeracy to achieve competencies in reading, writing and numeracy as outlined in **NIPUN Bharat**. The assessments track progress on core competencies under **Structured Assessment for Analyzing Learning Levels (SAFAL)**.



### KEY FEATURES

- **Smart Skills** Activities based on learning skills, literacy skills and life skills
- **Skilling Up** Contextual questions based on 21st Century Skills
- **Give It a Shot** Activities for exploratory and experiential learning
- **Sticker Fun** Hones fine motor skills
- **Poster** Conservation of environment through application of the 5Rs





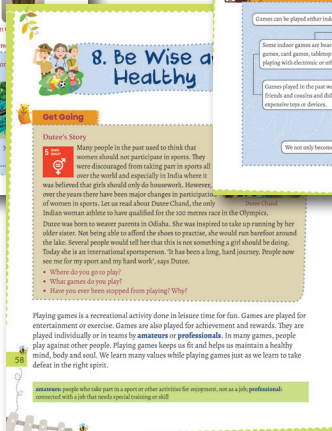
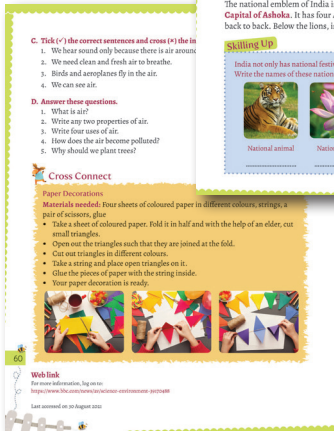
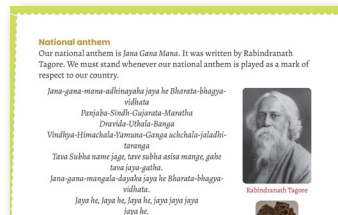
## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

**Dinu Raheja**, an innovative educationist and administrator, recipient of the International Teacher's Award, has over 15 years of teaching experience in Indian and international schools. Formerly, Middle School Incharge, Sanskriti School, New Delhi, she is currently Director with The Global Education & Leadership Foundation (tGELF). Dinu also facilitates teacher and student leadership, entrepreneurship and 21st century skill development workshops.

**Lipika Ghosh** has over 25 years of teaching experience at St. Xavier's School Hazaribagh, Sardar Patel Vidyalaya, New Delhi and Sanskriti School, New Delhi. She has used innovative teaching methodology to make science a process of discovery interspersed with anecdotes for learners. Lipika has taught analytical skills and inculcated awareness of social issues amongst learners through science.



Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Test Generator
	 Teacher's Resource Books	 Additional Worksheets	 Detailed Lesson Plan

# EVS & SOCIAL STUDIES

CLASSES 1 TO 8

## Cascade

**Cascade** is a skill-based course on Environmental Studies and Social Studies for the foundational, preparatory and middle stages. This series for classes 1 to 8 is aligned to the National Education Policy, 2020. Taking into account the multidisciplinary nature of Environmental Studies and Social Studies, the series follows an interactive approach through a variety of tasks and stimulating content. This series deals with the study of human behaviour, relationships, resources and institutions in local as well as global contexts, all of which are fundamental to our conception of society.



### KEY FEATURES

- **Skill builder:** 21st century skills necessary to succeed in the age of information
- **Think Big:** Provides varied activities for multidisciplinary and holistic activities aligned to NIPUN initiative for young learners
- **Learning Tools:** Student-made study guides to quickly organize, display, and arrange data, making it easier to grasp concepts
- **Apply it!:** Provides application-based activities for experiential learning
- **Geography skills:** Provides tasks to hone map skills
- **Assessments:** Provide competency-based Structured Assessments For Analysing Learning (SAFAL)



## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

### AUTHORS (6 T O 8)

**Archna Golcha** is a resource person for CBSE and a master trainer. She has conducted several training programmes for educators and students. She also has been an observer CBSE for NEET and JEE exams on several occasions. She is presently working with Manikgarh Cement English School as the principal.

**Urmi Chakraborty** has over three decades of teaching experience. She has taught in Sardar Patel Vidyalaya, New Delhi, Welham Girls' School, Dehradun and The Shriram Millennium, Noida. She has been selected as a mentor by The Council for Secondary Education.





**Swati Shukla** has over two decades of teaching experience. She is currently teaching in Sanskriti School, New Delhi.

## ABOUT THE SERIES EDITOR

### SERIES EDITOR (1 TO 5)

**Padmini Sriraman** has worked in the field of education for more than four decades. She was the former Principal of The Hindu Senior Secondary School in Chennai. A recipient of the CBSE National Award, Padmini is an author, consultant, mentor, master trainer CBSE and resource person of COE CBSE Chennai. She has conducted many workshops and seminars for teachers and principals across India and abroad.



Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Test Generator
	 Teacher's Resource Books	 Additional Worksheets	 Detailed Lesson Plan

# EVS AND SOCIAL STUDIES

CLASSES 1 TO 8

## Excursions

**Excursions Revised Edition** is a comprehensive course in Environmental Studies and Social Studies for young learners. This series for classes 1 to 8 is aligned to the National Education Policy, 2020. Following the curriculum, the series offers a course in Environmental Studies for classes 1 and 2, integrated Social Studies for classes 3, 4 and 5 and separate Geography and History and Civics courses for classes 6, 7 and 8. The series offers features that focus on essential skills to assist learners achieve holistic learning through a multidisciplinary approach.



### KEY FEATURES

Varied key features in the series hone learning skills.

- **Learning** – Let's learn about, Key terms, Timeline, In a Nutshell
- **Extended learning and explanation** – Reflect, FactPedia, Figure Out, Weblinks
- **Observation and application** – DIY, Green Earth, World Connect, Geo Connect, Case Study
- **Problem-solving and analytical thinking** – Think Box, Life Skills and Values, Picture Study
- **Creativity and happiness** – Enjoy, Game
- **Multidisciplinary and holistic learning** – Across the Boundary, Snap Recap
- **Assessment and practice** – Workout, Test Yourself, Outline maps



## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite



## ABOUT THE AUTHORS

**Abira Das**, principal at the Agrasain Boys' School, Kolkata

**Meenakshi Wattal**, an educationist for over three decades, believes learning must be multidimensional

**Debahuti Das**, teacher at The Heritage School

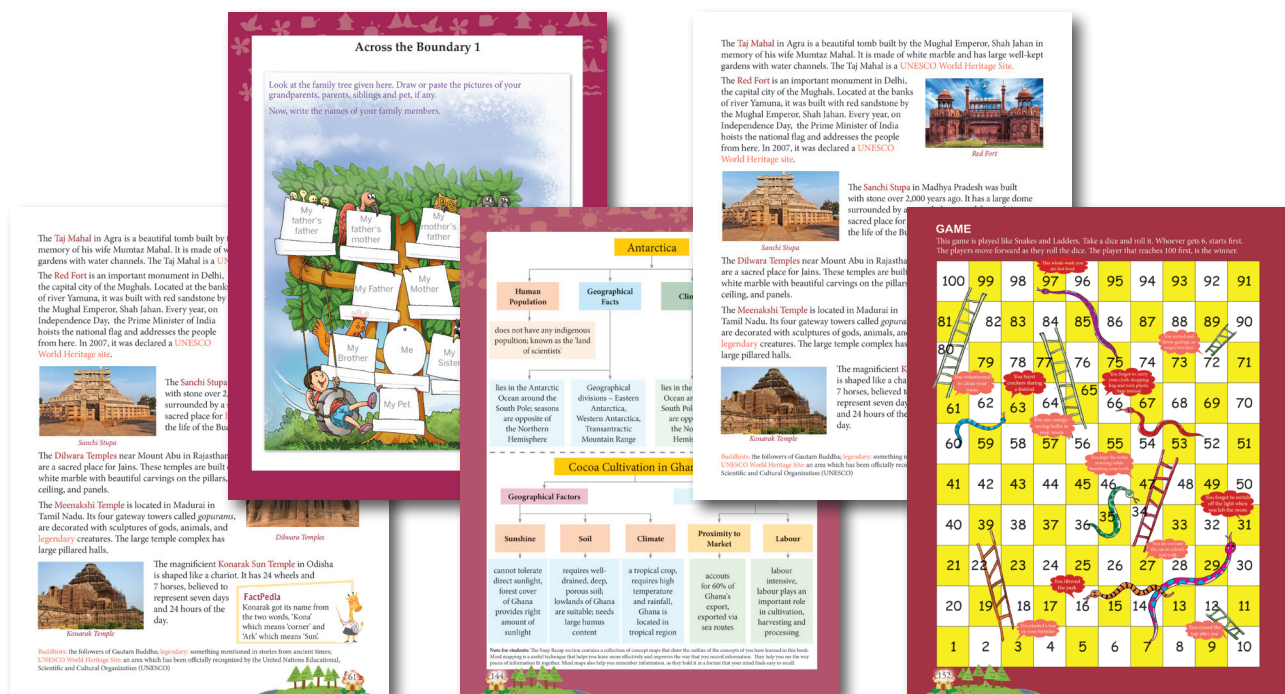
**Augustine Kaitharath**, History teacher at the Don Bosco School in Siliguri

**Anuradha Bhattacharyya**, primary school coordinator at The Heritage School, Kolkata

**Mrinalini Jaitly**, former History and Civics teacher at St. Joseph's Boys High School in Bengaluru and CMS institutions in Lucknow

**Sheekha Rani Banerjee**, senior Geography teacher at Don Bosco School, Siliguri

**Sukanya Chakraborty**, a self-motivated educator with more than 20 years of experience in teaching



Collins DigiSuite



Answer Keys



Multimedia E-book



Test Generator



Teacher's Resource Books



Additional Worksheets



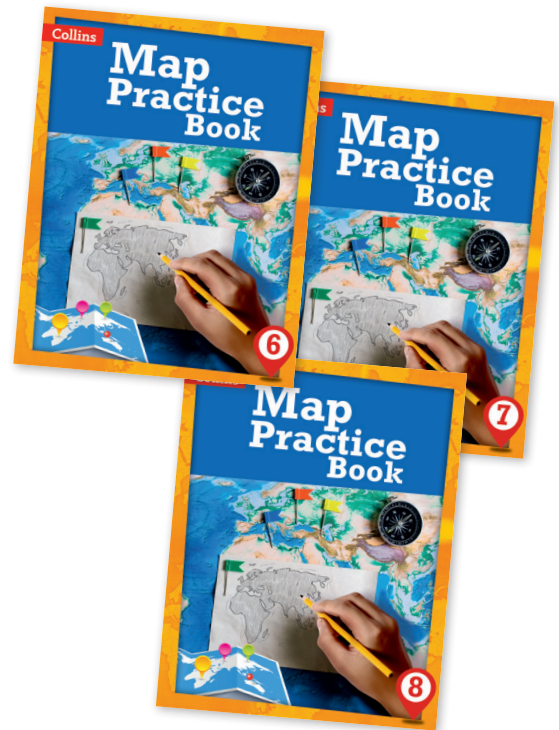
Detailed Lesson Plan

# EVS & SOCIAL STUDIES

CLASSES 6 TO 8

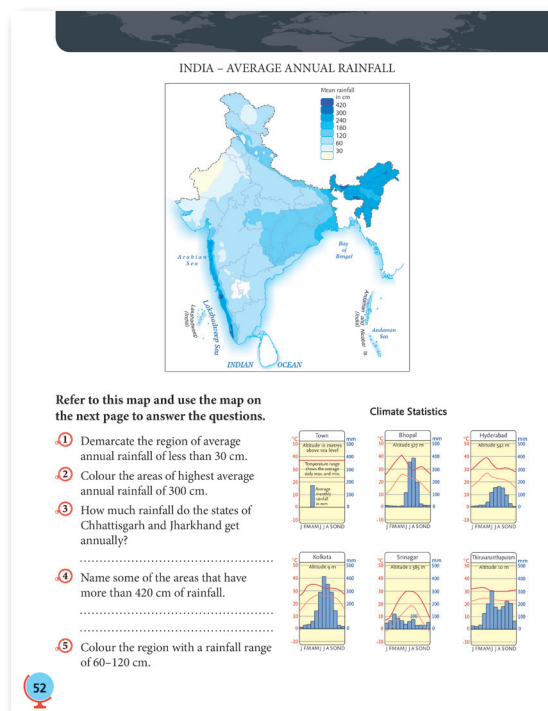
## Collins Map Practice Book

**Collins Map Practice Book** is a series for Grades 6 to 8 and is aligned to the NCERT syllabus. It is designed to build map skills through carefully graded practice sheets to facilitate easy learning and comprehension. It follows a learner-centric approach—each practice sheet has reference maps, questions based on them and outline maps for practice. The visual aids given add value to the concepts and make learning an enjoyable journey.



### KEY FEATURES

- Map Reading Skills
- Glossary of Important Terms
- Reference Maps
- Practice Exercises
- Outline Maps



## Map Reading Skills

## What is a Map?

A map is a drawing of the Earth's surface or a part of it on a flat surface. Maps usually show the landscape as it would be seen from above, looking directly down. Maps have many advantages over globes, and can be carried from one place to another easily.

## Types of Maps

Maps are of many types. For different purposes and different uses, unique maps are created. Depending on their use and purpose, maps are broadly categorized into three types. They have been given below:

## Political maps

These maps show cities, towns and villages, and different countries and states of the world with their boundaries.

## Physical maps

These maps show the relief on the Earth's surface, as well as natural features like rivers, lakes and oceans. Names and heights of mountains are also indicated.

## Thematic maps

These maps focus on specific information, such as roads, rainfall, distribution of natural vegetation, industries, minerals and more.

## Symbols

We use various symbols to represent different features of the Earth. Geographical features are represented by three sets of symbols. They are point, line and area.

Every map has a **legend** which consists of the meaning of all the symbols used. We can read and interpret a map by reading the legend.



Figure 1: Political map of India



Figure 2: Physical map of India



Figure 3: Thematic map of India showing the distribution of iron ore

## Glossary of Important Terms

Studying maps is an important part of geography. Maps give us a lot of information in a limited space. Let us learn about a few key terms and concepts related to map study.

**Atlas:** A book of maps

**Cartographer:** A person who compiles all the geographic data and prepares maps in graphic or digital form for educational and environmental purposes. They create visual representations of the data and collect information from aerial photographs, remote sensing images, and ground surveys.

**Cartography:** The science and art of map-making. This field of study deals with conception, production, and study of maps and charts. Cartography and Geography are closely related fields of study, each dependent on the other for correctly describing our planet.

**Contour lines:** Types of isolines that tell us the height and shape of the land and its slopes

**Contours:** Imaginary lines on the ground, and outlines of a natural feature such as a mountain range.

**Coordinates:** A group of numbers used to indicate the position of a point, line, or area on a map.

**Distribution:** The way something is spread out in physical space

**Geology:** The science which deals with the physical structure and substance of the Earth, and the processes which act on them

**Isoline maps:** Maps that use thin lines to show the distribution of a feature

**Relief:** The difference in height from the surrounding terrain

**Topography:** The study of the shape and features of land surfaces

**Tropic of Cancer (23° N):** The line that marks the northernmost limit of the tropics. It lies in the Northern Hemisphere.

**Tropic of Capricorn (23° S):** The line that marks the southernmost limit of the tropics. It lies in the Southern Hemisphere.

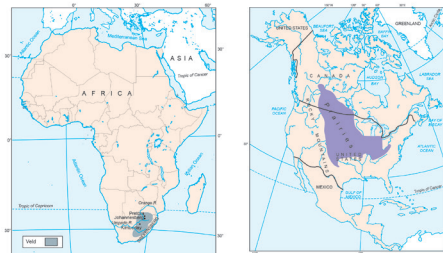
## Practice Exercise

Refer to the map on the previous page and label two places where each of the following minerals are found.

- Iron ore
- Manganese
- Copper
- Gold
- Limestone
- Salt



## TROPICAL AND SUB-TROPICAL GRASSLANDS OF PRAIRIES AND VELTS



The temperate region is found between the lines of tropics and the polar regions. These regions are covered with thick grass. Trees are almost absent in this region. These regions are known by different names in different continents.

In North America, they are called prairies, in Australia, downs, in South Africa, velds, in Asia, steppes, and in South America, pampas. Prairies are known as the 'world granary' while the velds are known for their dairy industries.

Refer to the two maps given above and answer these questions.


- On the first map given on the next page, mark the location of the velds in Africa.
- Name the prominent cities located in the veld.
- On the second map given on the next page, mark the location of the prairies in North America.
- Name the mountains located next to prairies.

## WORLD FACTS

Highest mountains			Longest rivers			Largest islands		
Rank	Mountain	Height (m)	Rank	River	Length (km)	Rank	Island	Area (km²)
1	Everest	8,848	1	Nile	6,893	1	Greenland	2,166,000
2	K2	8,611	2	Amazon	6,992	2	New Guinea	785,769
3	Ganeshang	8,126	3	Yangtze	6,300	3	Borneo	743,330
4	Lhotse	8,516	4	Indus	3,180	4	Sumatra	473,606
5	Cho Oyu	8,441	5	Godavari	1,465	5	Java	139,178
6	Dhaulagiri	8,168	6	Godavari	1,465	6	Sumatra	473,606
7	Annapurna I	8,091	7	Godavari	1,465	7	Sumatra	473,606
8	Brow Peak	8,008	8	Godavari	1,465	8	Sumatra	473,606
9	Gokulathar	8,008	9	Godavari	1,465	9	Sumatra	473,606
10	Dhaulagiri	8,008	10	Godavari	1,465	10	Sumatra	473,606
11	Annapurna II	7,926	11	Godavari	1,465	11	Sumatra	473,606
12	Annapurna III	7,556	12	Godavari	1,465	12	Sumatra	473,606
13	Annapurna IV	7,527	13	Godavari	1,465	13	Sumatra	473,606
14	Annapurna V	7,527	14	Godavari	1,465	14	Sumatra	473,606
15	Annapurna VI	7,527	15	Godavari	1,465	15	Sumatra	473,606
16	Annapurna VII	7,527	16	Godavari	1,465	16	Sumatra	473,606
17	Annapurna VIII	7,527	17	Godavari	1,465	17	Sumatra	473,606
18	Annapurna IX	7,527	18	Godavari	1,465	18	Sumatra	473,606
19	Annapurna X	7,527	19	Godavari	1,465	19	Sumatra	473,606
20	Annapurna XI	7,527	20	Godavari	1,465	20	Sumatra	473,606
21	Annapurna XII	7,527	21	Godavari	1,465	21	Sumatra	473,606
22	Annapurna XIII	7,527	22	Godavari	1,465	22	Sumatra	473,606
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31	Annapurna XXII	7,527	31	Godavari	1,465	31	Sumatra	473,606
32	Annapurna XXIII	7,527	32	Godavari	1,465	32	Sumatra	473,606
33	Annapurna XXIV	7,527	33	Godavari	1,465	33	Sumatra	473,606
34	Annapurna XXV	7,527	34	Godavari	1,465	34	Sumatra	473,606
35	Annapurna XXVI	7,527	35	Godavari	1,465	35	Sumatra	473,606
36	Annapurna XXVII	7,527	36	Godavari	1,465	36	Sumatra	473,606
37	Annapurna XXVIII	7,527	37	Godavari	1,465	37	Sumatra	473,606
38	Annapurna XXIX	7,527	38	Godavari	1,465	38	Sumatra	473,606
39	Annapurna XXX	7,527	39	Godavari	1,465	39	Sumatra	473,606
40	Annapurna XXXI	7,527	40	Godavari	1,465	40	Sumatra	473,606
41	Annapurna XXXII	7,527	41	Godavari	1,465	41	Sumatra	473,606
42	Annapurna XXXIII	7,527	42	Godavari	1,465	42	Sumatra	473,606
43	Annapurna XXXIV	7,527	43	Godavari	1,465	43	Sumatra	473,606
44	Annapurna XXXV	7,527	44	Godavari	1,465	44	Sumatra	473,606
45	Annapurna XXXVI	7,527	45	Godavari	1,465	45	Sumatra	473,606
46	Annapurna XXXVII	7,527	46	Godavari	1,465	46	Sumatra	473,606
47	Annapurna XXXVIII	7,527	47	Godavari	1,465	47	Sumatra	473,606
48	Annapurna XXXIX	7,527	48	Godavari	1,465	48	Sumatra	473,606
49	Annapurna XL	7,527	49	Godavari	1,465	49	Sumatra	473,606
50	Annapurna XLI	7,527	50	Godavari	1,465	50	Sumatra	473,606

# Computer Science


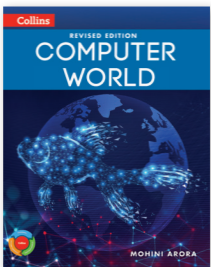
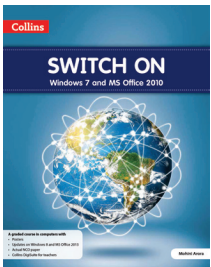
	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
Collins Digi Tech (New)	✓	✓	✓	✓	✓	✓	✓	✓
Collins Smart Tech	✓	✓	✓	✓	✓	✓	✓	✓
Computer World (Revised)	✓	✓	✓	✓	✓	✓	✓	✓
Switch On	✓	✓	✓	✓	✓	✓	✓	✓

SERIES	FEATURES
	<p><b>Windows 10 and MS Office 2016</b></p> <ul style="list-style-type: none"> <li>• Scratch</li> <li>• HTML</li> <li>• Blue J Java</li> <li>• App Inventor</li> <li>• MS Paint</li> <li>• Cloud computing and storage</li> <li>• Online Payment Pathways</li> <li>• NCO Papers</li> <li>• Worksheet to develop computational-thinking skills</li> <li>• Fun with AI: Driverless cars, data mining, chatbots, digital assistants, image processing</li> </ul>



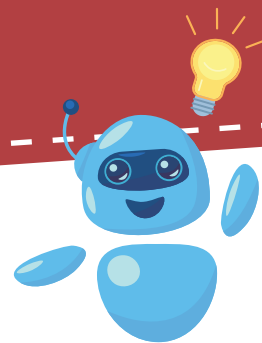


The Computer Science resources include print and digital content to make students adept at handling various software and applications, and appear for competitive exams such as the National Cyber Olympiad.

SERIES	FEATURES
	<b>Windows 10 and MS Office 2016</b> <ul style="list-style-type: none"> <li>• GIMP</li> <li>• OpenShot</li> <li>• App Inventor</li> <li>• Scratch</li> <li>• Python</li> <li>• HTML and CSS</li> <li>• 3D Printing</li> <li>• Graphic Designing</li> <li>• Big Data and Data Analytics Robotics</li> <li>• Artificial Intelligence</li> <li>• Internet of Things</li> <li>• Skill Development Section with Projects</li> </ul>
	<b>Windows 7 and MS Office 2010; Updates for Windows 10 and MS Office 2016</b> <ul style="list-style-type: none"> <li>• Uses open-source software like GIMP and Open Shot instead of corresponding proprietary software like Windows Movie Maker and Adobe Photoshop</li> <li>• Provides references and comparison with Open Office</li> </ul>
	<b>Windows 7, MS Office 2010; Updates for Windows 8 and MS Office 2013</b> <ul style="list-style-type: none"> <li>• Includes lists of famous IT personalities, latest IT trends, key terms and tech terms at the end of each book</li> <li>• Workbook format</li> </ul>

# COMPUTER SCIENCE

CLASSES 1 TO 8



## Collins Digi Tech

**Collins Digi Tech** is a series of computer science textbooks for classes 1 to 8 designed for a generation of learners who will be exposed to coding, programming languages, e-commerce cloud computing and storage and app design at early stages in life. The series adheres to the vision of National Education Policy 2020. Based on Windows 10 and MS Office 2016, the books help learners to not only develop the fundamentals but also dive deep into contemporary issues of cyber security, computational thinking, artificial intelligence, coding and various programming languages.



**NEW**

### KEY FEATURES

- Supports learning through a variety of pedagogical tools that present additional information and offer opportunities for **first-hand exploration** and **peer learning**
- Follows a graded introduction to programming through **Scratch, HTML and Java**
- Develops computational thinking and logical **problem-solving skills** in an **age-appropriate manner**
- Presents a variety of questions for both **learning** and **practice**, including questions to further **competency based learning**
- Includes **National Cyber Olympiad** paper from the previous year and **revision worksheets**

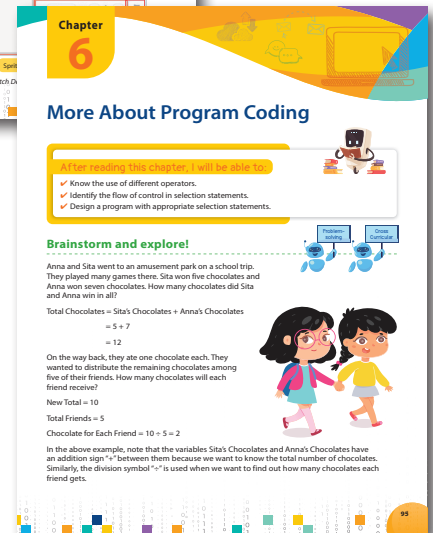
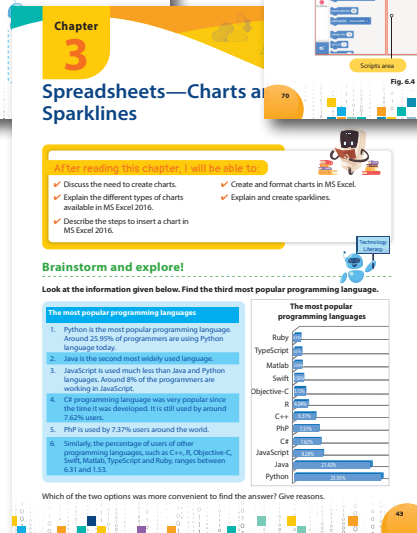
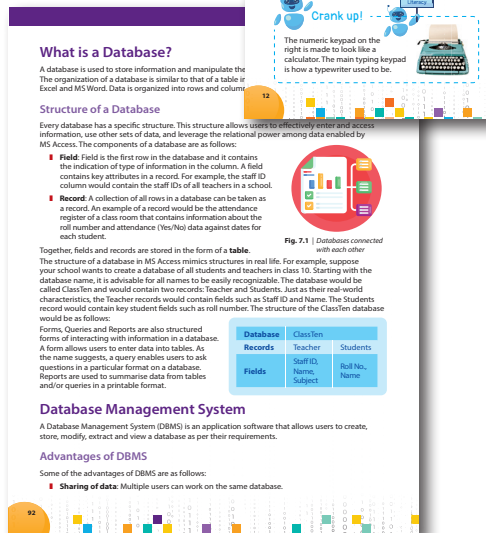
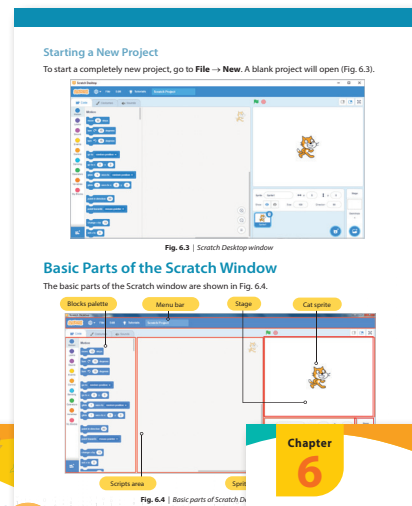
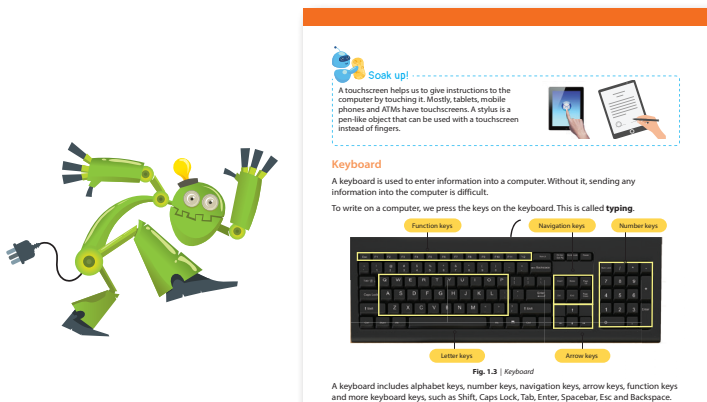


## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

**Sneha Krishnan** and **Manasi Kashikar** are co-founders of the company MINDCHAMP, where they teach coding to school students using fun, activity-based learning. Together with a team of educators, they have taught thousands of students to create computer games and websites.



Collins DigiSuite	Answer Keys	Multimedia E-book	Test Generator	Additional Worksheets
	Teacher's Resource Books		Detailed Lesson Plan	Interactive Tutorials

# COMPUTER SCIENCE

CLASSES 1 TO 8

## Collins Smart Tech

**Collins Smart Tech** is series of computer science textbooks for classes 1 to 8 designed for a generation of learners that consider computers to be an integral part of life. This series adheres to the vision of the National Educational Policy 2020. Based on Windows 10 and MS Office 2016, the books help learners develop a thorough understanding of the fundamentals by first-hand exploration to make learning enjoyable and rewarding. Each book includes a special segment on skill development that enables learners to acquire a variety of age-appropriate skills. Ranging from computer manners in class 1, to cyber security in class 5, information technology in class 6, design thinking in class 7 and artificial intelligence: applications and ethics in class 8, these are in sync with the vision of the NEP.



### KEY FEATURES

- Includes a variety of pedagogical tools that present additional information and offer opportunities for first-hand exploration
- Presents the learning material in simple language as far as possible
- Covers various aspects and uses of computers in our daily lives – picture editing, video editing, app creation and website designing
- Introduces the concept of computational thinking, logical problem-solving and the essentials of coding in an age-appropriate manner
- Follows a graded introduction to programming through Scratch, HTML, CSS and Python
- Introduces learners to evolving technologies such as artificial intelligence, robotics, Internet of Things and 3D printing

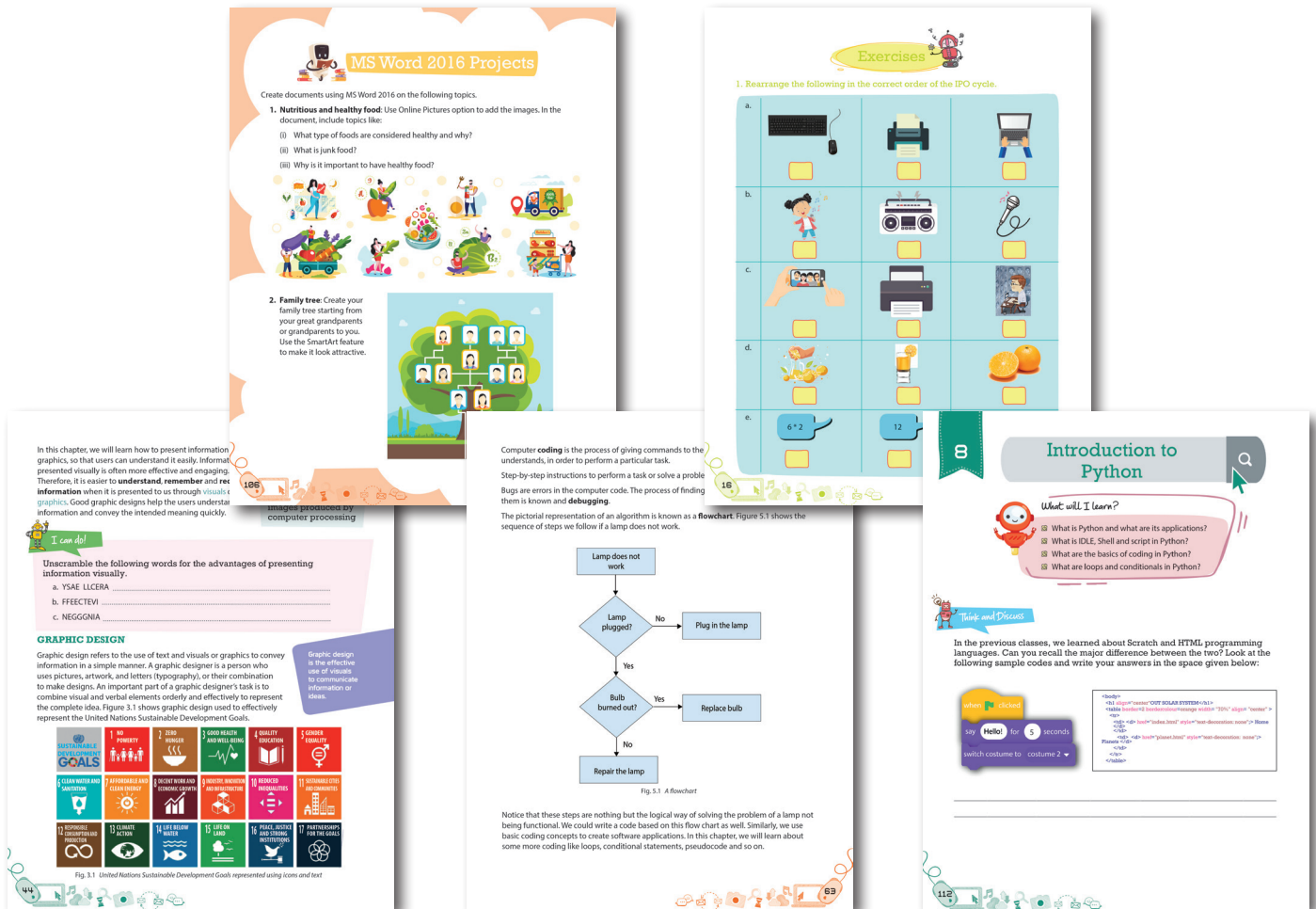


## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
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<b>Collins DigiSuite</b>	<b>Answer Keys</b>	<b>Test Generator</b>	<b>Additional Worksheets</b>
	<b>Teacher's Resource Books</b>	<b>Multimedia E-book</b>	<b>Detailed Lesson Plan</b>

# COMPUTER SCIENCE



CLASSES 1 TO 8

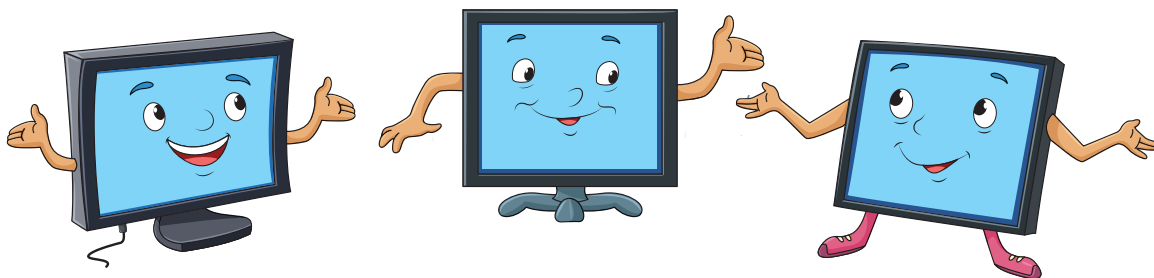
## Computer World

**Computer World (Revised Edition)** is a series of eight books for Classes 1 to 8. This series conforms to the vision of the National Curriculum Framework (2005). Based on Windows 7 and MS Office 2010, this course includes an update section on MS Office 2013 and Windows 10, introducing students to the latest interface and the associated features. It also offers open-office support and open-source software.



### KEY FEATURES

- **Simple and child-friendly textbooks** with adequate visuals and numbered screenshots
- **Integrated LibreOffice support with appropriate screenshots** for topics of MS Office 2010 covered in the relevant books
- **Open-source software** – Tux Paint, Tux Typing, KTurtle and Scratch, OpenShot and GIMP – introduced
- **Questions in interesting formats** such as Practice Time, Check Your Understanding, Fun Time, Lab Activities, Research Projects and Group Discussions to support learning
- **Well-graded introduction to programming**, starting from simple tasks in KTurtle and Scratch in primary classes to QBASIC and Python in middle school
- **Revised and updated exercises, Worksheets, Assessments and Model Test Papers** to reinforce learning and aid preparation for examinations

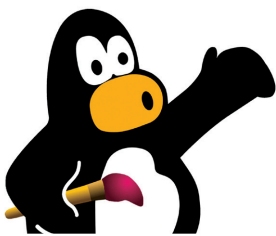


## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- DigiSuite

## ABOUT THE AUTHOR

**Mohini Arora**, HoD, Computer Science at Air Force Golden Jubilee Institute, Subroto Park, Delhi



### 4 Starting and Shutting Down a Computer

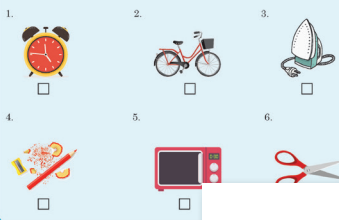
#### Learning Objectives

By the end of this chapter, you will be able to:

- know how to switch on a computer.
- know how to shut down a computer.

#### Warm Up

Tick (✓) the pictures of things that need electricity to work.



#### Introduction

A computer is a machine that runs on electricity. Like other machines, say a television and a washing machine it can be switched on and off.

Switching on a computer is known as starting a computer and switching off a computer is called shutting down a computer.

#### Starting a Computer

Before starting a computer, let us understand how a computer is connected. In all desktop computers, there is a wire that comes out from the cabinet. This wire is connected to the electrical switchboard.

#### You Should Know

Sometimes, the wire from the cabinet may be connected to a UPS. An Uninterrupted Power Supply (UPS) is used to give backup power when there is no electricity. It is useful in case of a sudden power cut. It has a power button.



Fig. 4.1: Connections between the computer and the electrical switchboard.

#### Quick Recap

1. Comments are statements that start with the # symbol.
2. The pen commands are used to show gaps between the pen up and pen down commands.
3. The penup/pd command lifts the pen up and stops drawing as it moves on the canvas.
4. The pendown/pd command is used to resume drawing on the canvas.
5. The wait command pauses the action of the turtle. The turtle waits for the specified number of seconds before executing the next command.
6. The repeat command is used to repeat a set of commands for a specified number of times.

#### Exercises

##### A Fill in the blanks using the words given below.

hash(e) sh pu wait

1. The \_\_\_\_\_ command pauses the program.
2. The \_\_\_\_\_ command hides the turtle.
3. The \_\_\_\_\_ command makes the turtle move without drawing a line.
4. Comment statements always begin with the \_\_\_\_\_ symbol.

##### B Write the command to draw the following regular polygons.

*Hint: Use repeat command.*

##### C Draw the output of the following commands.

1. fw 100
2. fw 50
3. repeat 4 (fw 70, tr 90)
4. tr 90
5. pu
6. fd 30
7. pd
8. fw 30

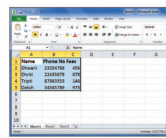


Fig. 3.20: Using the Format button to adjust row height and column width

4. Enter the row height and click OK. You will see that the row height of the selected rows has changed.

To change the column width of a single column, click on the right-hand border of the column heading and drag it to the required width. Follow these steps to change the width of several columns at once:

1. Select the columns for which you want to change the width.
2. Click on the Home tab and, from Cells group of buttons, click on Format.
3. From the drop-down list click on Column width. The Column width dialog box appears (Fig. 3.22).
4. Enter the new column width and click OK. You will see that the width of the selected columns has changed.

Fig. 3.21: Row Height dialog box

Fig. 3.22: Column Width dialog box

#### Quick Way

From the Format drop-down list, you can click AutoFit Row Height or AutoFit Column Width to automatically adjust the row and column heights, respectively.

#### You Should Know

In MS Excel, the default row height is 15 and the default column width is 8.43 characters.

#### PRACTICE TIME!

Mansi's mother has given her the following worksheet with details of her birthday expenses.

She has asked Mansi to make the following changes in the worksheet:

- Correct the spelling of Refreshments in Row 4.
- Insert a row after Refreshments and add Drinks that will cost 200.
- Correct the 5 No column after new data has been entered and modify Returns Gifts to Return Gifts.
- Delete the expense of birthday dress.
- Change the column width to 30 points.

Help Mansi complete her task.

#### SOLUTION

1. Open the worksheet.
2. Double-click on the cell B4 and change the spelling of Refreshments.
3. Select Row 5 and click the Home tab.
4. Click the arrow below Insert in the Cells group of buttons.
5. Click Insert Sheet Rows. A row is inserted above the selected row.
6. Type in the new data — 4 in cell A5, Drinks in cell B5 and 200 in cell C5.
7. Modify the cell contents of A6. Type 5 after deleting 4 from it. Also, delete 2 from Returns in cell B6.
8. In the edited worksheet click any cell in Row 7 containing expense of Birthday dress.
9. Click the arrow next to Delete in the Cells group of buttons.
10. Click Delete Sheet Rows. The row will be deleted.
11. Click Format button in Cells group of buttons.
12. Click Column Width. The Column Width dialog box appears. Type 30 and click OK.

#### Using AutoFill

AutoFill feature of MS Excel is used for copying cell contents and to fill data (numbers or text) in the cells from a predefined series automatically. Follow these steps to use the AutoFill feature to generate a predefined series of weekdays:

1. Type Monday in cell B2.
2. Position the pointer at the lower right corner of the cell.
3. The mouse pointer changes to a black cross which is known as the Fill handle.
4. Hold down the left mouse button and drag the fill handle up to cell B8. Release the button.
5. You will see that the days Tuesday to Sunday appear automatically in the cells (Fig. 3.23).

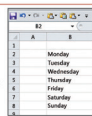


Fig. 3.23: AutoFill weekday example

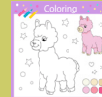
Collins DigiSuite



Answer Keys



Multimedia E-book



Additional Worksheets



Teacher's Resource Books



Test Generator



Detailed Lesson Plan

# COMPUTER SCIENCE



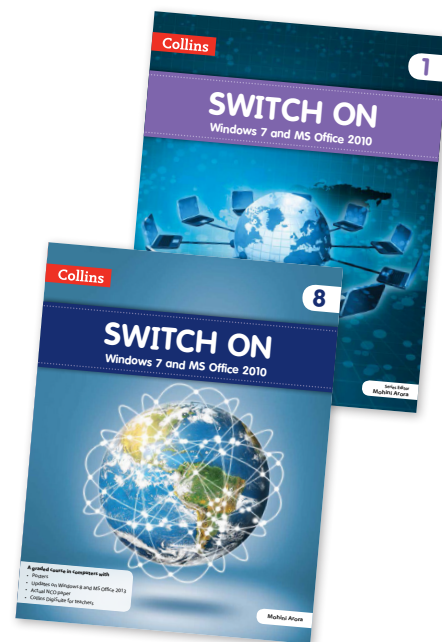
CLASSES 1 TO 8

## Switch On

**Switch On**, a series of eight books for Classes 1 to 8, is an effort to familiarize and equip students with the latest trends in computer technology. This is a well-graded course that conforms to the requirements of NCF and complies with the syllabus requirements of various boards. The course is based on Windows 7 and MS Office 2010 with updates on Windows 8 and MS Office 2013.

### KEY FEATURES

- **Word Web** explains the difficult words.
- **You Should Know** gives interesting facts about the topic.
- **Quick Way** highlights all the important keyboard shortcuts for the menu commands
- **Exercise** at the end of each chapter reinforces the understanding of the topic
- Latest versions namely, **Windows Movie Maker 2012, HTML 5, Adobe Dreamweaver CC, Adobe Photoshop CC and Flash 8**
- **Innovative worksheets, assessment papers and revision papers** are given as additional evaluation aids
- **Writing space** in the Exercise section makes this course book as an effective workbook too
- **Research Project** integrates Computer Science with other subjects.
- **IT Personalities** contains important information about the famous personalities from the field of IT.
- **Key Terms** and **Tech Terms** enlist the important terms that the students should be aware of
- **Latest IT Trends** describes the emerging technological advancements that the students should know.
- **Original National Cyber Olympiad** paper for practice so that students can gain proficiency in competitive exams.
- **Interesting stickers and posters** provided inside the course books make learning fun.





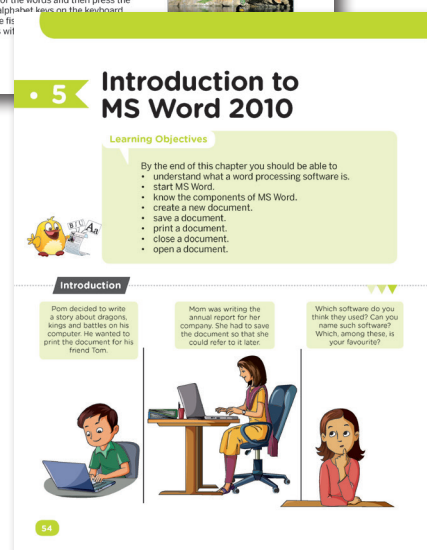
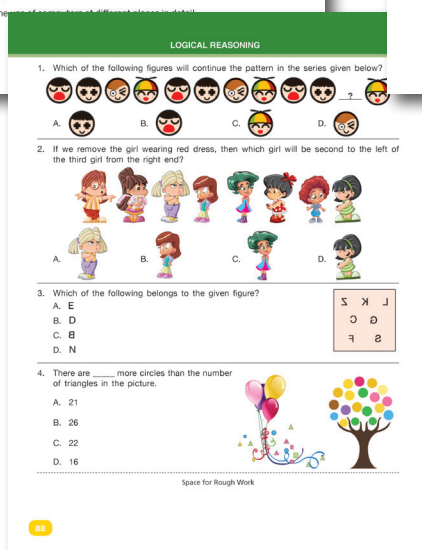
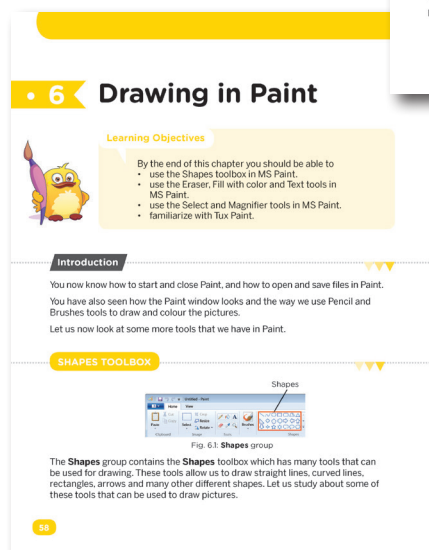
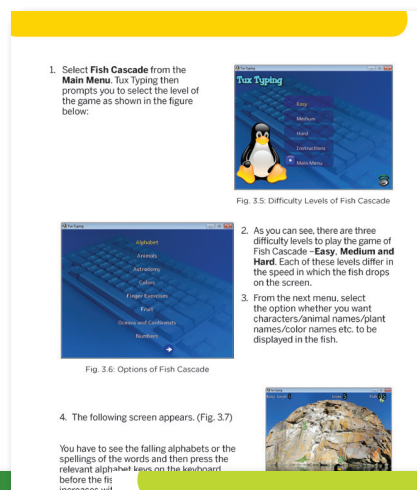
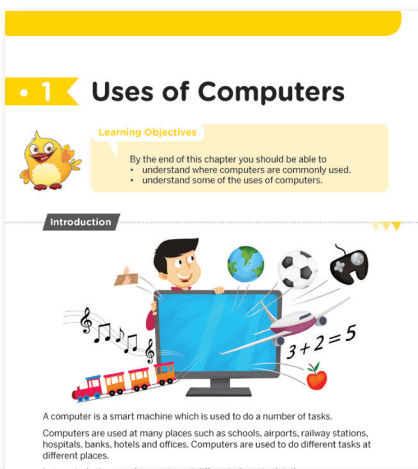








## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHOR

**Mohini Arora**, HoD, Computer Science at Air Force Golden Jubilee Institute, Subroto Park, Delhi



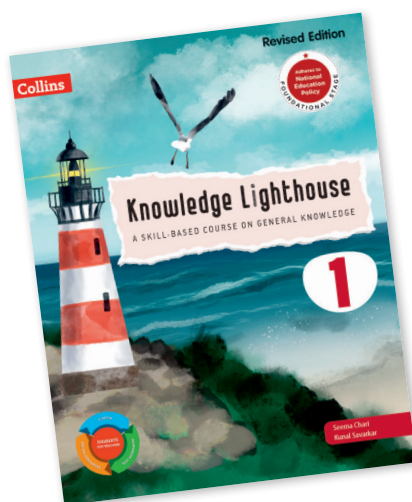
Collins DigiSuite	 Answer Keys	 Multimedia E-book	 Additional Worksheets
	 Teacher's Resource Books	 Test Generator	 Detailed Lesson Plan

# General Knowledge

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
<b>Knowledge Lighthouse (Revised)</b>	✓	✓	✓	✓	✓	✓	✓	✓

# Value Education

	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7	Class 8
<b>Vision</b>	✓	✓	✓	✓	✓	✓	✓	✓

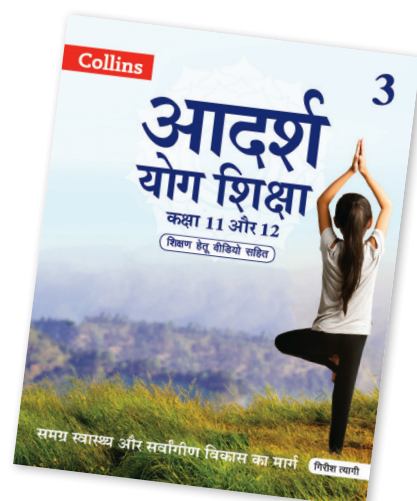
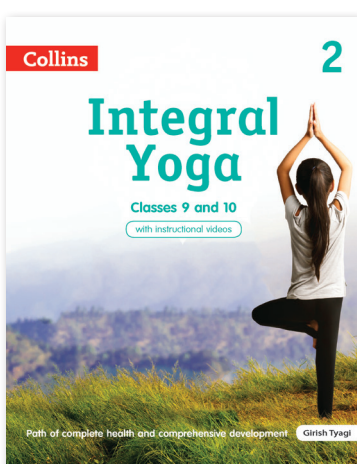


# Hindi

	Primer	Class 1	Class 2	Class 3	Class 4	Class 5
Aarambh	✓	✓	✓	✓	✓	✓

# Yoga

	Class 6	Class 7	Class 8	Class 9	Class 10	Class 11	Class 12
Integral Yoga	✓	✓	✓	✓	✓	✓	✓
Adarsh Yoga Shiksha	✓	✓	✓	✓	✓	✓	✓



# GENERAL KNOWLEDGE

CLASSES 1 TO 8

## Knowledge Lighthouse

**Knowledge Lighthouse (Revised Edition)** is a series of General Knowledge books for grades 1 to 8. Designed to spark the curiosity of learners, the books include a spectrum of topics that focus on skills to address the learning needs of 21st century learners. Tasks and activities in the series are thematic that help students acquire knowledge, so that they may develop and/or pursue a variety of interests and disciplines.



**REVISED**

### KEY FEATURES

- **Content:** From a wide variety of curricular as well as extracurricular domain
- **21st Century skills:** Special emphasis on life, learning and literacy skills
- **Activities:** Variety of grade-appropriate and easy to do activities that encourage students to explore further
- **Themes and skills:** Content divided into 9 themes and 3 skill pages
- **India focus:** Special focus on India-centric content with emphasis to simplify facts
- **SDG chapters:** Sensitize learners and encourage them for direct and immediate action
- **Skills pages:** Train students to see patterns, learn to eliminate or choose details and observe better
- **World Today:** New theme added with chapters related to COVID-19 and pandemics of the past
- **New chapters:** Chapters added on current and relevant topics like data handling, cryptocurrency, robotics, Tokyo Olympics and global issues of significance.
- **Skill tagging:** Skill pages are tagged with sub skills
- **Quiz Yourself:** 4 MCQ Quiz Yourself papers added at the end.
- **Holistic learning:** Focus on holistic learning with seamless integration of content with skills and social awareness Attractive layout, new images and updated content



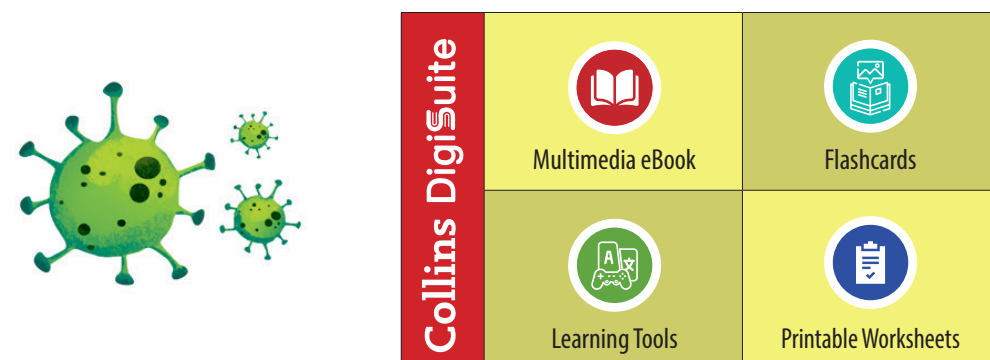
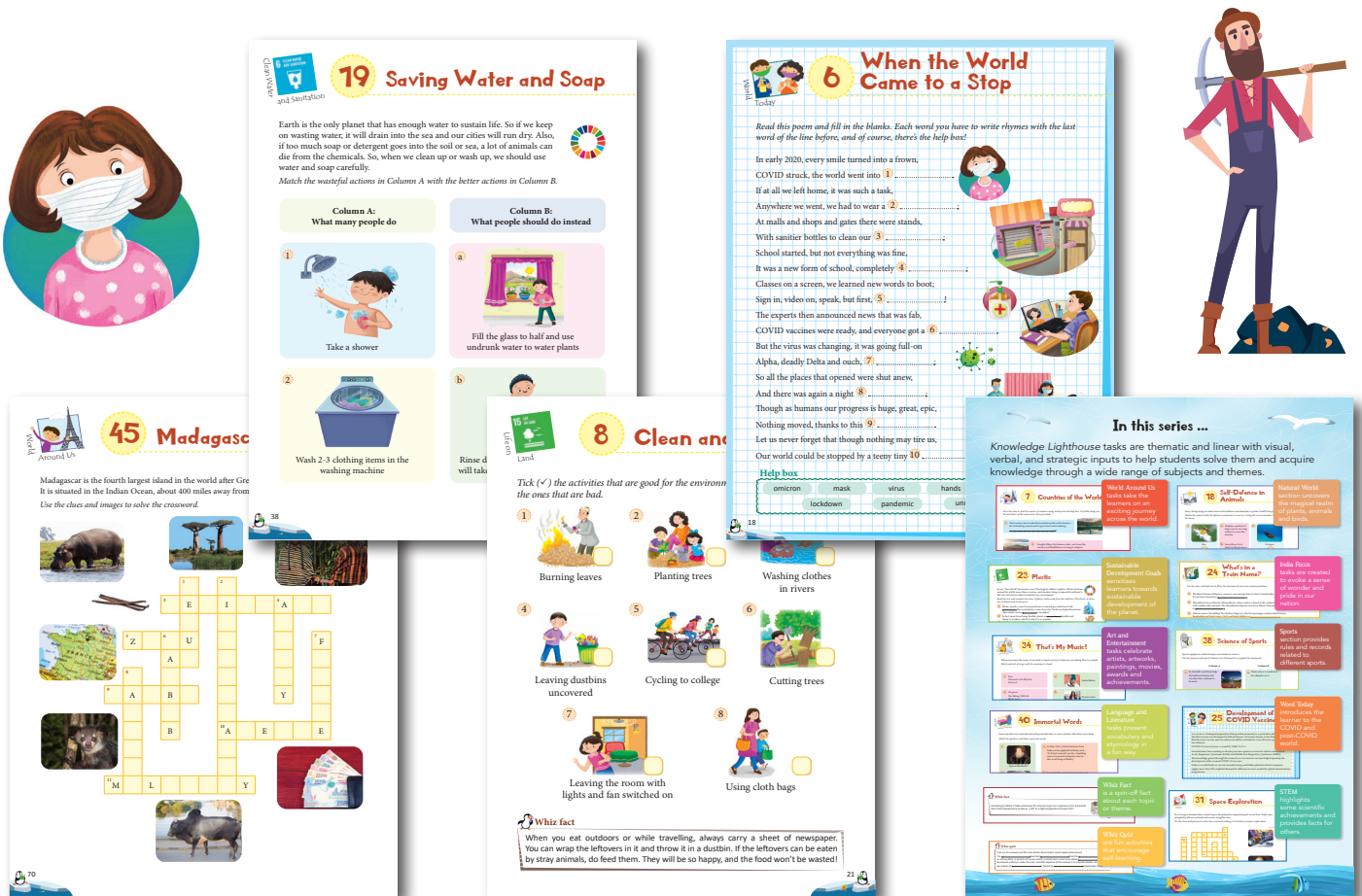
## COURSE PACKAGE

- Coursebooks
- Collins DigiSuite
- Weekly Current Affairs Updates

## ABOUT THE AUTHORS

**Kunal Savarkar**, a well-known quizmaster in the country, he has created and conducted over a thousand quizzes all over the country, including the CBSE Heritage India Quiz and the INTACH Heritage India Quiz

**Seema Chari**, a trainer, writer, director (plays), and quiz show host



# VALUE EDUCATION



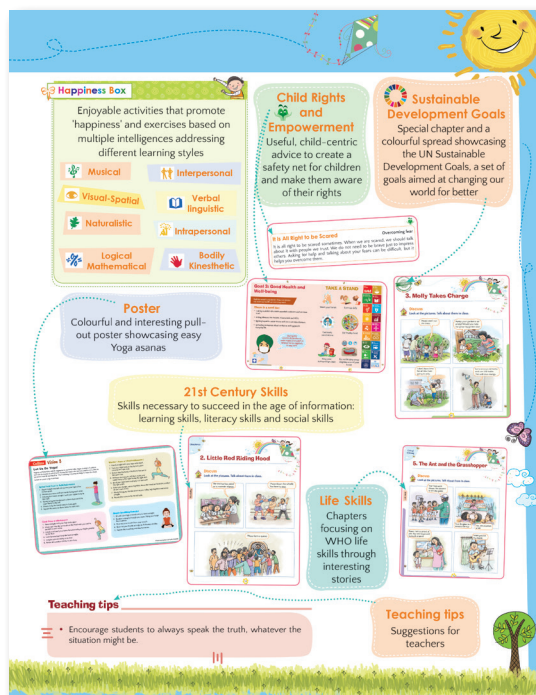
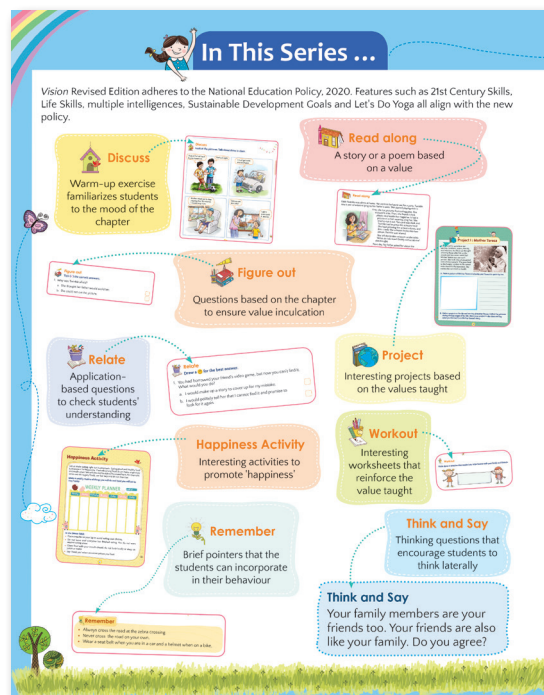
CLASSES 1 TO 8

## Vision

**Vision Revised Edition**, is an engaging course in Value Education and Life Skills for grades 1 to 8. The series is meant to enable learners to lead balanced, happy and successful lives. This series encourages learners to respect diversity, exhibit leadership, display positive attitudes towards the community and the nation, and be responsible and strive for conflict management in stressful situations. The series adheres to the guidelines outlined in the National Education Policy, 2020.



### KEY FEATURES





## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

**People most affected by poverty are:**

- Workers
- Carbage collectors
- Helpers
- Vegetable sellers
- Porters
- Farmers

**Take a Stand!**

- Treat all people with respect. Do not avoid them because of how they look.
- Clean out your closet. Give old books and toys to children from poor families.
- Do not waste food.
- Share your things and food with people who need them.

**17 Sustainable Development Goals**

**Goal 5: Gender Equality**

- On an average, women do three times as much unpaid care and domestic work as men.
- Less than one out of three senior and middle management positions are held by women.
- 49 countries have no law specifically protecting women from domestic violence.

The Indian Constitution has enacted several laws to promote gender equality and women empowerment. Read, Imbibe, Practice, Take A Stand!

International Women's Day (IWD) is celebrated on the 8 March every year around the world.

**Happiness Box**

1. Here is a list of five rules that you should follow to make your life simple.

- Make a plan
- Be productive
- Work first, play later
- Work in a team
- Think positively

Make a placard that displays all these five rules. Keep it in your room so that you are reminded of these rules every day.

2. Write four things that make you happy.

**Teaching tips**

- Talk to the students about simple living.
- Sensitize the students towards financial affordability.
- Make students aware of the fact that cheap and simple does not mean inferior.

**Read along**

Many people do not have access to safe drinking water. Some must walk miles each day to collect water. Often, this water is unclean and harmful which can make people sick. The global goal, Clean Water and Sanitation, focuses on the importance of access to clean and safe water. Read how Molly helped people in power accountable and created awareness in conserving freshwater supplies.

Every summer, Molly went to her grandmother's home in the village. Through the village gurgled a merry brook. Fish swam in its clear waters. Birds sang on the trees that grew on its banks. Rabbits chased each other in the grass. Molly and her grandmother often walked along the brook. They sat on its green banks and chatted.

'Look at the gifts that Earth has given us,' her grandmother said. 'Let us thank her.' Saying this, Molly and her grandmother would bow silently and thank Earth.

Days passed and Molly returned to her home in the city. She got busy with her school and work.

Soon, the summer vacations were back. Once again, it was time for Molly to make the annual trip to her grandmother's house in the village. On the way, she saw that the brook had almost vanished. Little water remained in the brook, and it was brown and oily. There was a foul smell coming from the water too.

No fish swam in it. There were no grass and plants, and no birds singing around it. Molly was stunned to see this change.

When Molly reached home, she learned that her grandmother was ill. 'What has happened to you? And what has happened to the brook, Grandmother?' she asked, confused.

**Happiness Activity**

Clean environment and green spaces make us happy. They are good for our health and well-being too.

Let's take a look at what each of us can do to reduce pollution.

**Do's**

- Bin all waste if you are at an outing, near a water body.
- Bury garden rubbish rather than burn it.
- Carry a jute bag to the market.
- Walk rather than drive to close-by places.
- Segregate waste at source. That way, much of it can be recycled.
- Crow a garden or keep potted plants to purify the air.
- Try to carpool or use public transport.

Now write three things that keep the environment clean and at the same time make you happy.

**Spread Awareness!**

- End all forms of discrimination against girls and women.
- Enhance use of technology, especially communications technology, to promote the empowerment of women.

**National Commission for Women Act, 1990**

**Equality at Home**

- Share responsibility equally between men and women, within the household.
- Stop harmful traditional practices like child marriage.
- Provide equal education for both boys and girls to make them independent.

**Right of Children to Free and Compulsory Education Act, 2009**

**Equality at Workplace**

- Ensure women's full and effective participation as well as equal opportunities for leadership at all levels of decision making - in political, economic and public life.

**Equal Remuneration Act, 1976**

Collins DigiSuite		Answer Keys		Multimedia E-book		Test Generator
		Teacher's Resource Books		Additional Worksheets		Detailed Lesson Plan



# Aarambh

**आरंभ** एक नवीन प्रस्तुति है जो पूर्णतया एक नवाचारी सोच एवं दृष्टि पर आधारित है। इसमें भाषा के सभी कौशल—सुनना, बोलना, पढ़ना, लिखना और चिंतन क्षमता के विकास का ध्यान रखा गया है।

### KEY FEATURES

- स्तरानुसार सरल तथा रोचक पाठ्य सामग्री
- पूरक पठन (supplementary reading) सामग्री और चित्रकथा का पुस्तक में समावेश
- भाषिक कौशलों—सुनना, बोलना, पढ़ना और लिखना सिखाने के लिए स्तरीकृत अभ्यास
- रोचक गतिविधि द्वारा पाठ की शुरुआत
- शैक्षिक लक्ष्यों की पूर्ति हेतु विविध प्रकार के प्रश्नों का समावेश
- पाठांत अभ्यासों में भाषा के उच्चतर कौशलों—चिंतन, मनन, कल्पना, अभिव्यक्ति के विकास हेतु पर्याप्त अवसर
- प्रसंगाधीन व्याकरण और शब्द भंडार में वृद्धि तथा शुद्ध वर्तनी हेतु मनोरंजक अभ्यास
- संप्रेषण दक्षता में वृद्धि के लिए सुनना-कहना में विविध अभ्यासों का समावेश
- कल्पना शक्ति जगाने के लिए आकर्षक चित्रों द्वारा प्रस्तुति





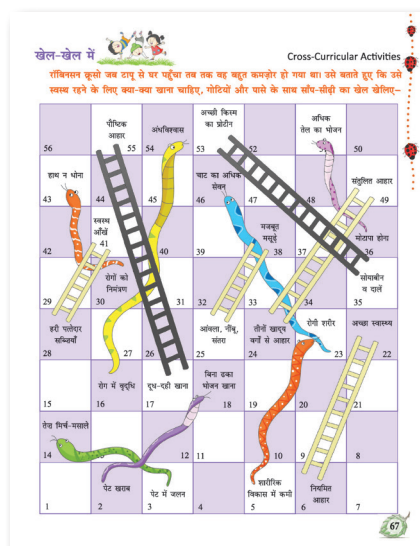
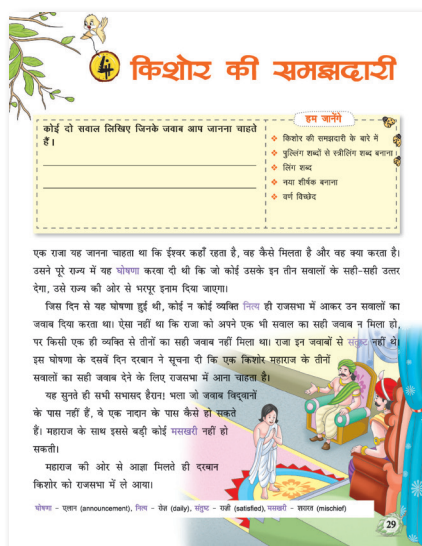
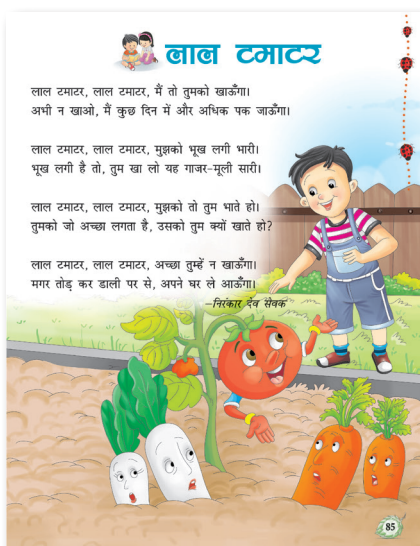
## COURSE PACKAGE

- Coursebooks
- Teacher's Resource Books
- Collins DigiSuite

## ABOUT THE AUTHORS

**ममता जायसवाल** विगत सत्रह वर्षों से प्राइमरी स्कूल के बच्चों के अध्यापन से जुड़ी हुई हैं। आप आजकल सनबीम स्कूल की प्रधानाचार्या एवं डी.ए.वी. अकेडमी, टांडा की बोर्ड मेंबर हैं। बच्चों को मानसिक दबाव से मुक्त कर 'खेल विधि' द्वारा उनकी सृजनात्मक क्षमता को विकसित करना उनका स्वनिर्धारित ध्येय है। अपनी शिक्षण पद्धतियों को लोकप्रिय बनाने के लिए आप समय-समय पर कार्यशालाओं का आयोजन करती रहती हैं।

**विभा सक्सेना** विगत दो शतक से स्कूलों में बच्चों के अध्ययन से जुड़ी हुई हैं। बाल पत्रिका 'पराग' के उप-संपादक से अपने कार्यकाल की शुरुआत करके आपने लगभग तेरह वर्ष तक श्रीराम स्कूल में अध्यापन किया। उसके उपरांत दिल्ली पब्लिक स्कूल और दूरदर्शन में कार्य किया। आप एन.सी.ई.आर.टी. की हिंदी पाठ्य पुस्तक समिति की सदस्या भी रही हैं। आप इस समय एक गैर सरकारी संस्था, 'विद्या और बच्चे' में संलग्न हैं।



## शिक्षण संसाधन

### शिक्षकों हेतु डिजिस्वीट

कॉलिंग्स डिजिस्वीट शिक्षकों हेतु एक डिजिटल समाधान है। प्रत्येक डीवीडी में तीन भाग हैं।

डिजिस्वीट कक्षा सामग्री के प्रस्तुतिकरण को प्रभावशाली बनाता है। डिजिस्वीट अध्यापन एवं मूल्यांकन उपकरणों को पाठ्य पुस्तक के साथ जोड़कर उसका एकीकृत रूप प्रस्तुत करता है।

- इंटरैक्टिव एनीमेशन के साथ ई-पुस्तक की प्रभावशाली प्रस्तुति, विडियो के अंश, प्रेजेंटेशन और उपयोगी क्रियाएँ
- शीघ्रता से अभ्यास पत्र बनाने हेतु टेस्ट जेनरेटर
- पाठ योजना तथा उत्तर कुंजी सहित शिक्षण संसाधन



# Integral Yoga

## Path of complete health and comprehensive development

Integral Yoga provides knowledge about Yoga and yogic practices to young students, keeping in mind their cognitive capacities. Yoga is an important component of the subject Health and Physical Education. The practice of Yoga helps in the balanced development of the physical and mental health of the students. It also helps to increase their power of concentration. Yoga education is a necessity, for the comprehensive physical and mental development and the overall growth of children.

Book 1 is for classes 6 to 8; Book 2 is for classes 9 & 10; and Book 3 is for classes 11 & 12.



## KEY FEATURES

- Graded content as per the given syllabus
- Lucid and detailed explanation of the theory of Yoga
- Overview of all the yogic practices and asanas with the detailed description of their procedures, precautions and benefits
- Step-by-step presentation of each asana with clear illustrations
- Includes suggestions for and restrictions of yogic practices
- Instructional videos available for teaching on [www.collins.in](http://www.collins.in)

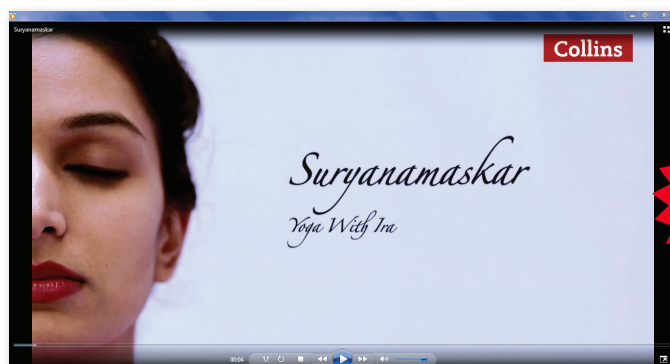


## COURSE PACKAGE

- Coursebooks
- Over 60 instructional videos

## ABOUT THE AUTHOR

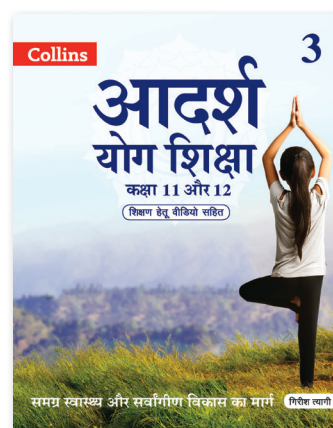
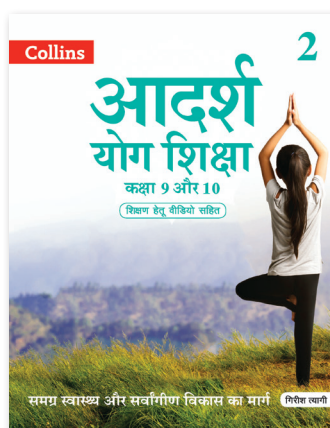
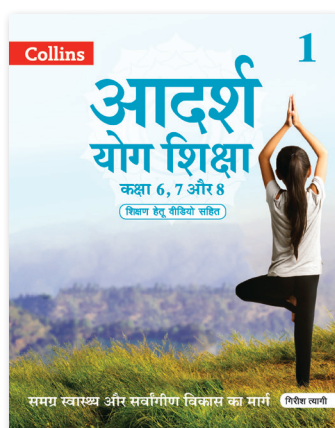
**Yoga Acharya Shri Girish Tyagi** has been associated with the subjects of Yoga and Spiritualism for over four decades. He has over thirty years of experience teaching Yoga in various Kendriya Vidyalayas. During this tenure, he has also imparted Yoga education in Bhutan. He is still associated and active in the field of Yoga and Spiritualism.



YOGA  
VIDEOS



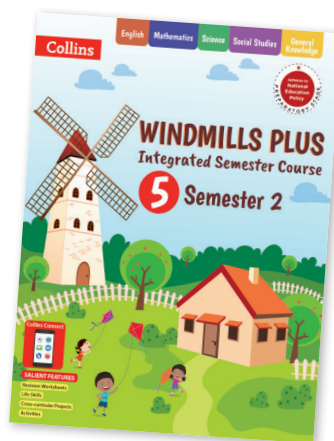
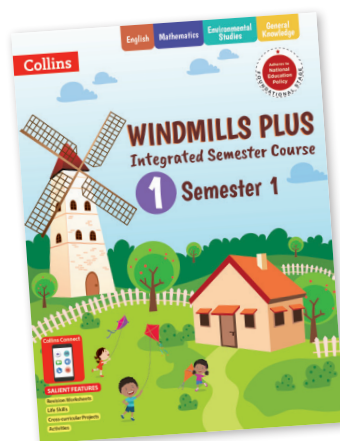
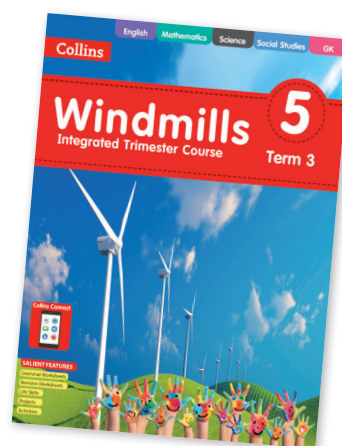
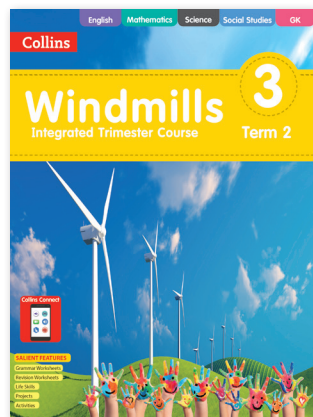
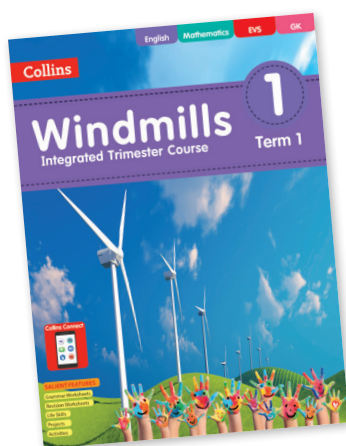
ALSO AVAILABLE IN HINDI





# Term and Semester Books

	LKG	UKG	Class 1	Class 2	Class 3	Class 4	Class 5
Oasis (Semester)	✓	✓	✓	✓	✓	✓	✓
Windmills Plus (Semester)			✓	✓	✓	✓	✓
Limelight (Term)			✓	✓	✓	✓	✓
Windmills (Term)			✓	✓	✓	✓	✓



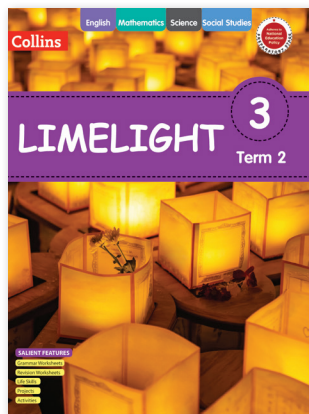
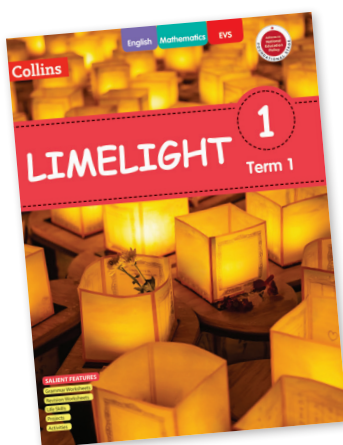
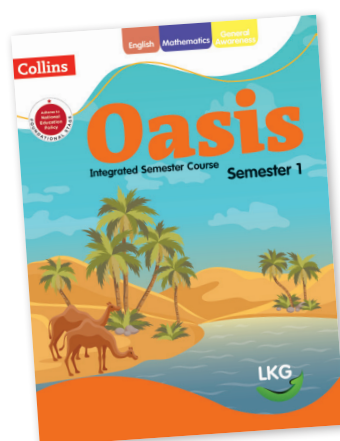


The Term books and Semester books offer an integrated approach to primary learning, focusing on progressive learning from Classes 1 to 5 for the core subjects – English, Mathematics, EVS/Science, Social Studies and General Knowledge.

The *Oasis* series seamlessly combines all the core subjects required at the foundational and preparatory stages including English, Mathematics, General Awareness/ Environmental Studies/ Science and Social Studies, through 14 semester books.

*Limelight* is an integrated trimester course for Classes 1 to 5, which provides a comprehensive learning experience to the young learners in their formative years.

## What's New



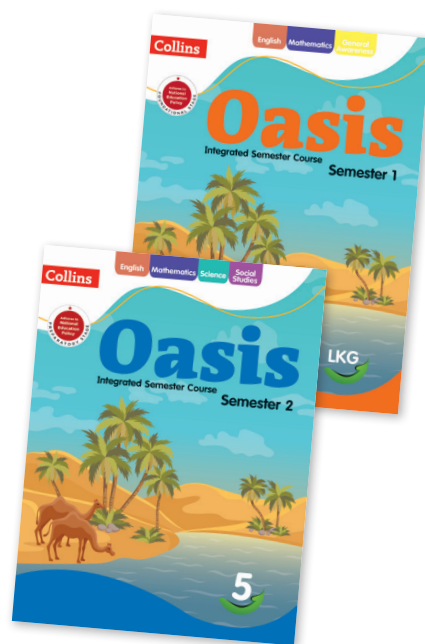
# TERM & SEMESTER BOOKS



CLASSES LKG TO 5

## Oasis

**Oasis** is an integrated semester series of 14 books for LKG to class 5. Each book includes English, Maths, General Awareness (pre-primary)/EVS (classes 1-2)/Science (classes 3 to 5) and Social Studies (classes 3 to 5). The series provides a comprehensive learning experience to students in their formative years and adhere to NEP 2020. The books for the pre-primary levels support learning across all development domains. Classes 1 to 5 follow an integrated approach with an emphasis on connections between classroom learning across subjects and day-to-day experiences.



**NEW**

### KEY FEATURES

#### LKG and UKG

Motor skills • Personal, social, and emotional development • Creative skills • Logical and rational thinking skills • Linguistic skills • Numeracy skills • Knowledge and understanding of the world

#### English

Reading • Vocabulary • Grammar • Listening and Speaking • Writing

#### Mathematics

Maths Around Us • Concept Map • Maths Lab Activity • Skill Up • Worksheet • SEE Learning • Maths Mela

#### EVS

Get Set (Art integration) • Different Yet Alike • Good versus Bad Practices • Your Opinion Matters • Fun Fact

#### Science

Science Around Us • I Am a Scientist • Concept Map • Skills Enrichment Zone • STEAM-based Worksheets • Picture Story • SEE Learning • Science Fair

#### Social Studies

Skill builder • Fact check • Green Earth • World Connect • Wind Up • Timeline





## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite

**1**  
Outdoor Fun

**At the Park**  
Frances Elizabeth Barrow

In this chapter, we will:

- read and enjoy a story about children having fun outdoors.
- learn about animal sounds and action words.
- practise the alphabetical order and learn about naming words.
- identify the long a sound.
- talk about things in different places and complete a story.

**Learning and Awareness: Identifying sources of momentary happiness**

**Warm-up**  
Tell your partner what you like to do at the park. Tick the activities you like to do.

**Vocabulary** animal sounds

Look at this sentence.  
Tip: bark with joy.  
Dogs bark when they have to tell something to each other, or to us.  
Do you know the sounds that other animals make?

**A. Match the animals with the sounds they make. One has been done for you.**

Animals	Sounds
1. elephants	a. neigh
2. tigers	b. moo
3. cats	c. roar
4. cows	d. bleat
5. horses	e. trumpet
6. sheep	f. bray
7. monkeys	g. purr
8. donkeys	h. chatter

**B. Here are some actions that Ben, Sue and Tip do in the story. Can you also do these actions?**

run play pick eat

**Word Problems**

I have 5 muffins. Then I buy 5 more. How many muffins do I have now?  
I have 10 muffins.

**Exercise 3F**

1. Rajiv has a packet of 10 marbles. He buys 6 more marbles. How many marbles does Rajiv have now?  
Solution: Rajiv has  marbles now.

2. Anil has 7 toy cars. Sunil has 4 toy buses. How many toys do the two boys have together?  
Solution: The two boys together have  toys.

3. There are 15 red flowers and 2 blue flowers in a garden. How many red and blue flowers are there in the garden?  
Solution: There are  red and blue flowers in the garden.

4. Anil has 14 books. His father buys 5 more books for him. How many books does he have now?  
Solution: Anil has  books now.

**Project 1**

**A. In the story, 'At the Park', the children's mother had baked a pie for them. If you could learn to bake a pie, whom would you like to make it for? How will you decorate it? Draw it here.**  
Tell your group about the person you have chosen. You can choose more than one person.

**B. You read about blue birds in the poem 'Five Little Blue Birds'. Some birds are full of colours. Colour the given bird with your favourite colours.**

**C. You read about Anil looking for his bat in the chapter 'Where is My Bat?'. Your teacher will divide the class into groups to participate in a treasure hunt. Each group will be given some time to look for a hidden object (e.g., a stuffed toy). The teacher will give you clues about the object. Once you find it, return to your places. Then imagine that it is a character you have created. Give it a name, think of what she/he does and their special qualities. Talk about it in class.**

**REASONING WORKSHEET 1**

1. Which number is the smallest double-digit number?  
a. 10 b. 11 c. 12 d. 13

2. In numbers from 1 to 10, if 1 is the smallest number, then \_\_\_\_\_ is the greatest number.  
a. 7 b. 8 c. 9 d. 10

3. If there are 17 children at a birthday party, how many cake pieces will be enough?  
a. 11 + 4 b. 12 + 5 c. 9 + 1 d. 13 + 3

4. If there are 39 – 15 seats in a bus, how many people can travel in the bus?  
a. 24 b. 27 c. 29 d. 30

5. Which of the following is not greater than 56?  
a. 67 b. 85 c. 45 d. 94

6. Which of the following shapes will both roll and slide?  
a. b. c. d.

**Let us learn about seasons.**  
We have learnt that weather is the condition of the air of a place at a particular time. The weather can change every day.

**Seasons**

When the weather remains the same for long periods of time, it is called a **season**. We have different seasons depending on the weather.  
Spring, summer, monsoon, autumn and winter are the five main seasons of India.

**Spring Season**  
In the spring season, plants bear new, fresh leaves and flowers bloom. Birds sing around joyfully. The days are not very cold and not very warm. Spring is the most colourful and pleasant season.

**Summer Season**  
In the summer season, the days are mostly sunny. The weather is very hot during this season. The days are longer and the nights are shorter.  
We wear cotton clothes during the summer season. We also like to stay indoors. We like to drink cold drinks, eat ice creams and fresh fruits to keep us cool.  
In India, April, May and June are the months of summer season.

**Different yet Alike!**  
The same tree looks different in different seasons.

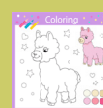
Collins DigiSuite



Answer Keys



Multimedia E-book



Additional Worksheets



Teacher's Resource Books



Test Generator



Detailed Lesson Plan

# TERM & SEMESTER BOOKS

CLASSES 1 TO 5

## Windmills Plus

**Windmills Plus** is an integrated semester course for Classes 1 to 5, which provides a comprehensive learning experience to the young learners in their formative years. The series adheres to the guidelines of the National Education Policy (NEP) 2020, and is designed to offer a comprehensive learning package that covers English, Mathematics, Environmental Studies/Science, Social Studies and General Knowledge through 10 coursebooks. These books provide ample opportunities to the students to learn, explore and practise new concepts effortlessly across different areas of learning through an interdisciplinary and cross-curricular approach.



### KEY FEATURES

#### English

- Reading • Vocabulary • Grammar
- Listening and Speaking • Writing

#### Mathematics

- Exercises • Challenge • Mental Maths • Maths Lab Activity

#### Science

- Science in Context • Watch Out! • Life Skills • Activities • Projects

#### Social Studies

- Do it yourself • Life skills and values • Values Corner • Eco feat

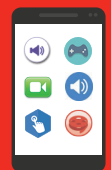
#### General Knowledge

- Fact Zone • Current Affairs Worksheet • Graded Content

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## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite
- Collins Connect

### 9. Common Inventions

Read the clues and write the names of these common inventions using words from the help box.

- This invention was first used to fasten shoes. Today it is used in clothes and bags alike.
- This invention is a sticky paper note which is reusable and leaves no trace after being peeled off. It was invented by Arthur Fry.
- Johann Vaaller designed a small wire with a flat loop and leg for the purpose of keeping paper together.
- This invention was made by Walter Hunt in 1849. It was a pin with a point bent back towards the head, that is covered used to clutch clothes together.
- Hungarian Lazo Josef Biro invented this device where ink flows through a tiny ball used for writing.
- Marvin Chester Stone invented pipes made of paper used for drinking. Today, we know them as plastic straws.
- This invention is a safe and easy way of making fire where red phosphorus was added to the tip of small wooden sticks.

**Help Box:** safety pin, match sticks, paper clip, post-it note, ballpoint pen, zipper, drinking straw

### CORONAVIRUS

**What is the 2019 Novel Coronavirus (COVID-19)?**  
Coronaviruses are a group of common viruses. They are named for the crown-like spikes on the surface of the virus. Some coronaviruses only affect animals, but others can also affect humans. This usually causes mild to moderate upper respiratory infections, like the common cold. However, they can also cause more severe illnesses such as bronchitis and pneumonia.

**How can I protect myself?**  
You can reduce the risk of getting or spreading respiratory viruses by following simple measures:

**Don'ts**

- Avoid crowds
- Do not touch your eyes, nose and mouth with unwashed hands
- Do not cover your mouth and nose with your hand when you cough or sneeze
- Avoid direct contact with surfaces
- No hand shaking or hugging

**Dos**

- Stay 2 m (6 ft) apart
- Clean and disinfect the surfaces
- Wash your hands with soap and water frequently
- Cover your mouth and nose with your bent elbow when you cough or sneeze
- Or cover your mouth and nose with tissue when you cough or sneeze

### PROJECT 2

#### My Birdy Booklet

Go out with your parents. Watch the birds around your area. Make sure you do not disturb them. Take notes of what you see. Come back home and prepare a mini booklet giving the following details of at least 3 birds.

Date: \_\_\_\_\_  
Time: \_\_\_\_\_  
Name of the bird: \_\_\_\_\_

(Draw the bird in this box.) (If you do not know the name of the bird, take help from adults or the Internet.)

This bird is also called \_\_\_\_\_ in \_\_\_\_\_  
(Write the name of the bird in any other language also write the name of the language.)

The bird was \_\_\_\_\_  
(Write the colour of the bird.)

The bird was \_\_\_\_\_  
(Write if the bird was small or big.)

The bird was \_\_\_\_\_  
(Write what the bird was doing.)

I saw the bird \_\_\_\_\_  
(Write where you saw the bird.)

It was \_\_\_\_\_  
(Write what sounds the bird was making.)

### 8. Data Handling

**Learning Objective**

- To make a list of items

**Let's Get Started**

Banwari has some animals in his farm. He counts them every day when they come back from the forest. Look at his list and check if all the animals have come back.

**List of animals**

Horse - 1	Goats - 2	Cows - 3	Rooster - 1
Sheep - 2	Hen - 4		

### VALUES CORNER

Read these value cards and then do the activities.

**OBEYING RULES**

Know how to win by following rules. -Anuradha Prasad

We should follow rules at home school and on the road. We should eat meals on time. At school, we should maintain silence in the library. We should always cross the road at the zebra crossing.

**EATING RIGHT**

You don't have to eat less, you just have to eat right. -Anonymous

We must eat healthy food because it gives us energy. Good food makes our bones and muscles strong. It helps our bodies when we fall ill. We must eat very little junk food because it can make us sick.

**Do this activity in class. Each of you should follow the instructions to make a Rule Placard.**

**You need**

- A long, strong stick
- Adhesive tape
- A quarter sheet of chart paper
- Bold markers

**Steps**

- Write 'Playground Rule' on top of the paper.
- Write any one rule that you would follow on the playground.
- Using the adhesive tape, attach the chart paper to the stick.
- Your Rule Placard is ready. Share your rule with the class.

**Follow these steps to make a delicious cucumber sandwich.**

**You need**

- Two slices of bread
- Butter
- 4 cucumber slices (Ask an elder person to slice the cucumber.)

**Steps**

- Keep the two slices of bread on a plate.
- Spread butter on both the slices.
- Place the cucumber slices on one bread slice.
- Cover it with the other slice and press down.
- Your delicious cucumber sandwich is ready.

### READING







Jahnuhi and her brother, Niyon, visited their Koka (grandfather) and Aita (grandmother) in the beautiful northeastern state of Assam. Let's look at the scrapbook they created after their trip.

Namaskar! I'm Jahnuhi and this is my brother, Niyon. This is a scrapbook we made about our vacation in Assam. We visited our grandparents in Jorhat during the Assamese New Year.

**Earth's Spinners**

- Assam is situated in the eastern Himalayas.
- Dispur is the capital of Assam.
- Guwahati is the largest city in the state.
- Guwahati is also known as the Gateway to the Northeast.
- The Brahmaputra river flows through Assam.
- Assamese is spoken in Assam.

We stayed at our grandparents' tea estate. Assam is famous for its tea gardens. Our Aita told us that Assam tea is popular across the world.

Collins DigiSuite	 Answer Keys	 Test Generator	 Additional Worksheets
	 Teacher's Resource Books	 Multimedia E-book	 Detailed Lesson Plan

# TERM & SEMESTER BOOKS

CLASSES 1 TO 5

## Limelight

**Limelight** is an integrated trimester course for Classes 1 to 5 which provides a comprehensive learning experience to the young learners in their formative years. The series seamlessly combines all the core subjects required at the primary level—English, Mathematics, EVS/Science and Social Studies. These books provide ample opportunities to the students to learn, explore and practise new concepts effortlessly across different areas of learning through an interdisciplinary and cross-curricular approach.

### KEY FEATURES

#### English

Reading • Writing • Vocabulary • Grammar • Listening and Speaking

#### Environmental Studies

Exploration Station • Why it works • Our Heritage • Cross connect

#### Mathematics

Maths Around Us • Project • Life Skills • Maths Lab Activity

#### Science

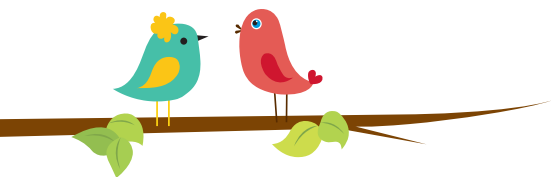
Exploration Station • Why it works • Our Heritage • Cross connect

#### Social Studies

DIY • Think Box • Life Skills and Values • Across the Boundary • Green Earth

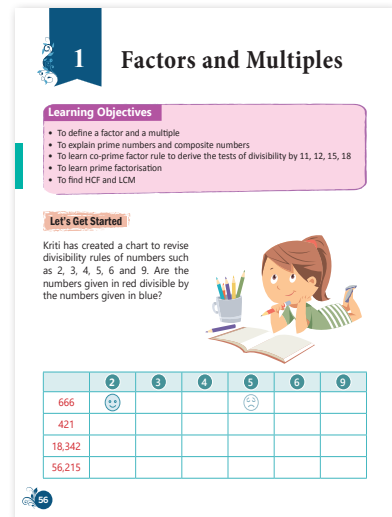
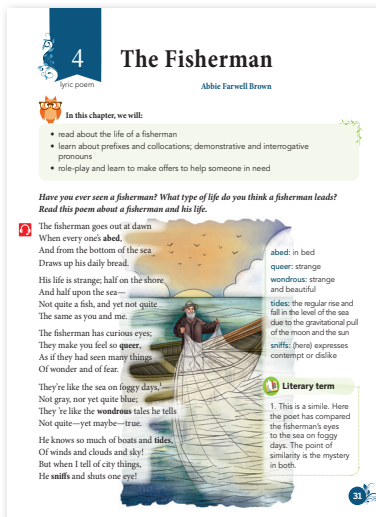
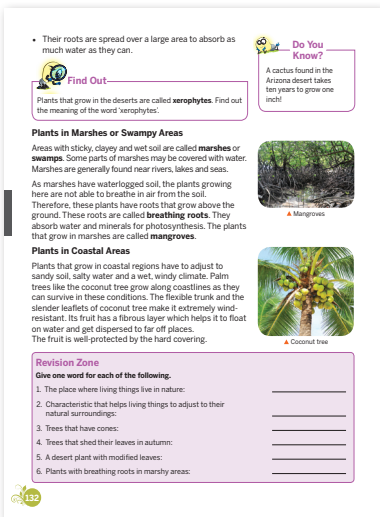
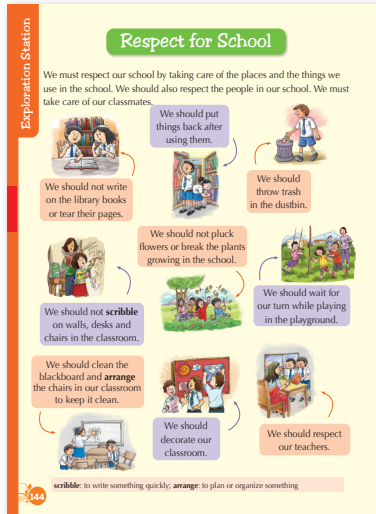


**NEW**



## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite



Collins DigiSuite

Answer Keys
 Multimedia E-book
 Additional Worksheets

Teacher's Resource Books
 Test Generator
 Detailed Lesson Plan

# TERM AND SEMESTER BOOKS

CLASSES 1 TO 5

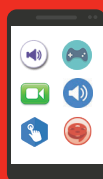
## Windmills

**Windmills** is an integrated term course for classes 1 to 5 which provides a comprehensive learning experience for the young learners in their formative years. The series seamlessly combines all the disciplines required at the primary level—English, Mathematics, Science, EVS/Social Studies and General Knowledge through 15 term books. The books provide ample opportunities to the students to learn, explore and practise new concepts effortlessly across different subjects through an integrated and cross-curricular approach.

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## KEY FEATURES

### English

- Comprehension • Vocabulary • Grammar • Listening and Speaking

### Mathematics

- Exercises and Revision Exercises • Mental Maths • Maths Lab Activity

### Science

- Science in Context • Watch out! • Life Skills • Projects

### Social Studies

- Do It Yourself • Think Zone • Life Skills • Activity • Eco Zone

### General Knowledge

- Multiple Intelligence • HOTS • Activity • India-specific Content







## COURSE PACKAGE

- Coursebooks
- Workbooks
- Teacher's Resource Books
- Collins DigiSuite
- Collins Connect

### ENGLISH

#### READING

*Have you ever dreamt of travelling to space? What would you do in space? Read this poem by Gareth Lancaster to find out what the poet wants to do there.*

I dream of sailing out to space,  
Upon a yacht of stars.  
With port holes all along the sides,  
I'd gaze amazed at Mars.

With mast made strong with spider webs,  
And sail of fluffy cloud,  
I'd watch the Earth go sweeping past,  
As out to space I ploughed.

With stars in front and stars behind,  
And planets far and near,  
I'd sail my yacht around the rings,  
Oh Saturn with a cheer.

**Science Scan**

- Saturn is the second largest planet in the solar system. But it is very light for its size.
- Saturn has beautiful rings around it, made of billions of tiny chips of ice and dust.

**Literary Device**

- The poet uses a large sailing boat, often with an engine and a place to sleep in, used for pleasure trips and racing.
- The poet looks at small, circular windows on the outside of a ship.
- The poet uses a very surprising image (spider webs) to describe the sail.
- The poet uses a very surprising image (spider webs) to describe the sail.
- The poet uses a very surprising image (spider webs) to describe the sail.

### EVS

#### I Am Special

We may be the same as our friends in some ways. We study in the same class and are of the same age. But we all look different from each other. We like different things. Each one of us is special.

**FactPedia**  
Most twins look alike. But, even twins have different likes and dislikes.

**Our Body**  
Our body helps us to do many activities. It has different parts. The parts of the body that have particular functions are known as organs.

**External organs**  
The parts of the body that are outside and can be seen by us are called external organs. Our head, neck, hands, chest, legs and feet are external organs. Our face has many parts. Arms and legs together form our limbs.

**Which body parts are used in the following pictures?**

**special:** different from others. **differently:** to be not the same as others

### MATHEMATICS

#### REAL-LIFE APPLICATIONS

**Festival Shopping**  
Karan, Kirti and their sister Neha are going shopping with their parents for the coming festival. They left home at 10:15 a.m. and drove to the biggest mall in the city. They reached the mall at 11:00 a.m. They went into the clothes shop and bought clothes for all. When they had finished, it was 12:25 p.m. They window shopped at the mall for some more time and then went to the top floor for juice and cold drinks. They spent half an hour there. When they left the mall, it was 1:45 p.m. As they were hungry, they drove to a restaurant for lunch. From the restaurant, they left for the footwear shop and reached there at 3:30 p.m. They bought footwear for the three children and headed home. They reached home at 5:15 p.m.

(a) How much time did they spend from the time they left home and finished shopping for clothes?  
Time taken to reach the mall = 45 minutes (From 10:15 a.m. to 11:00 a.m.)  
Time spent in shopping for clothes = 1 hour 25 minutes (From 11:00 a.m. to 12:25 p.m.)  
Total time spent = 45 min + 1 h 25 min  
(45 min + 25 min = 70 min = 60 min + 10 min = 1 h 10 min)  
= 1 h + 10 min = 2 h 10 min  
They spent 2 hours 10 minutes.

(b) After how many hours of leaving the mall did they reach the footwear shop?  
Time when they left the mall = 1:45 p.m.  
Time when they reached the footwear shop = 3:30 p.m.  
Time interval between 3:30 p.m. and 1:45 p.m. = 3:30 p.m. - 1:45 p.m.  
(Since the number of minutes is not enough in 3:30, borrow from the hour. Borrowing an hour (60 minutes) from 3 we get 2 hours 70 minutes.)  
2 h 70 min - 1 h 45 min = (2 h - 1 h) + (70 min - 45 min) = 1 h 25 min  
So, the time taken between leaving the mall and reaching the footwear shop is 1 h 25 min.

### SCIENCE

#### Subsoil

The layer below the topsoil is called the subsoil. The subsoil contains small stones and pebbles.

#### Bedrock

The layer below the subsoil is called the bedrock. This layer consists of huge solid rocks. It forms a non-porous layer at this stage. The water that seeps into the ground trickles down and gets collected here.

#### Parent rock

Parent rock is the last layer of the soil which has unweathered rocks.

#### WHAT DOES SOIL CONTAIN?

Let us perform an activity to understand what soil is made up of.

**Activity 1**  
**Aim:** To find out what soil contains  
**Materials required:** Soil, a transparent jar and clear water  
**Procedure:** Take a handful of garden soil into the jar. Fill the jar with water. Close the jar with a lid and shake it well. Leave it undisturbed for some time and observe what happens.  
**Observation:**  
(a) Small stones deposit at the bottom of the jar.  
(b) There is a layer of sand above the layer of stones.  
(c) The clay settles down above the layer of sand.  
(d) The water above the layer of clay is not clear. It is muddy water.  
(e) The top layer is dark and contains light, spongy particles called humus.  
**Conclusion:** Soil is made up of stones, sand, clay, mud particles and the remains of plants and animals.

### SOCIAL STUDIES

#### Find Out

Apart from the Howrah Bridge, there is another important bridge in Kolkata. Find out its name and when it was built.

**Howrah Bridge**  
connects Kolkata to Howrah. It is supported only by two pillars at the two ends and does not have pillars in the middle. This makes the bridge look as if it is hanging.

**Victoria Memorial**  
The Victoria Memorial is perhaps the most famous landmark of Kolkata. This beautiful monument was built in white marble to honour Queen Victoria. It also has a museum.

**Fort William** is a well-guarded fort built in 1781 by the British. It is still as beautiful as before and the Indian Army now uses it. Other places of interest in Kolkata are the **Botanical Gardens** where an ancient banyan tree can be found and the **Alipore Zoo** that is famous for its winter migratory birds.

**Living in Kolkata**  
A majority of the people in Kolkata are Bengali. Bengali is the main language. However, Hindi and English are spoken as well. People use local buses, metro and taxis to travel in the city. Bengali sweets such as rasogolla and sandesh are famous throughout the country. The most important festival of Kolkata is Durga Puja, which generally lasts for five days. Football is a very popular sport in Kolkata. The **Eden Gardens** and the **Salt Lake Stadium** are two of the most important stadiums of the city.

**Eco Zone**  
The river Ganga is one of the most polluted rivers in India.

### GENERAL KNOWLEDGE

#### 11 The World Today

- Who won the 2018 Wimbledon Women's Singles Championship?
- Who won the 2018 Wimbledon Men's Singles Championship?
- Who was the runner-up in the 2018 Wimbledon Men's Singles Championship?
- Which team won the FIFA World Cup 2018?
- Which team played in the semi-final of the FIFA World Cup 2018 against England?
- Which teams played in the finals of the Indian Premier League 2018?
- Where were the 2018 Commonwealth Games held?
- Mirabai Chanu won Gold in the 2018 Commonwealth Games in which category?
- Where were the 2018 Winter Paralympics held?
- The two Indian athletes part of the 2018 Winter Olympics were \_\_\_\_\_ and \_\_\_\_\_.

Collins DigiSuite

Answer Keys

Teacher's Resource Books

Multimedia E-book

Detailed Lesson Plan

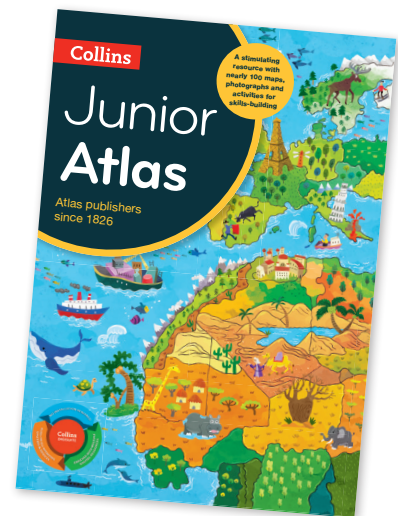
Interactive Games

Test Generator

Additional Worksheets

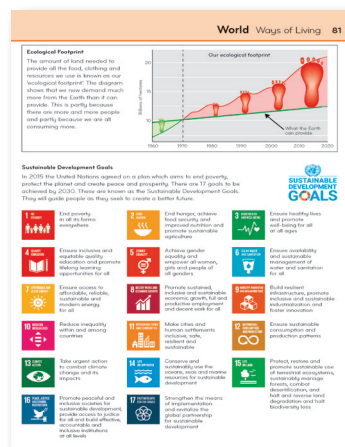
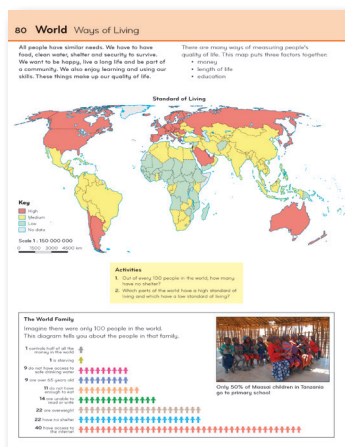
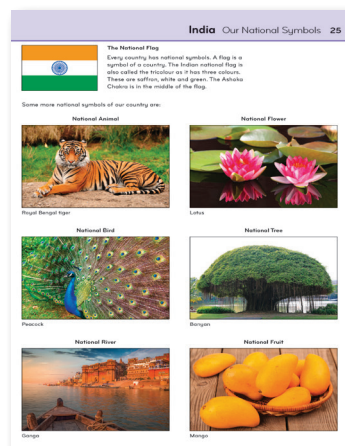
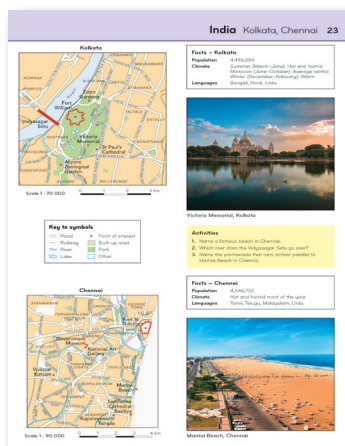
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### KEY FEATURES

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- Simplified maps as per the level of the learners
- Activities to hone map skills
- Pictures for visual representation
- Latest facts and data
- Colourful layout
- Brief introduction given in continents and world map pages
- Special focus on environmental issues, ecological footprint and Sustainable Development Goals (SDG)



## Collins DigiSuite for Teachers



### Multimedia eBook

Consists of **animations** and **videos**



### Interactive Activities

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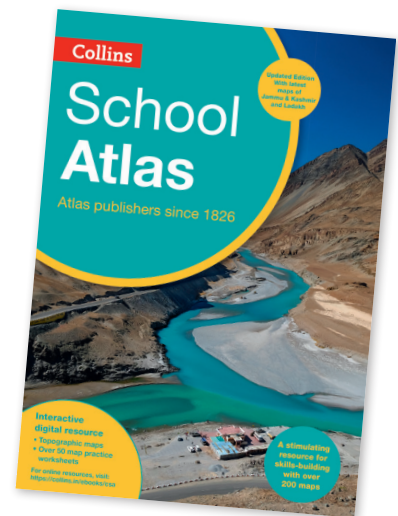


### Additional Resources

Includes **printable outline maps** and **activity sheets**

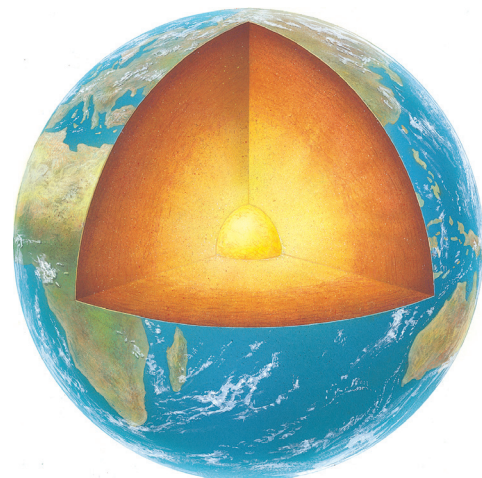
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### KEY FEATURES

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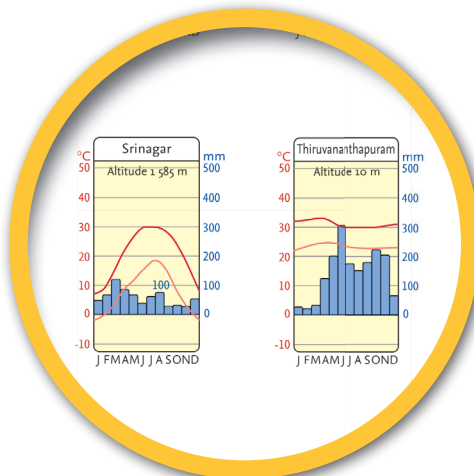
### Find places in the world



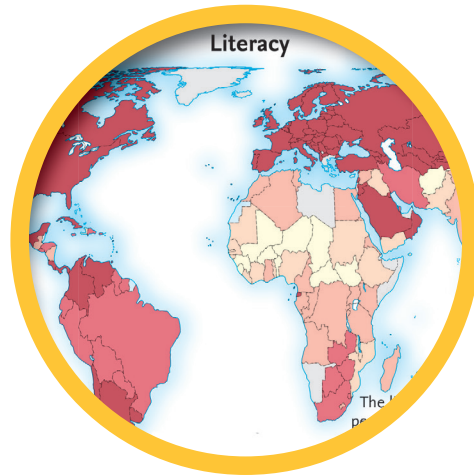
### Explore landscapes



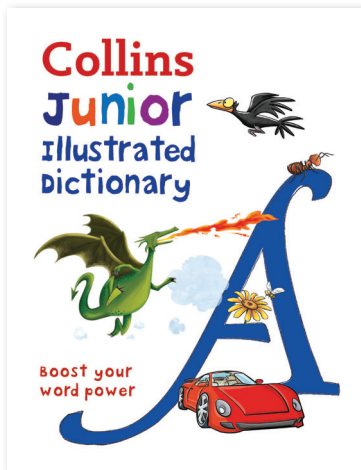
### Get to grips with graphs



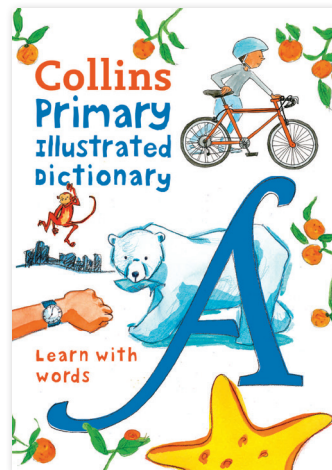
### Discover world themes



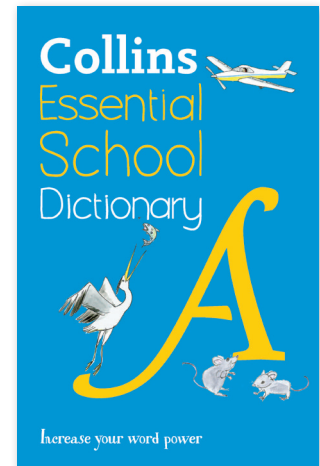
# DICTIONARIES



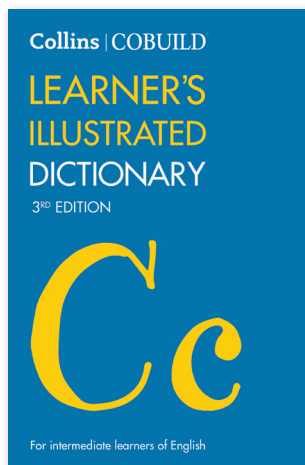
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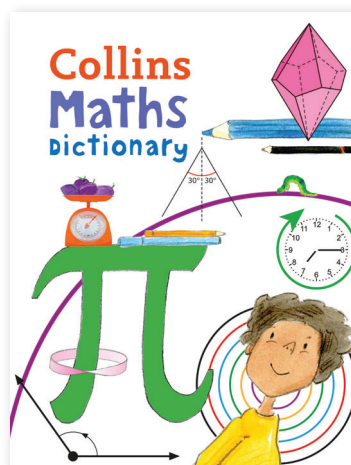
Content-rich dictionaries with strong pedagogy, for schools



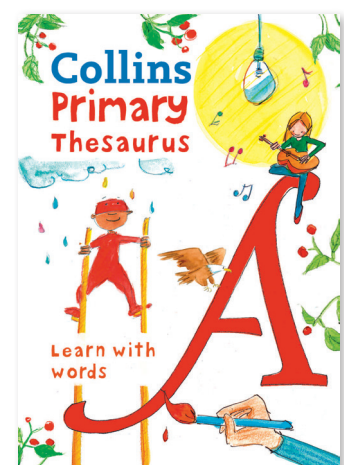
A comprehensive dictionary covering all the essential words and phrases



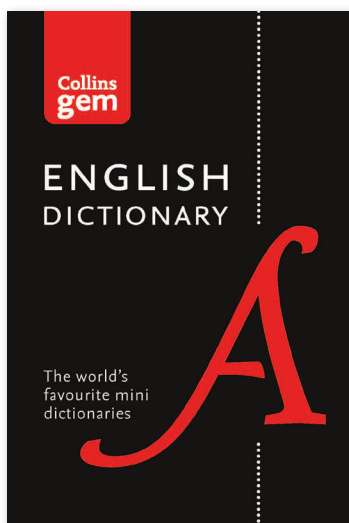
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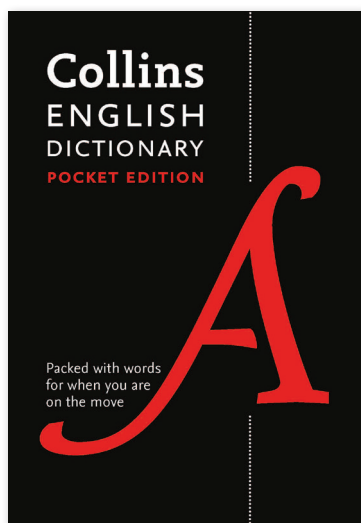
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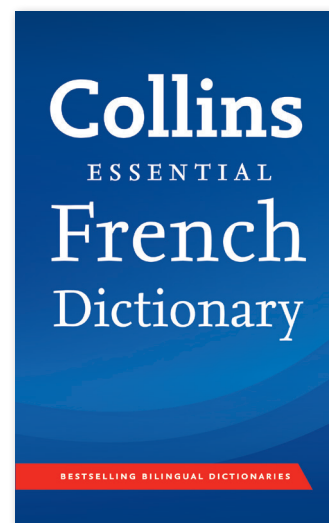
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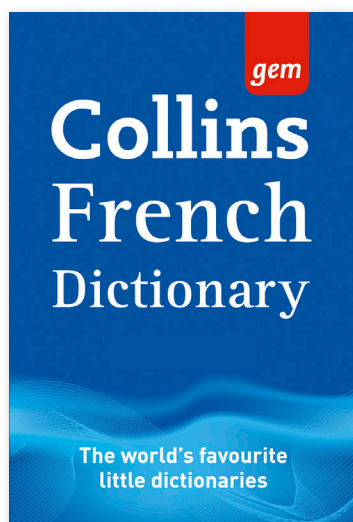
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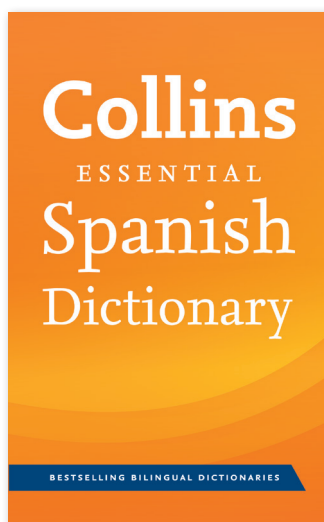
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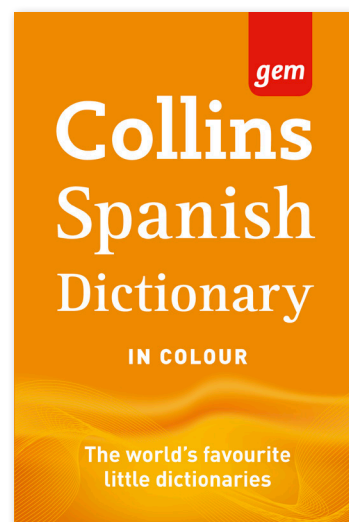
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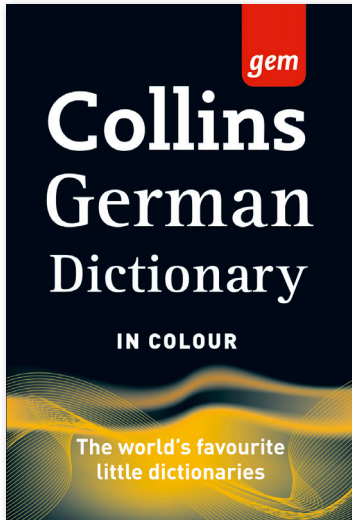
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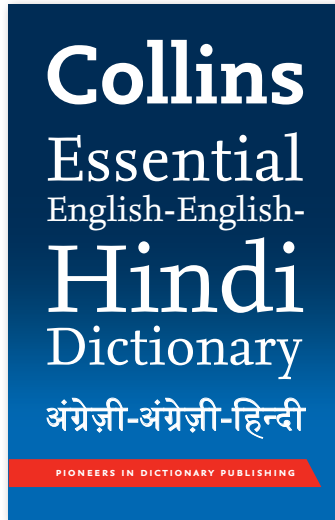
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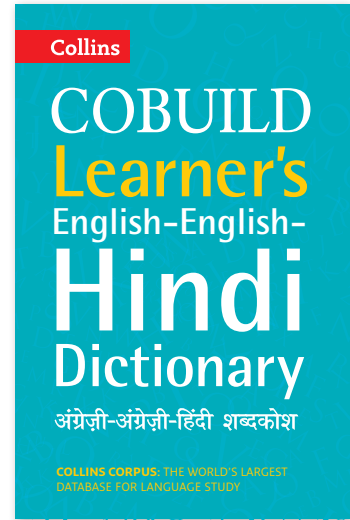
# DICTIONARIES



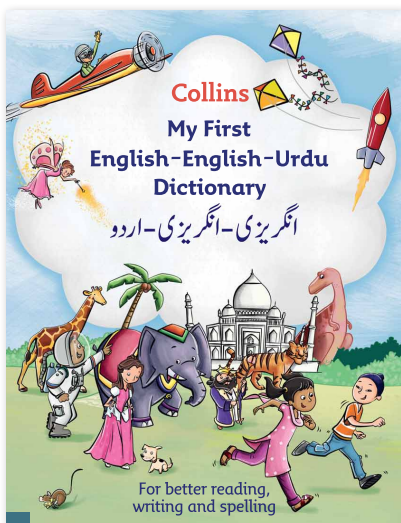
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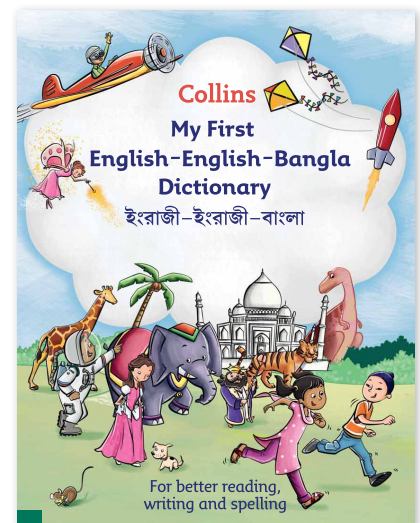
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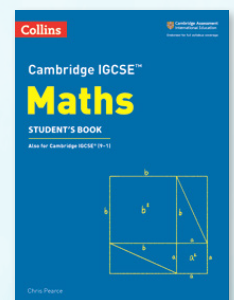
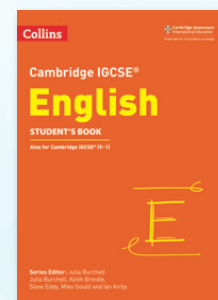
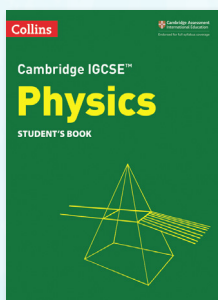
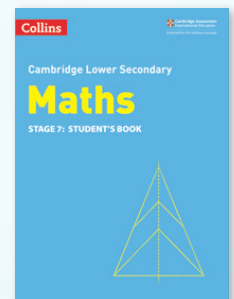
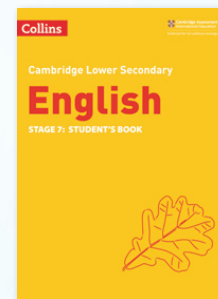
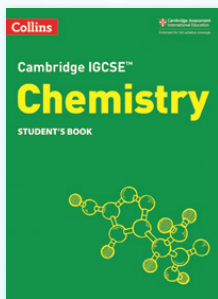
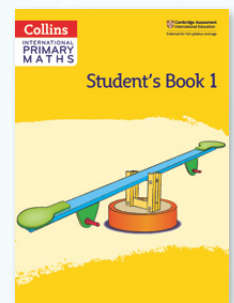
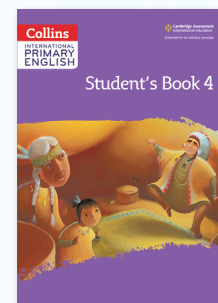
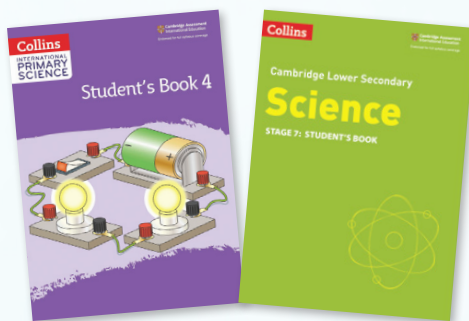
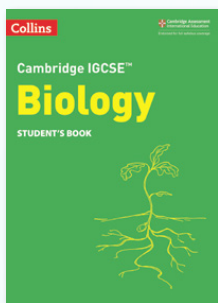


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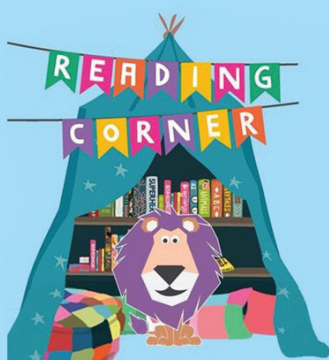




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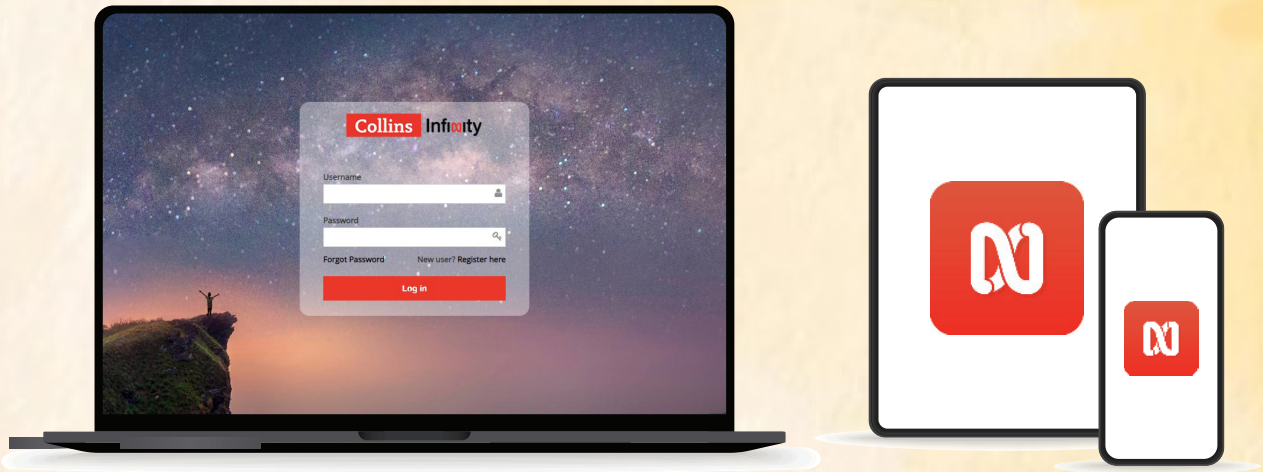
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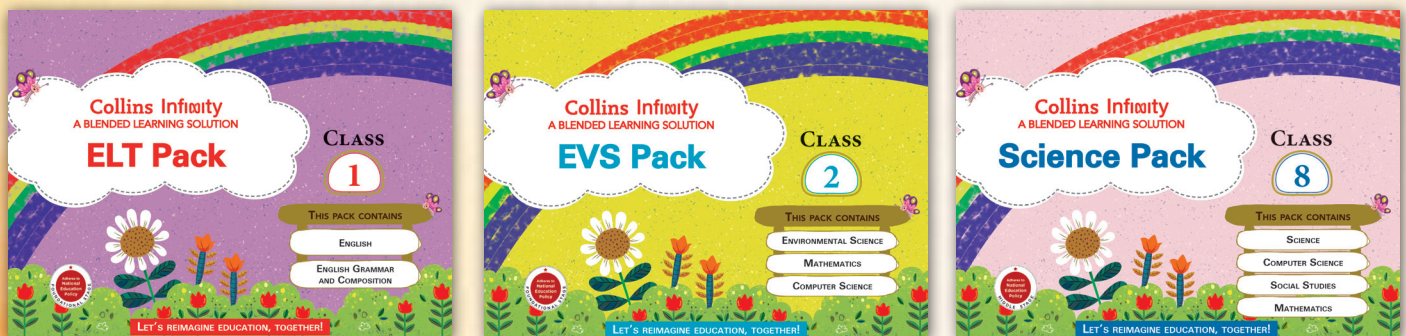
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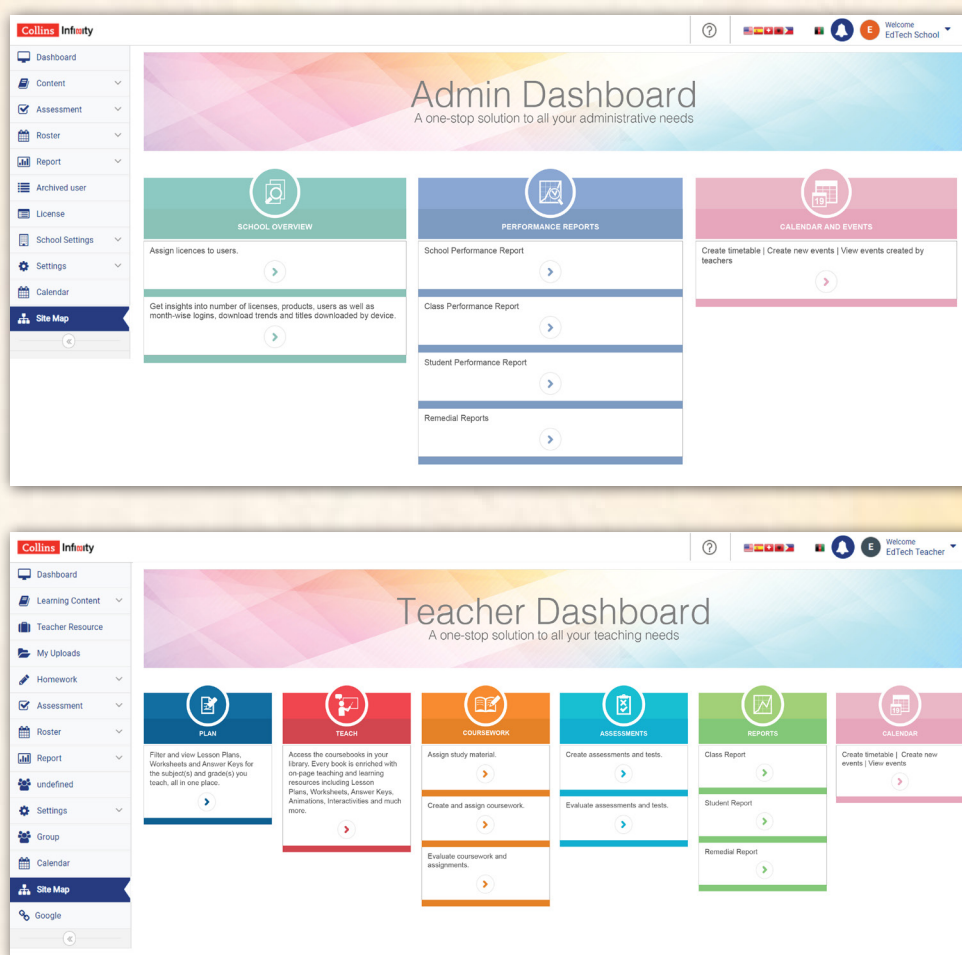


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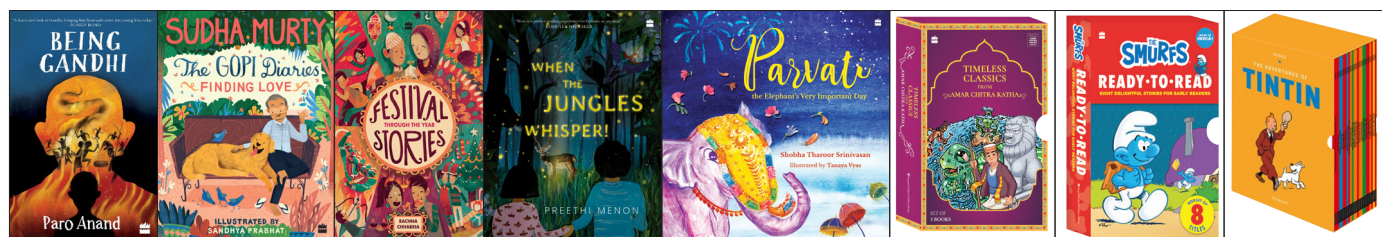
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