engage

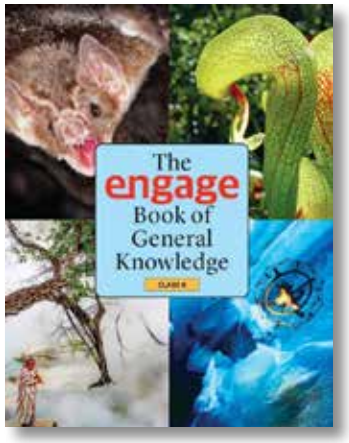
LEARNING

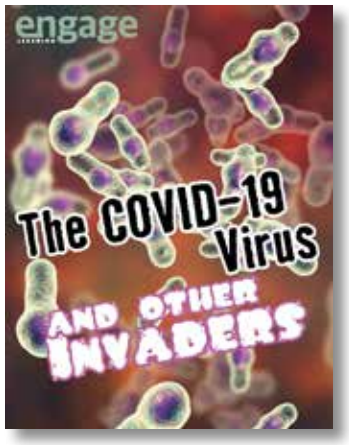
Education for Today's Learners




# What is Engage?

- Founded in 2016, Engage Learning is a leader in English language instruction and content materials in the PreK – Class 11 space.
- Engage develops print and digital learning experiences.
- All Engage materials can be used in school, at home, or in a blended learning environment.
- Engage materials are designed to teach all students through the use of authentic-looking educational materials.





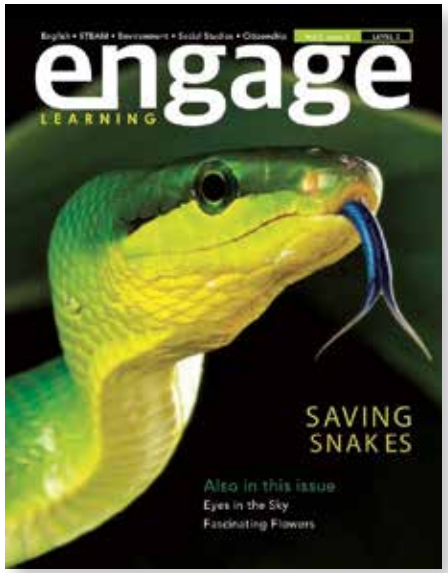
# Why Engage?

- To improve reading proficiency. A recent study conducted across all of India's states shows that a vast majority of students at all class levels read below grade level.
- To teach all subjects using India-centric content instead of traditional examples from the United States and Europe.
- To connect what students learn in the classroom to the real world.
- To engage students through impactful photographs and high-interest stories.
- To redefine what a textbook and other educational materials are.

# The Engage Formula

EV + SI = Success

# Engage attacks India's reading problem head on.

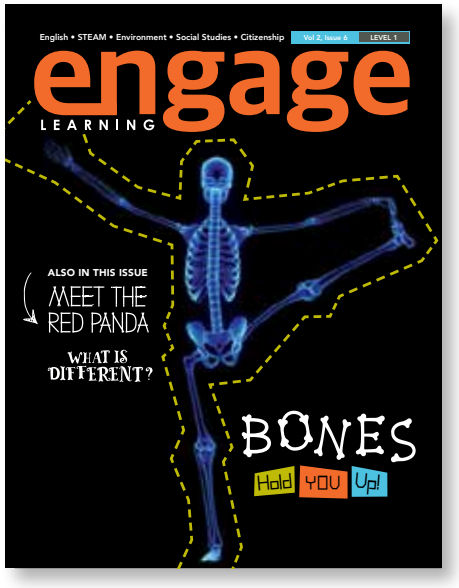



Its materials provide an authentic, engaging reading experience with high-interest, curriculum-based content illustrated with great photography. It helps students develop their nonfiction reading skills while teaching the content they need.

# An authentic nonfiction reading experience.

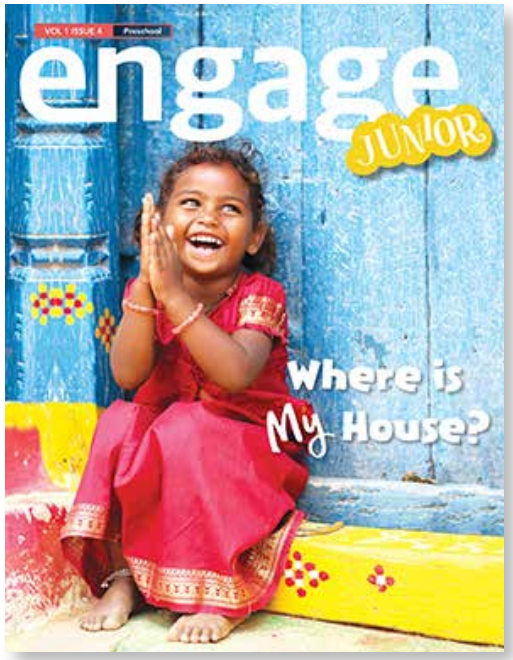

Engage also provides an excellent model for developing writing skills. So, Engage teaches reading, writing, and curriculum-based content, derived from India's major syllabuses.

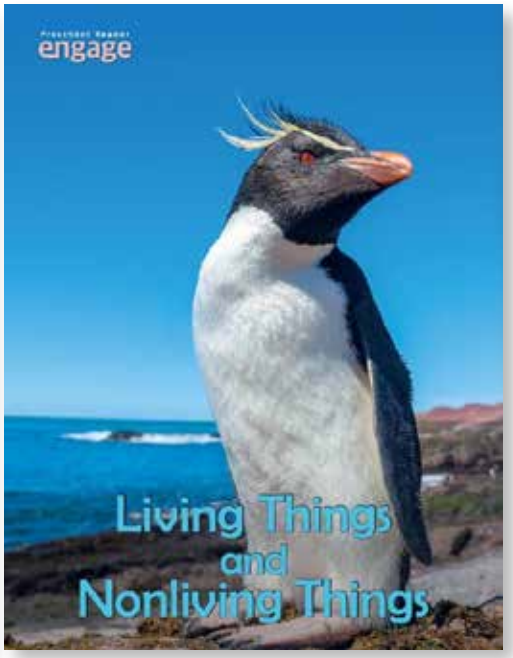
# Targetted materials.




Every aspect of Engage's materials is crafted to develop nonfiction reading skills while teaching grade-level content. Let us look at some of the scaffolding used in Engage to facilitate comprehension.

# PreK


engage
JUNIOR
Where is My House?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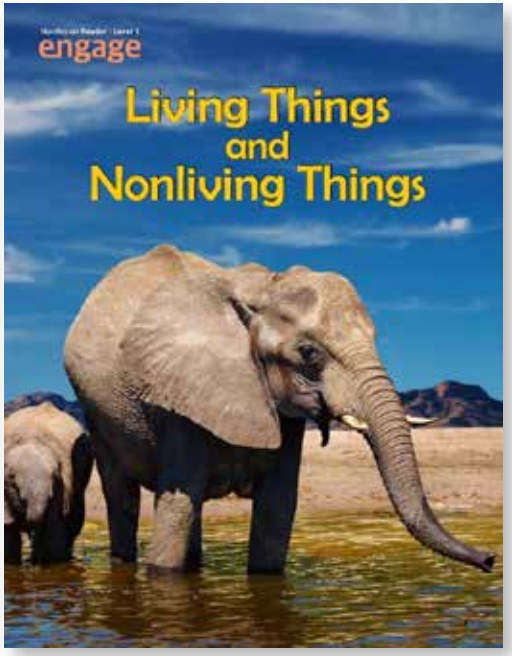
Living Things and Nonliving Things


engage
Living Things and Nonliving Things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LEARNING
STEM
for Preschool


- **PreK Readers** teach literacy, numeracy, content, and motor skills
- **PreK and Kindergarten** leveled readers teach the same content at different reading levels.
- **PreK Science** integrates math, science, and the environment

# Where is it?

Look up. Look down. Look around.
What do you see?

Where is it?

The tiger is to the **right** of the tree.

Where is it?

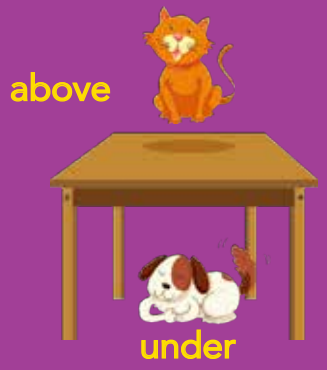
The squirrel is to the **left** of the tree.


Where
is it?


The owl is
in the
tree.

# Tell where it is

Show that you know how to tell where something is.




Hold a book **above** a table.

Sit **under** a table.

Raise your **right** hand.

Raise your **left** hand.



Lay **on** your bed.

Get **in** your bed.


PURR WITH
TIGERS


A tiger has parts.
FUR
TAIL
HEAD
PAWS
LEGS

# How are they ALIKE?

Circle the word that best tells about these animals.

orange

hair

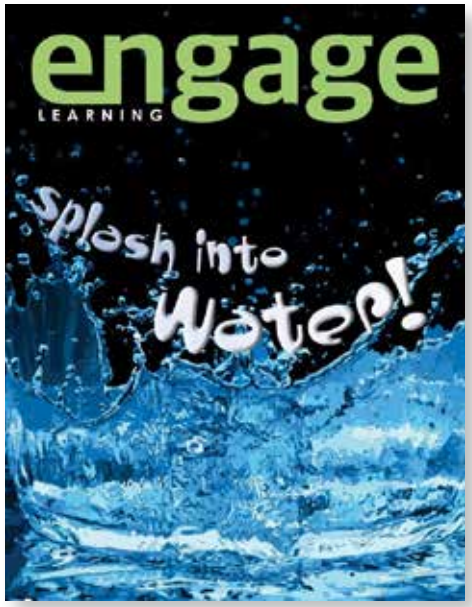
big

fur

fast

tall

# Readers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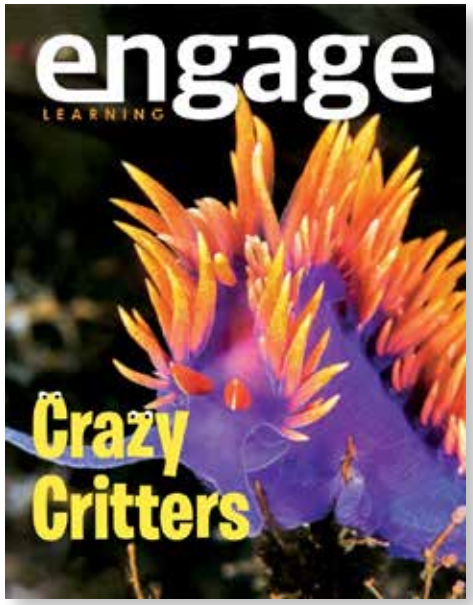
LEARNING
Splash into Water!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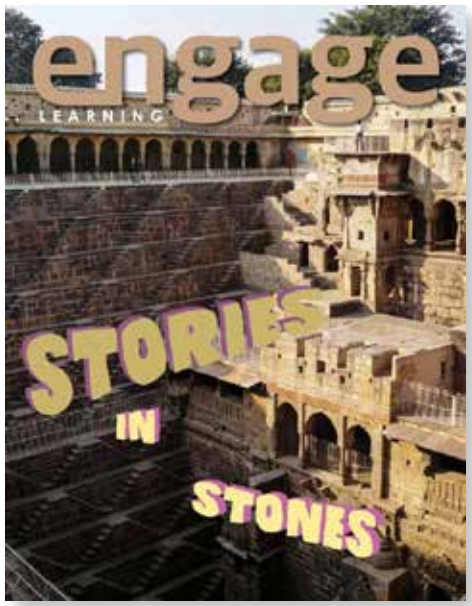
LEARNING
Crazy Critters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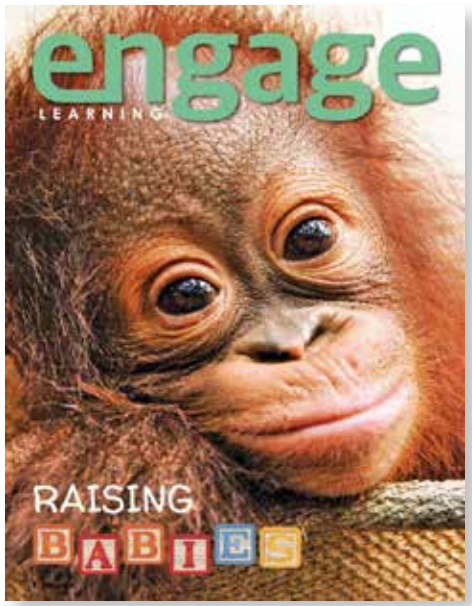
LEARNING
STORIES IN STONES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RAISING BABIES


A large photo engages students and helps to tell the story.
An engaging headline tells what the story is about and sparks student interest.
A deck pinpoints the salient point or points students learn from the story.
BUILDING WITH
Waste
by Fran Downey
Dharavi is turning waste into profit.

Fast facts relate memorable, fun information that students want to share.

Type style and size is based on research so that students can easily make out letters and words. Some type styles are harder to read than others.


Photos and illustrations directly support the content.

You may think that your bones are hard and never changing. Think again. Your bones are alive. They grow and change with you. "From the time you are born until you are about 19 years old, the length of your bones increases," said Dr. Kannan Pugazhendi of the Indian Institute of Sports Medicine.

Your bones do many different things. They shape you and hold you up. They allow you to move, stand, sit, wiggle and bend. Bones protect your organs, too. For example, your ribs are like a fort protecting your heart and lungs. Bones also make blood cells. "So, bones may be hard structures, but they perform many functions," said Dr. Pugazhendi.

## a system of bones

About 206 bones make up your **skeletal system.** Without yor skeleton, you would be a puddle on the floor. Instead of walking, you would flow. Let's take a look at your skeleton and discover what it does.

When you were in your mother's womb, your bones were soft and flexible **cartilage**. Jiggle the end of your nose. It is made of cartilage. "A child's bones are soft enough that they can actually bend before breaking," said Dr. Pugazhendi. Since then, your bones have been hardening.

Also, the number of bones in your body has changed. You had 300 or more bones when you were born. Many of these extra bones were in your head. They fused to protect your brain.

## dig into bones

The place where two bones meet is called a joint. Some joints, such as the joints in your head, do not move. However, most joints move. Your shoulder and hips are ball-and-socket joints. A ball-
a bone fits into a bowl shape in anoth
joints allow bones to swing in a circul
joints, such as elbows and knees are h
move back and forth, like a door. Oth
of joints result in different kinds of m

Your bones have different parts.
part of your bones is called hard bo
protects the inside of the bone. Bel
bone, your bones look like a honeyc
of the bone is called spongy bone.
many bones is hollow. It is filled wit
substance called **marrow.**

There are two types of marrow.
and the other is red. Yellow bone m
Your bones release this fat when yo
energy. So your bones need to const
yellow marrow.

Red bone marrow makes red blo
blood cells and platelets. Without y
would not have any blood. Each da
make 5,00,00,00,000 red blood cell
make thousands of white blood cell

Red blood cells carry the oxygen
inhale and carry it throughout your
oxygen moving in blood, your body
White blood cells cruise through yo
fight diseases. "Think of germs inva
as terrorists and white blood cells as bullets," said Dr. Pugazhendi. "The white blood cells keep the terrorists from taking over your body." So your skeletal system is also part of your immune system. Platelets help your blood clot when you get a cut or scratch and keep all your blood from flowing out.

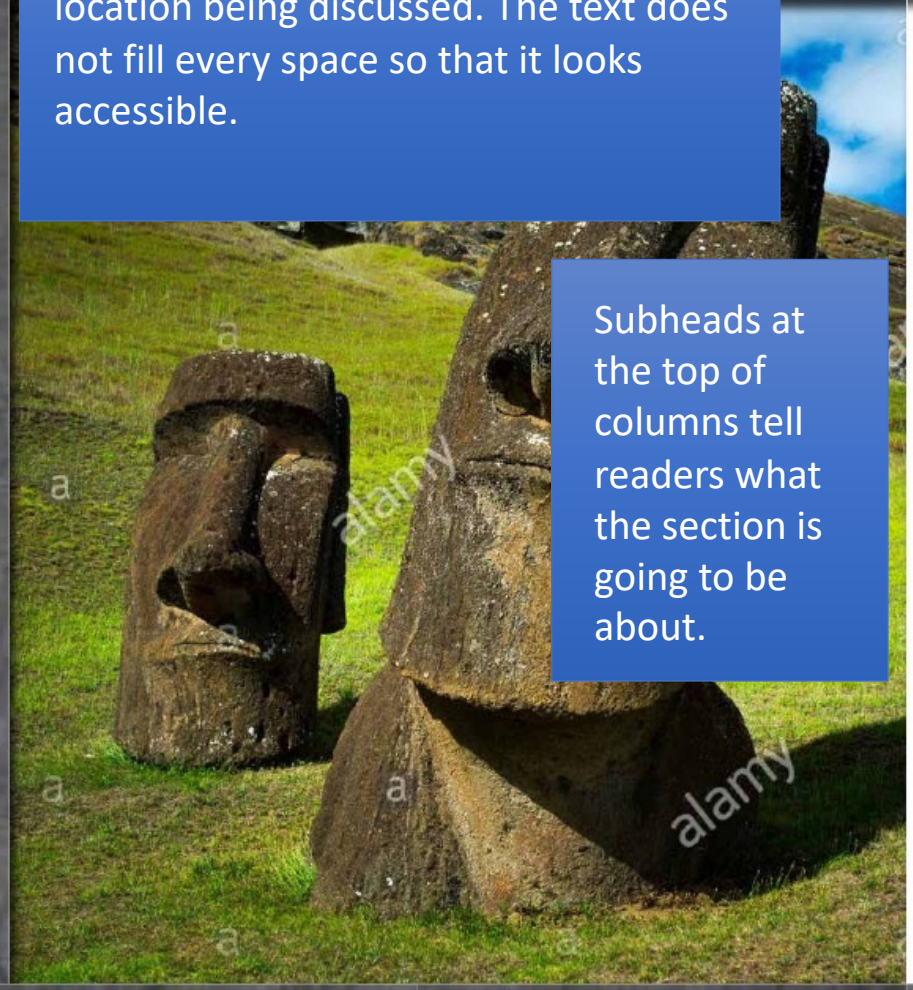
Lines are short so that students can read a whole line without much eye movement. Moving the head or eyes while reading can tire the reader. We want readers to remain alert so they can comprehend what they are reading.

**skeletal system:** all the bones in a body
**cartilage:** firm but flexible tissue
**marrow:** a soft, fatty goo in the middle of bones

Academic and content vocabulary are defined on the page to increase usability and comprehension.

To improve comprehension, columns, pages, and spreads always end with a complete paragraph. Studies show that sentences that cross columns and pages decrease comprehension.

Large, colorful photos create interest in the story and transport students to the location being discussed. The text does not fill every space so that it looks accessible.



Subheads at the top of columns tell readers what the section is going to be about.

## STANDING STATUES

Nearly a thousand years ago, some people rowed canoes across the Pacific Ocean. They beached their boats on an island, naming Rapa Nui. It is 1,700 km from the closest island and 3,700 km from the nearest mainland.

Volcanic eruptions forged the rock that makes up Rapa Nui. When the travelers, called the Rapanui, reached the island, grasslands and palm tree forests covered it. A single lake provided fresh water.

The Rapanui carved the rock into giant statues, called moai. Over time, they made 887 statues, each about 4 metres high and weighing 13,000 kg. After carving each statue, the Rapanui put it on tree trunks and rolled it to a place on the island. Next, they positioned the statue to face inward and carved canoe shapes on the back of each statue. But what do the statues represnt?

Archaeologists think that the statues represent the Rapanui's ancestors. Perhaps they were important chiefs or the ancestors of the families that relocated to the island. By looking inward, the statues were watching over and protecting the islanders.

## ECOLOGICAL DISASTER

Archaeologists have different ideas about what happened on the island. The Rapanui lived near the only source of freshwater on the island. Over hundreds of years, the Rapanui increased to about 12,000 individuals. They may have used more freshwater than what was available. The lack of freshwater may have caused the trees die off. Tthe Rapanui did not help the forests. They cut downtrees to make rollers, grow crops, build fires and maybe make shelters.

The Rapanui may have had help destroying the island's forests. They brought rats with them. Some of the rats made their way to the forests, where they ate palm nuts. Within a few years there were millions of rats that ate nuts that could have grown into trees.

Without trees, the Rapanui burned grass for fuel. Without their forest habitat, birds disappeared. So did other animals. The Rapanui had little food. Then around 1600, war broke out. Next, Europeans arrived, bringing new germs to the island. These germs made The Rapanui sick, killing many of them.

Starvation, war, European diseases, and finally slavery wiped out the Rapanui. But the real disaster

haps their
d's last tree.
i from this

Shorter paragraphs and sentences, as well as lower readability at the beginning of a story helps striving readers.

Many textbooks are written poorly and are too hard for students. Here is a passage from a popular Class 5 science textbook.

> **"Our skull is attached to our vertebral column, which is also called the spine. The vertebral column forms the main axis of our skeleton. It is made up of 33 small and irregular-shaped bones, called the vertebrae, which are linked together. Although the vertebrate are linked together, they are not fused. The vertebrate allows us to bend, twist and stand upright. Another important function of the vertebral column is to protect the important blood vessels and the delicate spinal cord, which is a bundle of nerves."**

The average reading level of this passage is Class 7.9, nearly three grade levels higher than the best students can read. The last sentence is written on college level.

Nationally, only 2.1% of Class 5 students are proficient readers.

# General Knowledge

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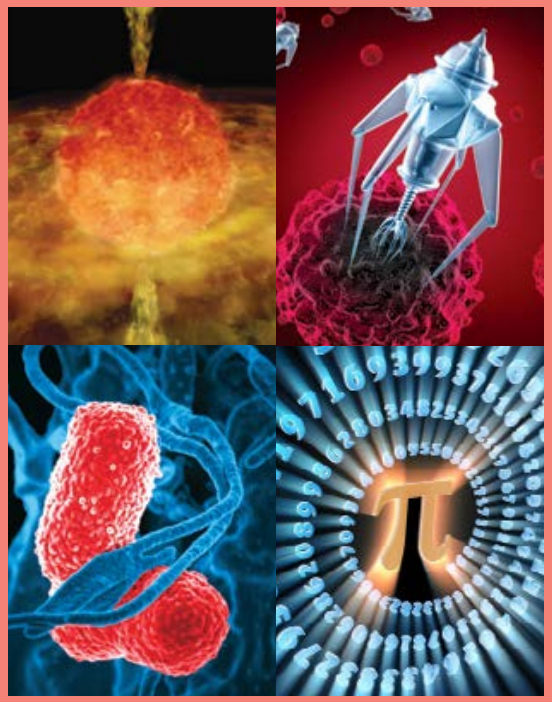


# TEACHING GUIDE

## The Book of General Knowledge

CLASS 9, 10, AND 11
(Higher Secondary)

AGES 14-16 YEARS

Outcomes and Curriculum Connections tell what students learn and how that relates to the curriculum.

Each lesson has four timed parts.

'Read the Lesson' tells how you might group students to conduct the reading session. It tells what students should look for.

# Lesson 4
# THE MYSTERY OF SKELETON LAKE

60-Minute Lesson


## MEET THESE OUTCOMES

- **Students learn what life was like in ancient India.**
- **Students learn how researchers use science to learn about the past.**
- **Students practice solving word problems using ratios.**

## CURRICULUM CONNECTIONS

**In this story, students learn about an ancient mystery about India's history. They also learn that the population of ancient India may be more complicated than previously thought.**

## LAUNCH THE LESSON 10 MINUTES

Write the word "history" on a board. Ask students what the word means. (The study of the past.) Next, ask if we know everything about India's history. (Guide the conversation so that students learn that we do not know everything about India's history.) Finally, show a map of India and locate Lake Roopkund on the map. It is in Nanda Devi National Park in Uttarakhand, which is northeast of New Delhi. Nanda Devi itself is the second highest mountain in India. Two towering summits form the top of the mountain. In ancient Sanskrit literature, the two peaks are referred to as twin goddesses named Nanda and Sunanda. Explain to students that the story they are about to read takes place at the lake.

## SHARE FAST FACTS 5 MINUTES

- A guide discovered the bones at Lake Roopkund in 1942, during World War II.
- Shortly after being discovered in 1942, people thought the bones found at Lake Roopkund were the remains of Japanese soldiers. But people quickly learned that the bones are very old.
- An ancient local legend claims that the goddess Nanda Devi sent a hailstorm to punish pilgrims who had defiled her sacred ground by dancing and playing music.
- Lake Roopkund is so remote that little is known about the area. No roads lead there. Instead researchers have to make a multi-day trek to reach the lake. So, even more bones may be hidden there.

## READ THE LESSON 25 MINUTES

Direct students to read "The Mystery of Skeleton Lake." If needed, have students read the story in pairs, so they can help each other. After students finish reading, ask them to discuss aloud what they learned. Be sure to relate the lesson to your syllabus.

## ASSESS THE LESSON 20 MINUTES

After students have finished reading have them complete the math assessment at the end of the lesson. In this assessment, students practice their algebra skills by calculating ratios.

## EXTENSION ACTIVITY 30 MINUTES

Ask students to imagine that they are ancient pilgrims passing through the Himalayas. Have them write a first person account of what their journey might be like and what might have happened at Lake Roopkund. Tell them to use information from Lesson 4 to write their account. Remind them that they are using factual information to write a fictional account.



'Launch The Lesson' tells how to introduce the lesson to students.

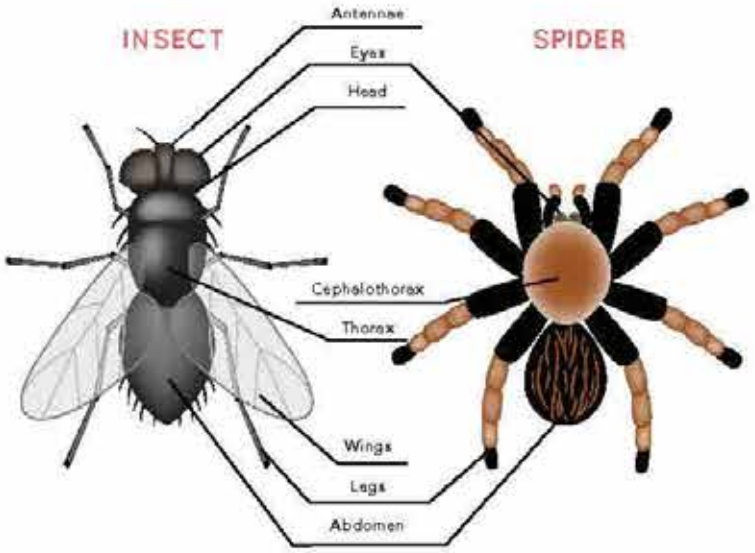
'Fast Facts' helps introduce the lesson by providing interesting information. Use them before or after reading.

'Assess the Lesson' gives pointers on how to conduct the lesson assessment.

LESSON 9
ACTIVITY Comprehension Check

# Is it a spider or an insect?

Look at the insect and spider. Use them and the story to complete the paragraph.




A spider and an insect can look alike. In fact, one kind of spider looks like an _____. But there are differences. A spider has _____ legs. An insect has _____ legs. An insect can have _____. But not all insects fly. A spider has _____ main body parts. A spider's eyes are on its _____. An insect has _____ body parts. Its eyes are on its _____. Many insects have _____. A spider does not have _____. This means that a spider is not an _____.

ANSWERS: ant, 8, 6, wings, 2, cephalothorax, 3, head, antennae, antennae, head.

LESSON 33
ACTIVITY

## Complete a Chart

# Stay HEALTHY

Record the healthy activities you did last week. Write how much time you spend exercising, brushing your teeth, and sleeping. Write what you ate.

### Fast FACTS

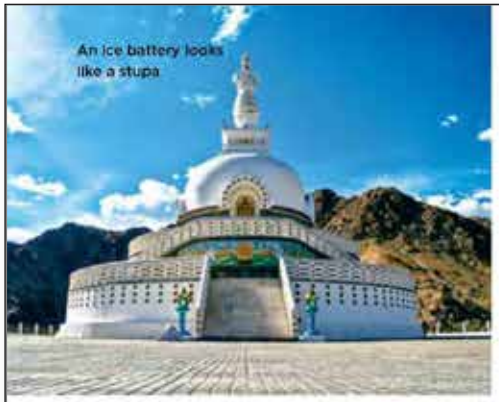
- A snail can have up to 20,000 teeth.
- A rabbit's teeth never stop growing.
- A blue whale does not have teeth.
- Most animals do not eat sugar. They do not get cavities.

| |  Exercising |  Eating |  Brushing Teeth |  Sleeping |
|---|---|---|---|---|
| Monday | | | | |
| Tuesday | | | | |
| Wednesday | | | | |
| Thursday | | | | |
| Friday | | | | |
| Saturday | | | | |
| Sunday | | | | |

## Vocabulary

# Find the Animals

Circle the names of the 15 animals in the word box. Their names appear across and down.



An ice battery looks like a stupa

## A PROBLEM SOLVER

Luckily, Ladakh has a local problem solver. "I am focused on solving people's problems," Sonam Wangchuk told **Engage**. "I see people having problems and I want to use simple school science and math to solve their problems."

Wangchuk is an inventor who finds simple solutions to complex problems. By the time he started working on Ladakh's water problem, he had invented a solar-powered building and a better cooking stove. He has also started a school to teach others to become problem solvers.

## SUPER-SCIENCE SKILLS

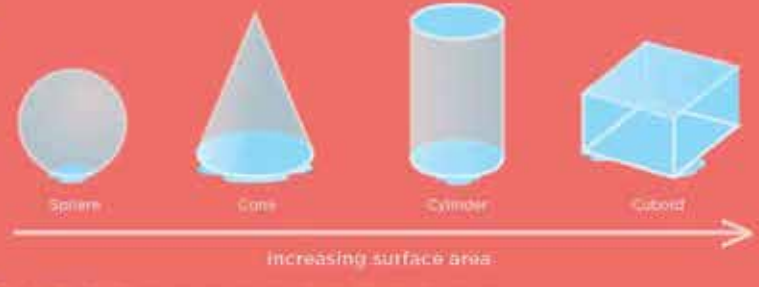
Wangchuk is using his super-science skills to restore the rhythm of Ladakh's heartbeat. The only way to do this is to re-establish the timing of the ebb and flow of the area's water.

Without natural glaciers, Wangchuk had to find a new way to store water so it would be there when the Ladakhis needed it. In essence, he had to build a water battery.

He did not know how to make such a battery, but he kept on thinking about it. "One day in May I saw a big chunk of ice under a bridge," he said. "That is when I knew that it was not the warmth of the spring that was melting ice, it was the sun. Ice melts because of the sun, not because of the ambient temperature." If Wangchuk could make ice and keep it from melting at the same time natural glaciers melted, he would have a water battery.

The idea for building an artificial glacier "was somewhat guided by childhood stories," Wangchuk said. "I had heard about our ancestors making glaciers in the mountains." The people of Ladakh and neighbouring Tibet have a long tradition of trying to make artificial glaciers.

## WHAT SHAPE HAS THE MOST SURFACE AREA?






LESSON 1 ACTIVITY **Math**

## ICE CREAM CALCULATIONS

An ice cream cone is a cone. Let's make some fun ice cream cones and calculate their surface area and volume.

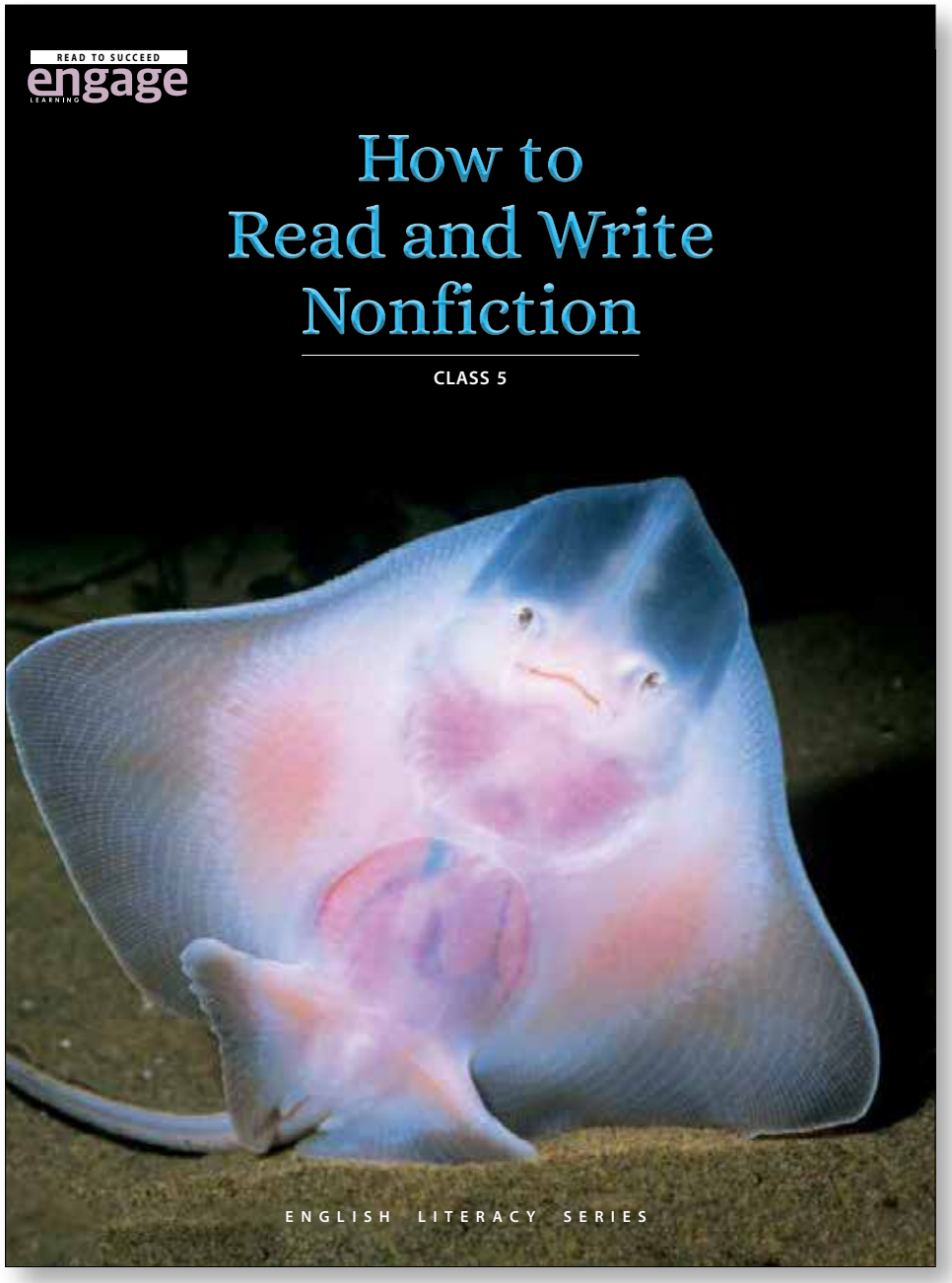
You need:
- 2 sheets of paper
- A pencil and a pad
- A ruler
- A calculator

**To do:**

- Use the ruler to measure the height of a sheet of paper. Height is represented by the letter 'h'. Write the height here: h = _____.
- Fold and tape the sheet of paper into the shape of a cone.
- Look at the opening. It is round like a circle. The distance between the middle of the circle and its side is called the radius, which is represented by the letter 'r'. Write the radius here: r = _____.
- Now you can use a simple formula to determine how much ice cream your cone can hold: $V = \pi r^2 h/3$. The equation says volume is pi multiplied by the radius squared multiplied by the height divided by 3. If your calculator does not have a π key, just type 3.14 into your calculator. That way, your equation is $3.14r^2h/3$. V = _____.
- Now that you know how much ice cream your cone can hold, let's calculate its surface area. Surface area is the amount of material needed to make your cone.
  The formula is
  $SA = \pi r(r + \sqrt{h^2+r^2})$, or $3.14r(r + \sqrt{h^2+r^2})$.
  Use the formula to calculate the surface area. SA = _____.
- Take a second sheet of paper and roll it into a cylinder. Make sure the openings are the same size as the opening at the top of the cone. That way your cone and cylinder each have the same radius and height.
- Use this formula to calculate the volume of a cylinder: $V = \pi r^2 h$.
  Write the volume of your cylinder here: V = _____.
- Use this formula to calculate the surface area: $SA = 2\pi rh + 2\pi r^2$.
  Write the surface area here: SA = _____.
- Would you rather eat ice cream from a cone or a cylinder? Explain why.

Watch Sonam Wangchuk.

# Literacy Series



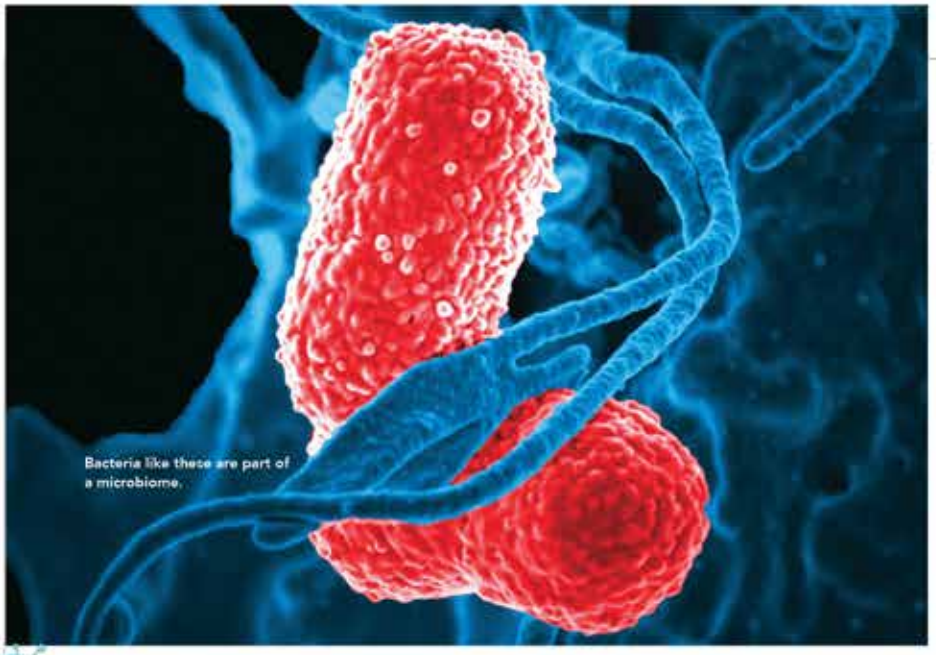
LESSON 11

# MICROBIOME

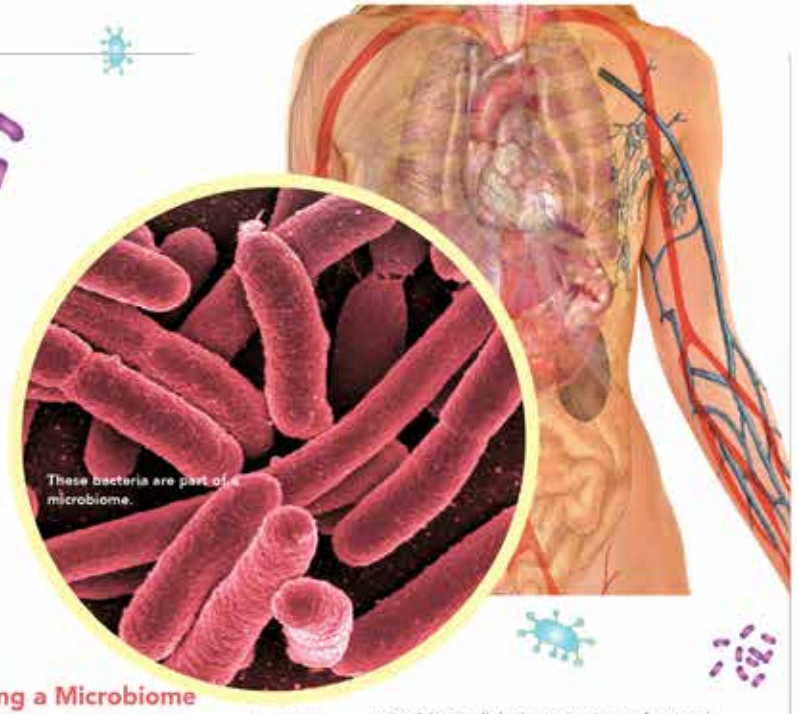
Germs and other organisms outnumber the human cells in your body.

## A First-Person Account

You can write a story in the first person, the second person or third person. This is called a point of view.This story is written in the second person. It uses words such as you, your, yours, yourself, and yourself. You can rewrite this story using the first person singular. In order to do this you need to use words such as I, me, mine, my, and myself. In addition to changing these words, you may have to change other words. Read this lesson and then turn to the activity at the end of the lesson.



Bacteria like these are part of a microbiome.



These bacteria are part of a microbiome.

About 30 trillion cells make up your body. That is a lot of cells, but the bacteria in your body outnumbers them. You could have 39 trillion bacteria. That means your body is not even mostly human; it is mostly made of bacteria. Bacteria are not the only invaders that live on or in your body. Fungi, viruses, worms, mites, and other organisms all either visit or make their homes in or on your body.

These organisms turn you into a 'superorganism' that is never alone. Right now, tiny organisms are crawling over your skin, hanging from your eyelashes, coating your tongue and teeth and cruising through your intestines. In fact, organisms can live in nearly every organ.

More than one kind of organism lives in your body. Between 3,000 and 4,000 different species of bacteria thrive in your intestines alone. Together, all these organisms form your **microbiome.** In this sense, your body is a habitat. It is a place where all kinds of wee beasts live and thrive.

## Freeloaders, Helpers, and Killers

You should not worry about all the bacteria in your body. Most are harmless, and some are helpful. In fact, you cannot live without the helpful bacteria that live inside your body.

Some bacteria are freeloaders. They get food and a place to live, but they do not help or harm you. Other kinds of bacteria are helpers. They get food and a place to live, and they help you in different ways. And a few kinds of **bacterium** are **pathogens.** They can make you sick, and some can even cause death.

People around the world have different microbiomes. In fact, your microbiome is not the same as your best friend's or even other members of your family. Your age, where you live, what you eat, how much time you spend outside, what you do every day, all affect your microbiome. So, no two people's microbiomes are exactly the same. Most of these differences are slight, but important to your health.

## Growing a Microbiome

You do not have a microbiome when you are born. This changes quickly, though. Mother's milk passes along bacteria and the food that bacteria need to survive. When babies begin to eat solid food, more bacteria move in. By the time a child is about 3 years old, its microbiome is similar to an adult's.

Your microbiome also changes when you change any factor that contributes to the kinds of microbes in your body. For example, by moving from Ahmedabad to Dharamshala, you experience a different climate and eat different foods. That changes the kinds and number of **microbes** in your body. When you move back to Ahmedabad, your microbiome changes back.

You might think that all this is gross. But you could not live without microbes. They help you digest food. They fight viruses. They keep your organs healthy. You could not survive without microbes.

**microbiome**: all the bacteria, viruses, fungi and microscopic organisms living in a larger organism
**bacterium**: a kind of one-celled organism
**pathogen**: an organism in the microbiome that can cause disease
**microbe**: a microorganism

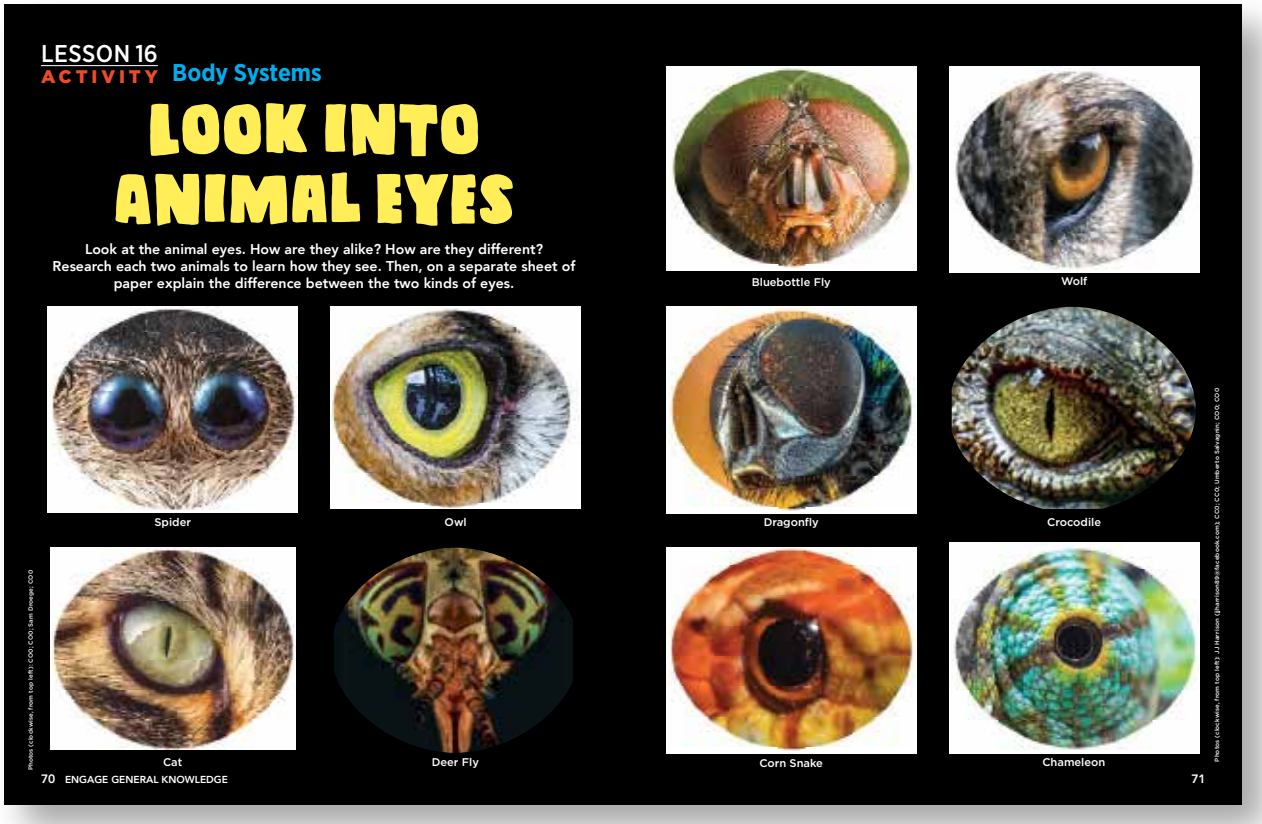
**Check What You Learned**

1. What is a microbiome?
2. How can you change your microbiome?
3. Why is your microbiome important?

**Use the text to check your answers. Now, you can go to the next page.**

# Looking at Engage

- Integrates learning
- Teaches the basic curriculum
- Builds nonfiction reading skills
- Connects the curriculum to real life
- Is India-centric



# The Engage Team

**The founders of Engage Learning are stalwarts of publishing from companies like National Geographic and India Book House (creators of Amar Chitra Katha and Tinkle and the Crossword chain of stores).**

## FRANCIS DOWNEY, Editorial Director

Francis Downey, one of the world's leading authorities on developing authentic learning experiences in formal and informal education settings, is a co-founder of Engage Learning. An innovative educator, Fran has been a lecturer, teacher, and educational publisher for more than 40 years.

A graduate of Yale University, he began his career as an education specialist at Dinosaur State Park in Connecticut, USA, designing curriculums that integrated environmental instruction with core curriculum. After leaving that position, he worked in several science museums and planetariums developing dynamic education programs.

A frequent guest on TV news programs, he commented on current space exploration. Teaching history for a decade at the college level, he developed courses in US history, African-American history, the history of Puerto Rico, European history and world history.

In the early 1990s, he began working in educational publishing, developing classroom magazines. An editor at Weekly Reader, he 20 years ago launched ScienceSpin, a science magazine that is still published today. He then joined National Geographic, leading the team that developed National Geographic Explorer Magazine and many supplemental educational programs, soon rising to Vice President & Publisher of National Geographic Learning.

Throughout his career, the Association of Educational Publishers has awarded him several Distinguished Achievement Awards, the Most Improved Award, and even their top award, the Golden Lamb.

## PADMINI MIRCHANDANI, Head of Publishing

Padmini is a publishing professional with special experience and expertise in large and medium format illustrated books. Earlier as Head of Publishing at India Book House, she oversaw the company's popular Tinkle magazine and Amar Chitra Katha series for children, and also developed a list of several award-winning illustrated titles on architecture, art, film, decorative arts and popular culture that she published in co-edition with leading international publishers.

As Co-Founder and Head of Publishing s at Engage Learning, Padmini supports the development and deployment of new product lines in print and digital formats, and brings to the program the founding principles of her publishing career: delivery of authoritative content with the highest standards of text, visuals and production.

## LATA VASVANI, Sales & Marketing Director

Lata began her career at India Book House's subscription division, Lata quickly rose through the ranks, and went on to head IBH's international magazine division as well as co-founded the bookstore chain, Crossword.

When National Geographic Explorer set its eyes on the Indian market, Lata's passion and concern for conservation, wildlife and education found expression in this exciting new opportunity, and she became their head of marketing for India & the sub-continent, with a mission to see every child in India have equal access to the best education material.

Lata was personally responsible for marketing directly to over 500 schools, working with them and their PTAs to promote the magazine. She established connections with State government education ministries and worked with NGOs and MNCs for CSR sales.
Lata's mission in education has found new wings as Co-Founder and Head of Sales at Engage Learning.

# Thank You

Visit **www.engage-online.com** for sample magazines of all levels.

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