

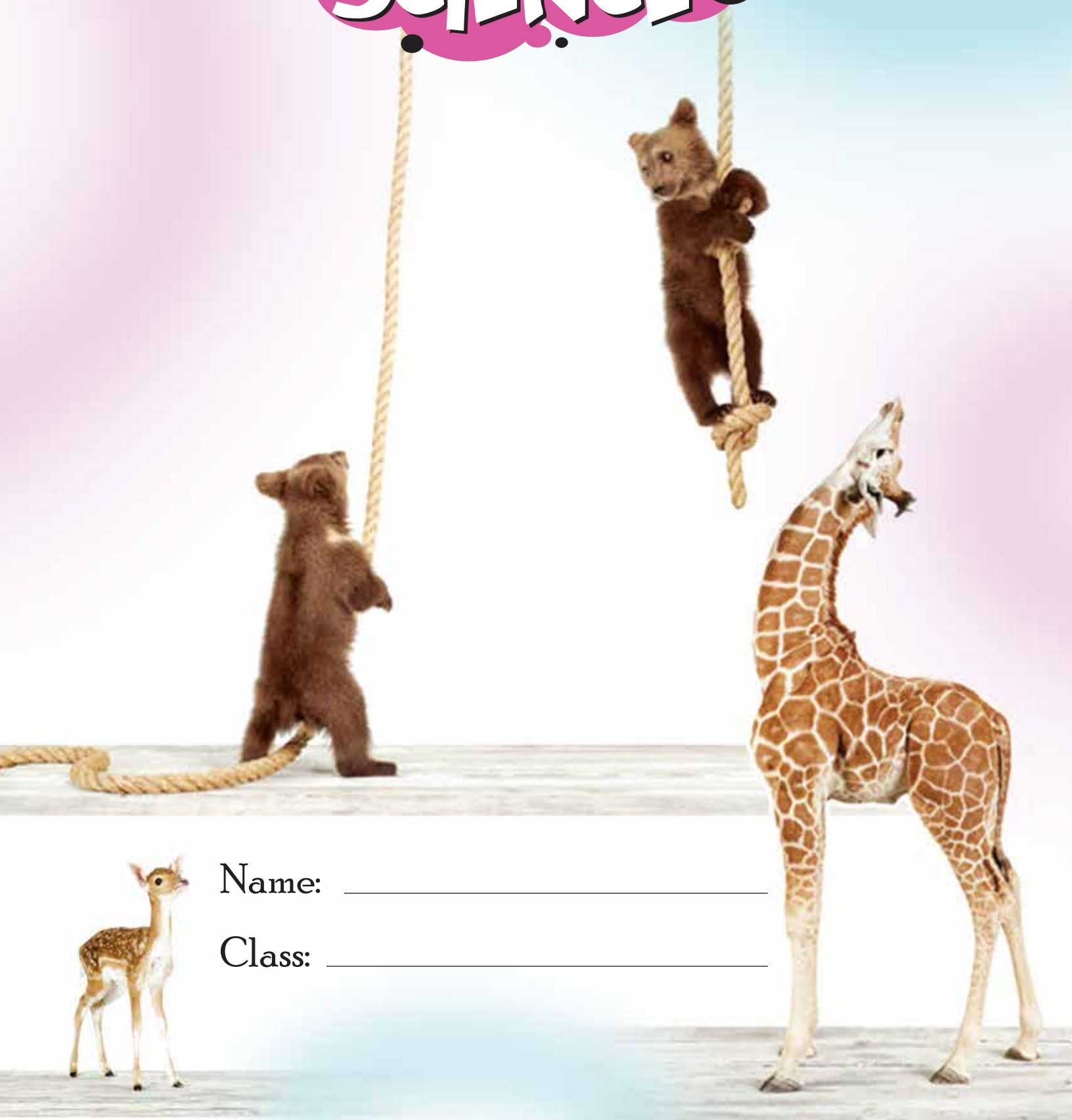
Butterfly SCIENCE 3



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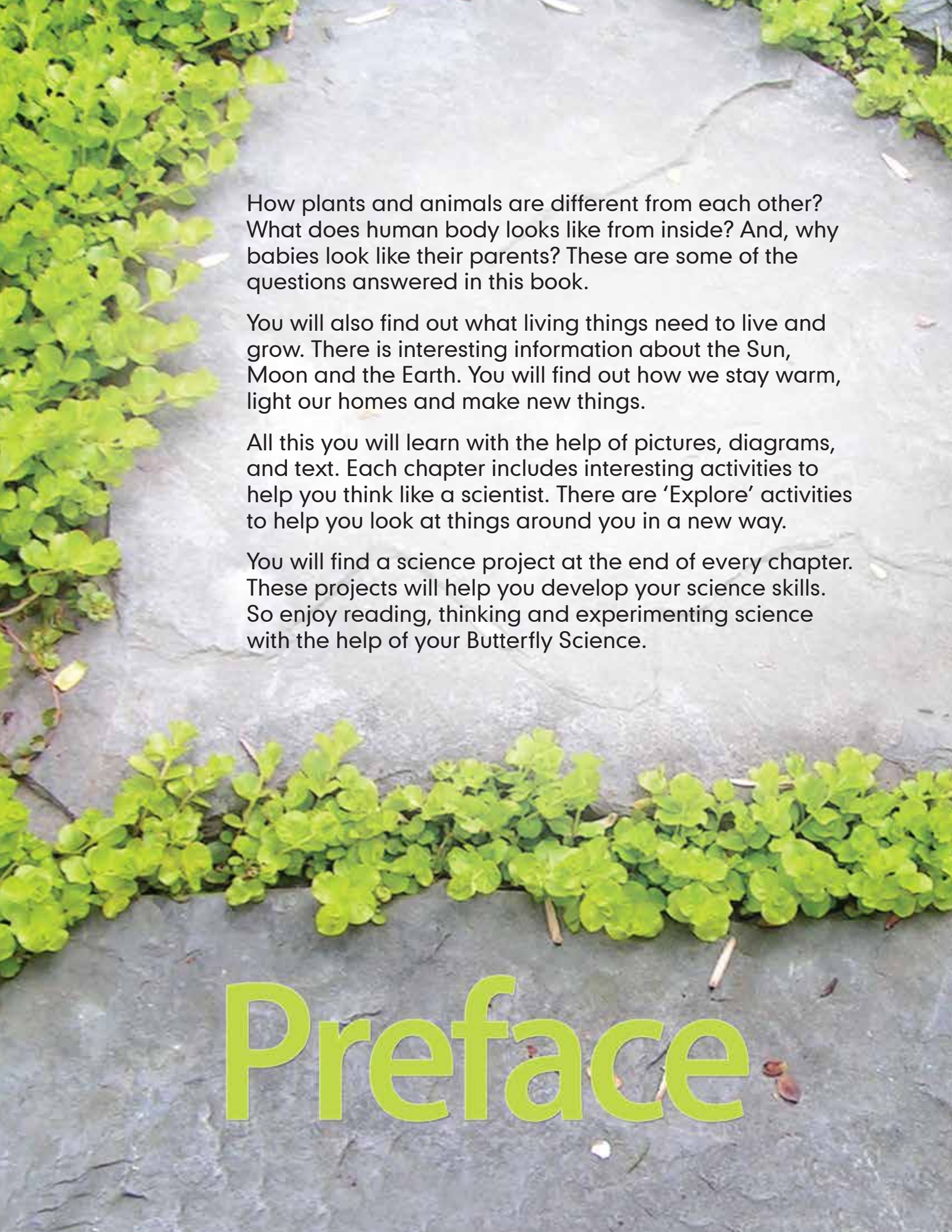
عالمی معیار، مسلم اقدار

Butterfly SCIENCE 3



Name: _____

Class: _____



How plants and animals are different from each other? What does human body looks like from inside? And, why babies look like their parents? These are some of the questions answered in this book.

You will also find out what living things need to live and grow. There is interesting information about the Sun, Moon and the Earth. You will find out how we stay warm, light our homes and make new things.

All this you will learn with the help of pictures, diagrams, and text. Each chapter includes interesting activities to help you think like a scientist. There are 'Explore' activities to help you look at things around you in a new way.

You will find a science project at the end of every chapter. These projects will help you develop your science skills. So enjoy reading, thinking and experimenting science with the help of your Butterfly Science.

Preface

Contents



Chapter 1

Plants and Animals — **1**

Chapter 2

Human Body — **13**

Chapter 3

Healthy Living — **23**

Chapter 4

Heredity — **31**

Chapter 5

Ecosystem — **39**

Chapter 6

Force and Motion — **45**

Chapter 7

Energy — **56**

Chapter 8

States of Matter and their Properties — **64**

Chapter 9

Sound — **72**

Chapter 10

What is Light? — **79**

Chapter 11

Solar System — **87**

Chapter 12

Earth's Surface — **93**



Ecosystem

You live in a house with your family. This house has electricity to run lights, fans, and other machines. It has gas to cook food. Your house also has beds, chairs, and some medicines. There is water, food and a place to play. These are all non-living things. You need these things to live happily.

In your house, you depend on your parents and many other people. Milkman, a school van driver, and watchman are some of the people who help you live happily. They don't live in your house, but they help you live a happy life. Your house is your little ecosystem.

A place where living things can live happily and grow is called an ecosystem.

All living things need an ecosystem to live and grow. Allah has put everything of need in every ecosystem. All the things needed to make an ecosystem work are present in it. A natural ecosystem is made of different kinds of plants, animals and non-living things.

The nonliving things that are part of a natural ecosystem are water, sand, rocks, and air.

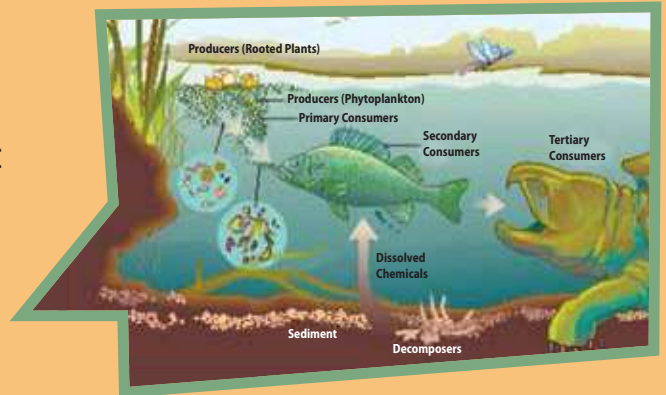
Plants like, grasses, fruits, grains, and leaves make their food. That's why they are called the producers of an ecosystem. They become the food for other animals.

Humans and animals are the consumers of an ecosystem. They don't make their food. Their food is made of other living things. A healthy ecosystem has many producer and consumers.



Water Ecosystem

This is the ecosystem of **water**. Plants grow in and around water. They are the producers. Insects eat plants. Insects are the consumers. Fish eats the tiny insects. They are consumers also. Bigger fish and turtles eat small fish. They are also consumers.



Jungle Ecosystem

This is the ecosystem of a **jungle**. Plants, grasses and tree leaves are the producers. Giraffes, zebras, rhinos, birds, and lions are the consumers.

Land Ecosystem

This is the ecosystem of a **land**. A caterpillar eats leaves of a plant. The leaves of the plant are producers. Caterpillar is a consumer. Frog eats the caterpillar. Snake eats the frog. Owl eats the snake. Frog, snake, and owl are the consumers.



In cities, humans throw trash at different places. This trash contains lots of food. Many consumers come to these places in search of food. These consumers include cats, dogs, crows and rats. This creates an unnatural ecosystem.

Look at this beach. It is full of trash. The natural ecosystem of this beach is destroyed by humans. Birds, turtles, and crabs lived here once. They are dead or left this place. Humans keep goats. Goats can eat things humans throw in the trash.

The consumers that lived here for millions of years are gone. Now, this beach has new kind of consumers, the goats, cats, and dogs. The natural ecosystem is destroyed.



Once, this was a jungle. It had lots of trees and grass. Trees and grasses are the producers. Humans destroyed the trees and grasses. This place lost the producers.

All the consumers, like deer, birds, and tigers died when there were no producers. Now this place has lots of trash. Cows and few birds are the only consumers that can find food in the trash.

Humans throw dirty water into this beautiful lake. That killed all the producers, the plants. That also killed all the small insects, the consumers.

All the turtles and birds are either dead or left the area. The natural ecosystem is destroyed.

One human-made thing that is damaging all the ecosystems of the world is plastics. Plastics come in many shapes and sizes.



Plastic bottles, packaging materials, wrappers, bags, and toys are damaging the natural ecosystems.

Plastics are made of dangerous chemicals. These chemicals destroy grasses, pollute the water and kill the fish.

You can save the natural ecosystems by avoiding plastics as much as possible.



Answer the following questions.

1. What is an ecosystem?
2. Who are the producers?
3. Name some consumers?
4. Why are plastics so dangerous?

Your school is an ecosystem.

- Your school is a little human-made ecosystem.
- How many nonliving things are there, which make this ecosystem work?
- Can you list some producers found in the school?
- How many animals are parts of this ecosystem?

Think about this.

(Note for Teachers: Use these questions to develop student's thinking skills. You can conduct a brainstorming session in the class or give it for homework as an independent thinking activity.)

1. What new did you read in this chapter? Write five to ten sentences to explain.
2. What basic scientific knowledge did you gain from this chapter?



GROUP DISCUSSION

(Note for Teachers: Arrange a group discussion in the class for 10 to 20 minutes, and ask students to discuss the following questions.)

1. What kind of foods do you eat? What are the sources of those foods?
2. What kind of food crows eat in your area? Where do they find their food?
3. Water is an important part of any ecosystem. Where do animals, birds, and humans find the drinking water in your area?

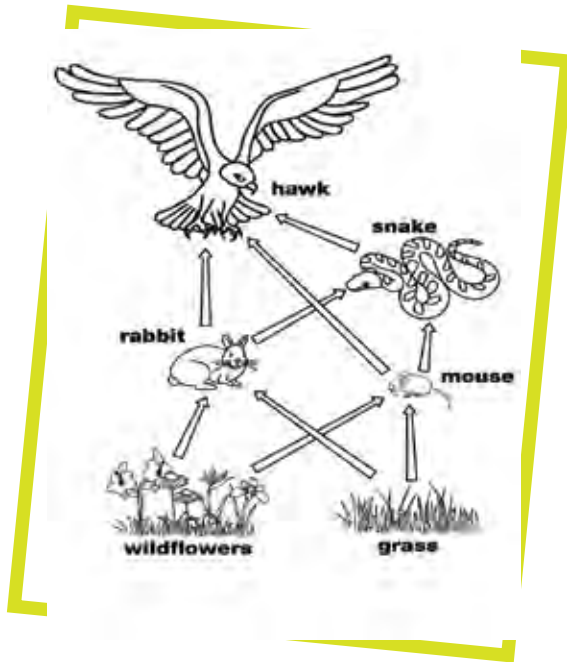
Question Making

Make some tricky questions from this chapter and ask your classmates to answer them.

Activity

Looking for an Ecosystem

Search for a small ecosystem in your surrounding and make a list of producers and consumers found in this system.



Let's
PLAY

Look at the picture above to answer these questions.

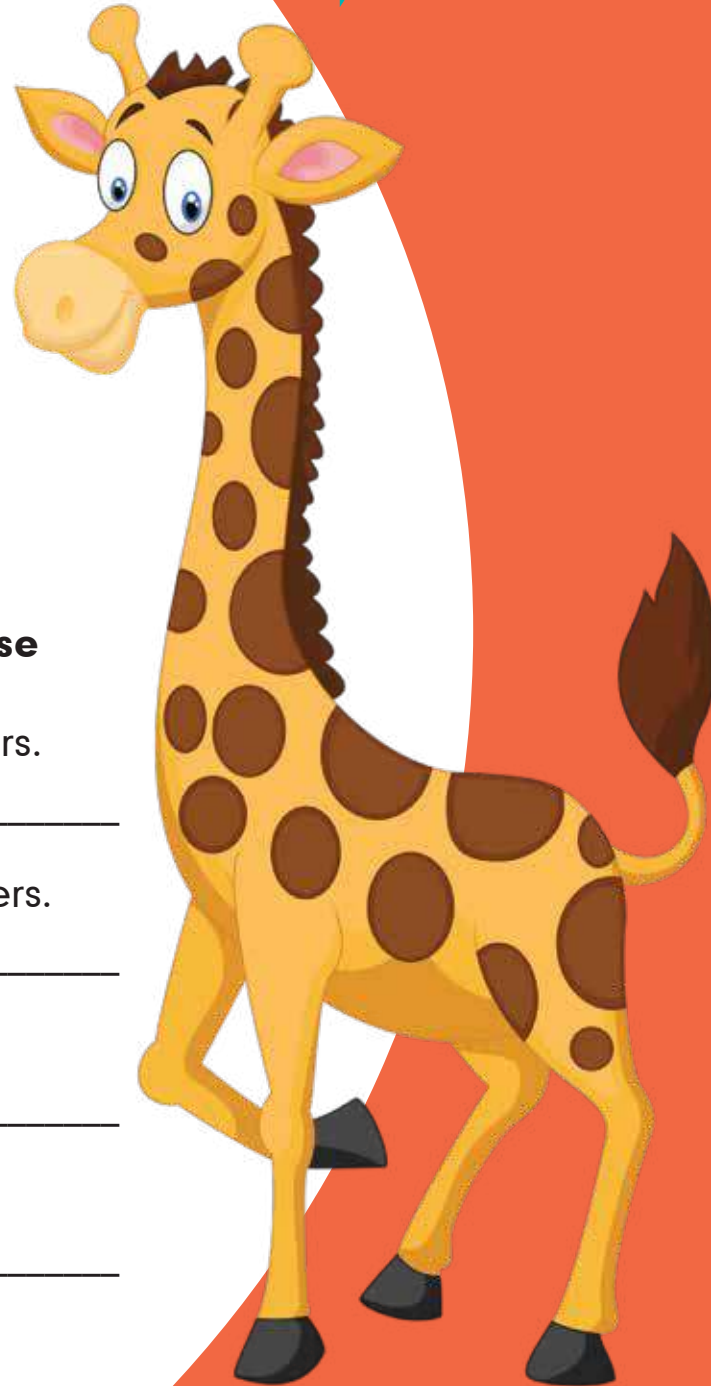
1. Name the living things that are producers.

2. Name the living things that are consumers.

3. Which living things does the snake eat?

4. Which living things does the hawk eat?

5. What is eaten by the rabbit?





Look around yourself. Find out the material that is damaging our ecosystem. Also suggest their alternate to save the ecosystem.

1. _____
2. _____
3. _____
4. _____
5. _____

Identify producers and consumers in following.

	Producers	Consumers
Carrots - Rabbit - Snake – Eagle		
Grass - Cowman		
Plankton - Snail - Tuna - Dolphin		
Willow shoots - Oxen - Wolf		



Make a model of an ecosystem. Use any of the ecosystem pictures in this chapter to create an ecosystem model of your own. Here are some examples of the kind of ecosystem model you can construct.



Key Concepts and Science Skill Covered in this Book

No.	Chapters Names	Key Concepts	Science Skill
1.	Plants and Animals	- Structure, function and life cycle of plants and animals - Kinds of teeth and their function	- Observing - Classifying - Communicating
2.	Human Body	Human skeleton, muscles, teeth, and skin	- Observing - Inferring - Classifying
3.	Healthy Living	Importance of healthy food, sports, exercise, and clean teeth	- Classifying - Communicating
4.	Heredity	Inheritance and variations in animal and plants	- Observing - Measuring/collecting data - Inferring - Classifying
5.	Ecosystem	- Types of ecosystem - Role of producers and consumers in a healthy ecosystem - Factors damaging ecosystems	- Observing - Inferring - Classifying - Predicting
6.	Forces and Motion	- Size, kind, and direction of Force - Friction - Motion - Simple machine	- Observing - Measuring/collecting data - Inferring - Classifying - Predicting
7.	Energy	Kinds and sources of energy	- Observing - Inferring
8.	States of Matter and their Properties	- kinds of matter - types of solid materials	- Observing - Measuring/collecting data - Inferring - Classifying - Predicting
9.	Sound	Nature and kinds of sound	- Observing - Measuring/collecting data - Inferring - Classifying - Predicting
10.	What is light?	- Nature, and kind of lights - Formation of shadows	- Observing - Measuring/collecting data - Inferring
11.	Solar System	Introduction of planets	- Observing - Inferring - Classifying - communicating
12.	Earth's Surface	- Soil - Glaciers - Valleys	Collecting data

Science Skills

1. Data Collecting

- Recognizing Objects
- Comparing Things
- Visiting Library
- Classifying Materials
- Dictionary Searching
- Filing Format
- Identifying Objects
- Observing Things
- Investigating Objects
- Exploring Different Things
- Searching On Internet
- Recording Uses Of Things
- Searching Through Encyclopedia
- Arranging Things

2. Communication

- Graph Making
- Chart Making
- Presentations
- Listing
- Questioning
- Discussing
- Labeling
- Memorizing
- Written Description
- Designing Projects

3. Experimenting

- Identifying Objects
- Conducting Test
- Experimenting Data
- Operating
- Practicing
- Using Tools
- Assessabing
- Following Procedure
- Organizing Data

4. Analyzing

- Identifying Objects
- Comparing
- Classifying
- Criticizing
- Sequencing
- Thinking
- Questioning
- Cause And Effect

5. Drawing Conclusion

- Defending
- Reviewing
- Assessing
- Judging
- Organizing
- Selecting
- Rating
- Evaluating
- Arguing

6. Predicting

- Calculating
- Observing Nature
- Analyzing Situations
- Timing
- Estimating
- History
- Imagination

Butterfly

What's in this book?

1. Butterfly Science for grade 3 covers all areas of Physical science. It includes materials around:
astronomy, physics, chemistry, and the Earth sciences
2. This book has chapters around life sciences that include:
cell biology, conservation, ecology, genetics, and physiology
3. It is developed in the light of the guidance provided by:
 - a. National Curriculum Document
 - b. Common Core Standards
 - c. Next Generation Science Standards
4. Materials are included to help students develop the six core skills of science. These skills are developed through carefully designed texts, as well as the end of the chapter activities. The six core science skills are:
 - a. Observing
 - b. Measuring
 - c. Inferring
 - d. Classifying
 - e. Predicting
 - f. Communicating
5. End of the chapter activities include:
 - a. 'Explore' activities to help student observe and investigate
 - b. 'Project' that uses everyday materials (mostly scrap) to help students develop science skills along with conceptual understanding
6. Butterfly Science 3 comes with teachers training manual with lesson plans, training video, and assessment.
7. An online version of this book is available free of cost on our website: <http://east.education>



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