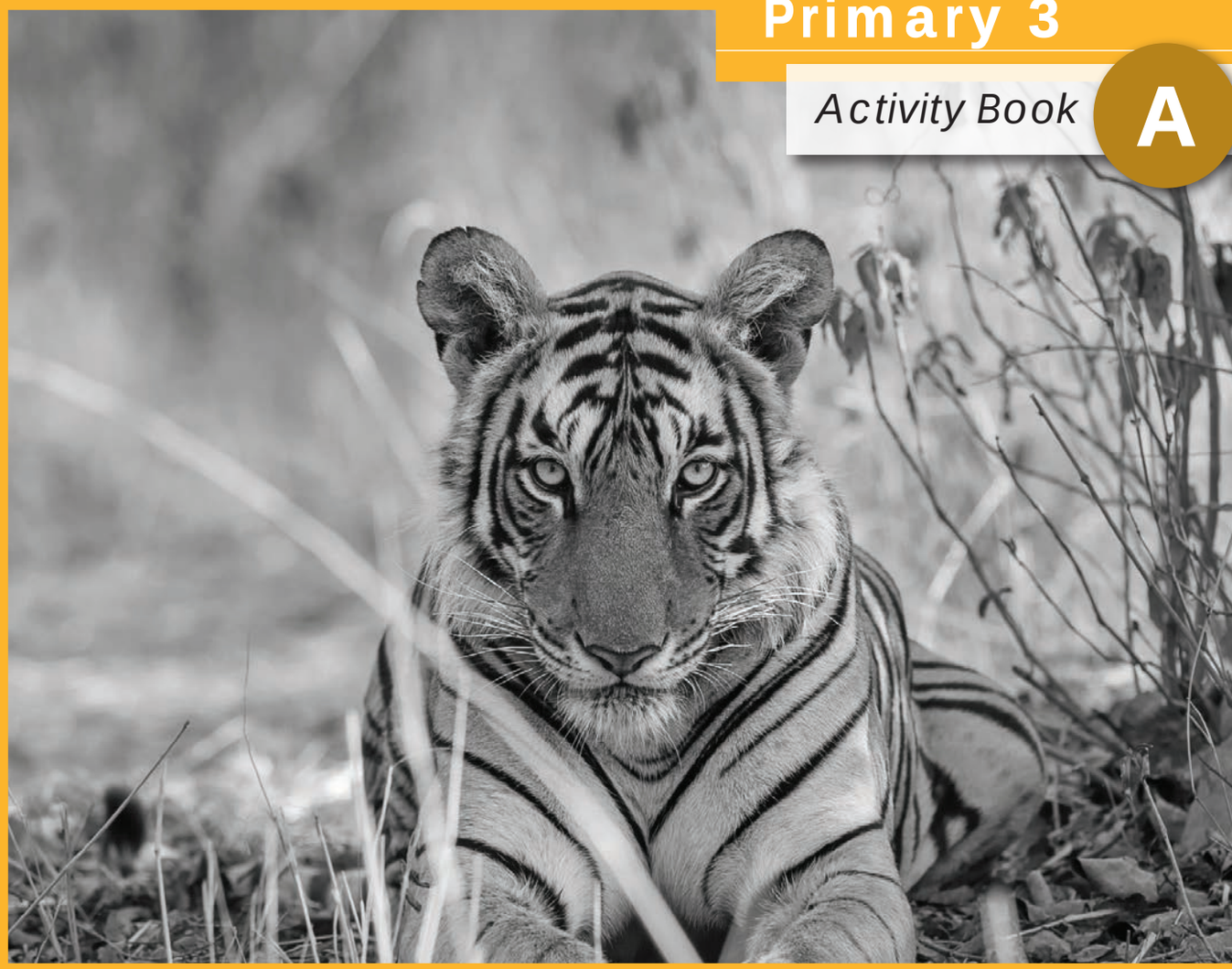
Let's Do SCIENCE

Primary 3

Activity Book **A**



Let's Do Science

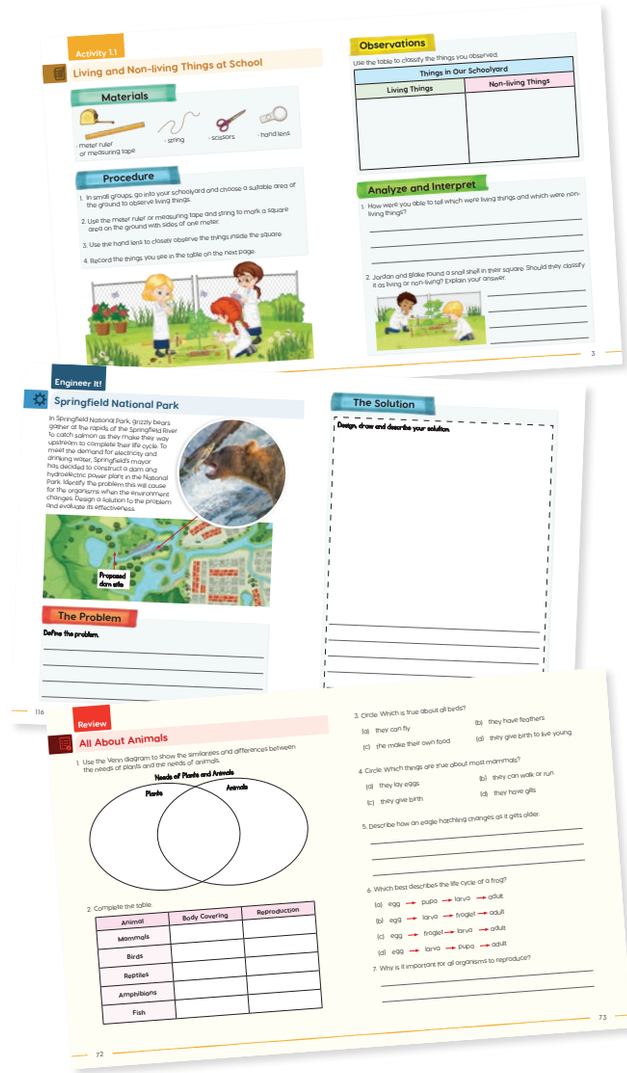
Let's Do Science is based on the United States Next Generation Science Standards (NGSS). The series consists of full-color textbooks and full-color activity books for Grades K to 6.

Let's Do Science engages students with a highly visual presentation of the disciplinary core ideas in the textbooks and places an emphasis on applying scientific knowledge using NGSS practices through numerous scientific investigations. Let's Do Science sees engineering as an essential element of science education and as such is tightly integrated into both the textbooks and activity books.

The Let's Do Science activity books include the follow features:

AB Activity

Activities and investigations related to concepts and topics covered in the Let's Do Science Textbook.



Engineer It!

Goes beyond inquiry by encouraging students to design, model and build to engineer solutions to defined problems.

Review

Topical questions at the end of each chapter for formative assessment.

Contents

Activity 1.1

Living and Non-living Things at School

Materials

· meter ruler or measuring tape

· string

· scissors

· hand lens

Procedure

1. In small groups, go into your schoolyard and choose a suitable area of the ground to observe living things.

2. Use the meter ruler or measuring tape and string to mark a square area on the ground with sides of one meter.

3. Use the hand lens to closely observe the things inside the square.

4. Record the things you see in the table on the next page.

Observations

Use the table to classify the things you observed.

Things in Our Schoolyard	
Living Things	**Non-living Things**

Analyze and Interpret

1. How were you able to tell which were living things and which were non-living things?

2. Jordan and Blake found a snail shell in their square. Should they classify it as living or non-living? Explain your answer.

Activity 1.2

Living Things Grow

1. Describe how the organism will change as it gets older.

(a)

(b)

(c)

2. Look at the plant Halle and Sophie grew from a seed. They cared for the plant by making sure it had enough water and got plenty of sunlight. They noticed that after a month the plant stopped growing. What could be the reason?

Review

Living Things Around Us

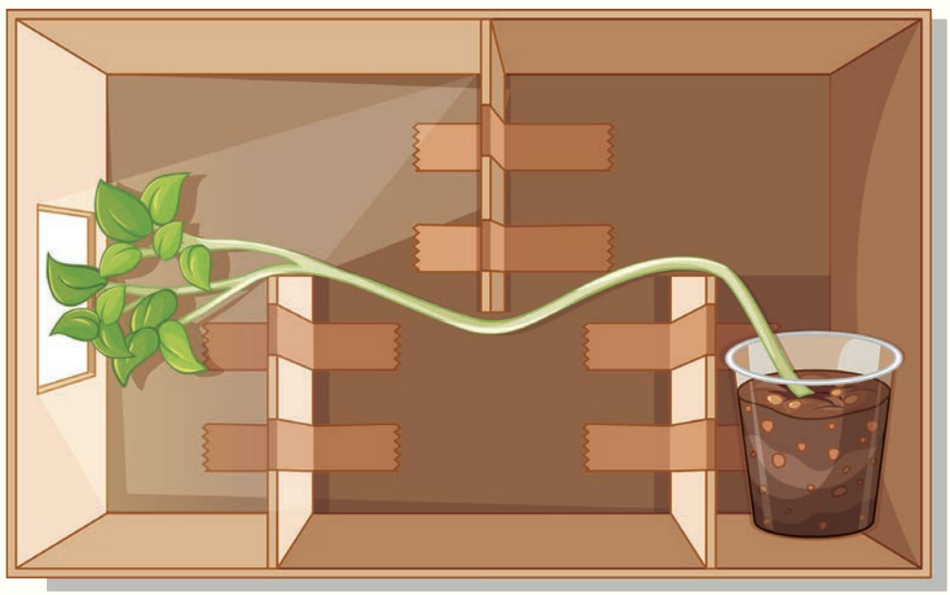
1. Which best describes how organisms change as they get older?

   (a) they reproduce (b) they grow

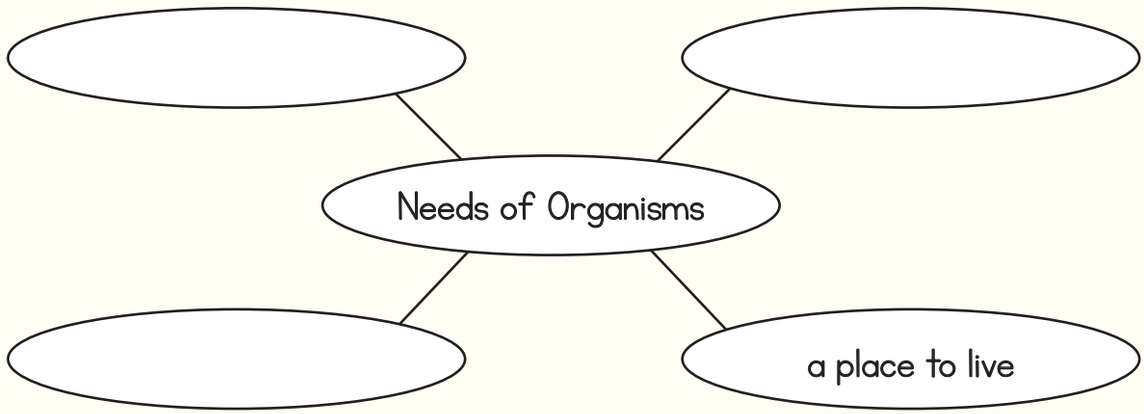
   (c) they eat food (d) they respond to changes

2. A meerkat detects a change in its environment when it spots a predator. Describe how the meerkat might respond to the change.

3. Look at the diagram below. How does the plant's response help it to survive?



4. Complete the diagram.



5. Circle. Which is true about all living things?

   (a) they reproduce

   (b) they grow

   (c) they are made of one or more cells

   (d) all of the above

6. What are microorganisms?

_____

_____

7. Ethan thinks fire could be a living thing as it appears to grow and move as it burns. Explain to Ethan why fire is not a living thing.

_____

_____

Activity 4.1

Inherited Traits in Animals

1. List some traits the young animals inherited from their parents.

(a)

(b)

(c)

(d)

2. Use the word ‘traits’ to explain why offspring look similar to their parents.

Activity 4.2

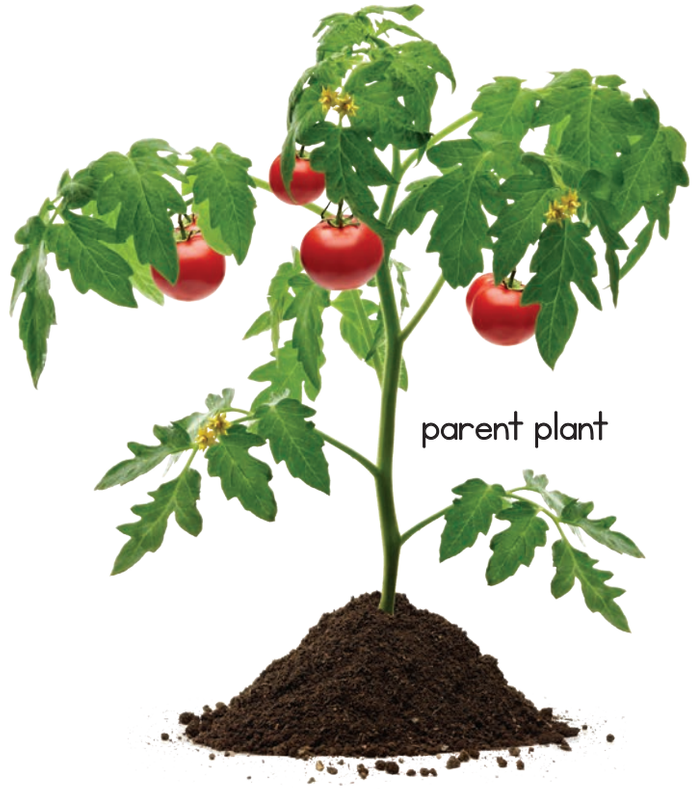
Inherited Traits in Plants

1. List some traits the young plants inherited from their parents.

(a)

(b)

2. (a) Circle the seedling that belongs to the parent plant.



(b) How could you tell which seedling came from the parent plant?

Review

Inheritance and Traits

1. Look at the photograph of the parent cat and its offspring.

(a) List three traits the offspring have inherited from their parents.

_____

_____

_____

(b) Why is there variation between the offspring?

_____

_____

_____

2. Provide an example where variation within a group of organisms of the same kind may help an individual survive.

_____

_____

_____

3. Complete the table by providing examples of different traits.

Type of Trait	Examples
Physical Inherited Trait	
Instinct	
Learned Trait	
Environmental Trait	

4. List two environmental factors that could influence the height of trees growing in a forest.

_____

_____

5. Halle fed her pet cat Kimba too many snacks. Kimba became overweight. Will Kimba's offspring also be overweight? Explain your answer.

_____

_____

_____

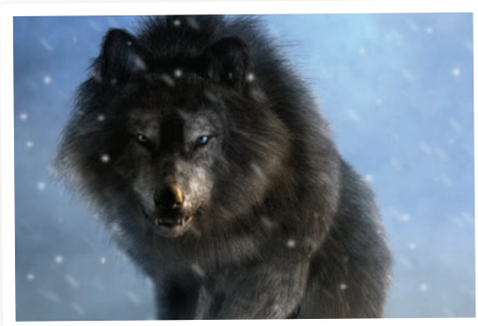
Activity 6.1

Discovering the Ice Age

Watch the video 'The Ice Age' to complete this activity.
You may also conduct your own research and use your textbook.

Describe the Ice Age.

Label the Ice Age animals.



How do scientists know about the kinds of organisms that lived during the Ice Age?

List three animals that roamed the Earth during the Ice Age that are now extinct.

What caused many of the Ice Age animals to become extinct?

Activity 6.2

Making Fossils

Materials

- quick-setting plaster

- paper plate

- styrofoam cup

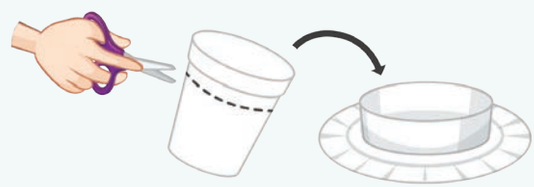
- modeling clay

- plastic toys

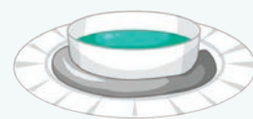
- scissors

Procedure

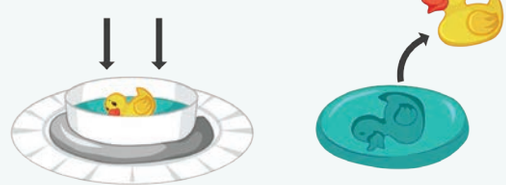
1. Cut the styrofoam cup about one-third from the top. Place the cut portion of the cup on the paper plate to form a base.



2. Pack the base with modeling clay to about half way to the top.



3. Choose a plastic toy and press it into the modeling clay to make an imprint. Remove the toy.



4. Use the bottom portion of the cup to prepare about 150 ml of plaster. Pour the plaster into the base to cover the imprint. Allow the plaster to set overnight.

5. Exchange your 'fossilized' imprint with a classmate.

6. Carefully break away the base and remove the modeling clay to reveal a 'fossil'. Identify and describe what you observe.

Observations

Name and draw your 'fossil'.

My _____ fossil:

Analyze and Interpret

How was your 'fossil' similar to a real fossil? How was it different?

_____

_____

_____

Activity 6.3

All About Fossils

1. What is a fossil?

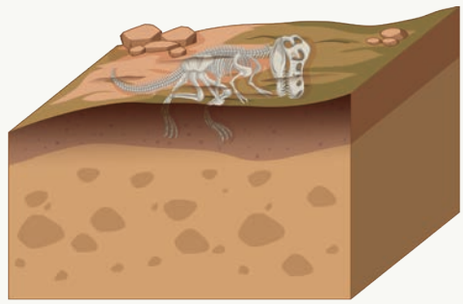
2. What is a trace fossil?

3. What things can scientists learn from fossils and trace fossils?

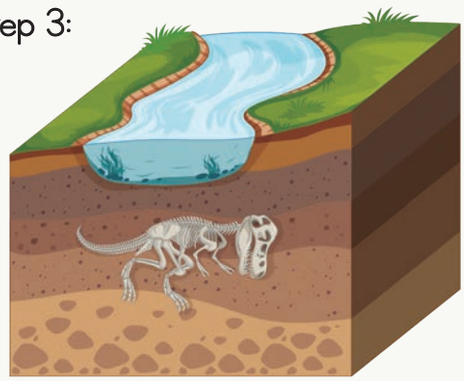
4. Describe what occurs during each step in the process of fossilization.

Step 1:

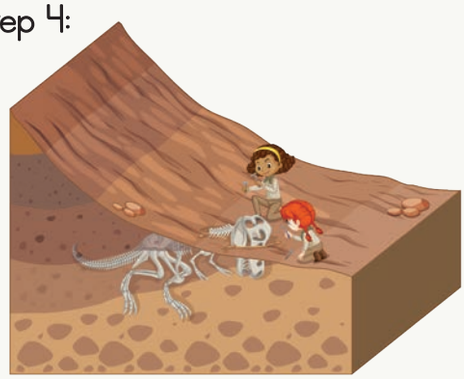
Step 2:



Step 3:



Step 4:



Activity 6.4

Learning From Fossils

Procedure

1. Choose four fossil exhibits to examine.

2. Analyze and interpret data from the fossils to provide evidence of the organisms and the environment in which they lived long ago.

3. Draw the organism you think made the fossil and the environment in which it lived.

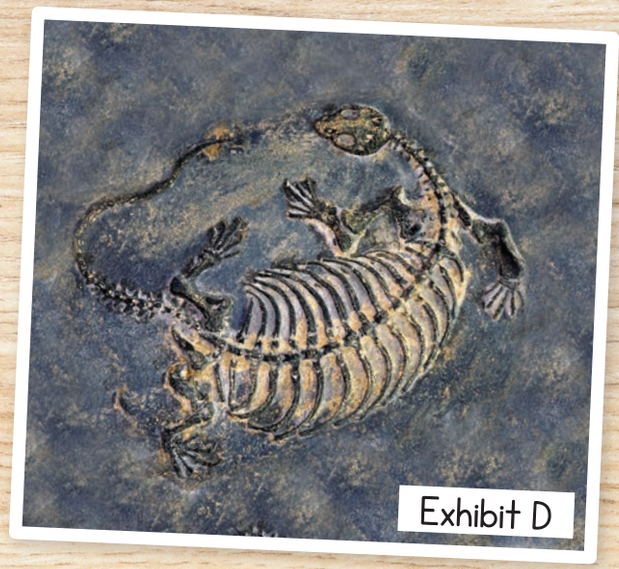


Exhibit D


Exhibit E


Exhibit F


Exhibit G


Exhibit H

Analyze and Interpret

Exhibit _____

Description of fossil:

_____

_____

_____

_____

Description of environment:

_____

_____

_____

_____

Drawing of organism and its environment:

What evidence did you use to decide what the organism and its environment were like:

_____

_____

Exhibit _____

Description of fossil:

_____

_____

_____

_____

Description of environment:

_____

_____

_____

_____

Drawing of organism and its environment:

What evidence did you use to decide what the organism and its environment were like:

_____

_____

Exhibit _____

Description of fossil:

_____

_____

_____

_____

Description of environment:

_____

_____

_____

_____

Drawing of organism and its environment:

What evidence did you use to decide what the organism and its environment were like:

_____

_____

Exhibit _____

Description of fossil:

_____

_____

_____

_____

Description of environment:

_____

_____

_____

_____

Drawing of organism and its environment:

What evidence did you use to decide what the organism and its environment were like:

_____

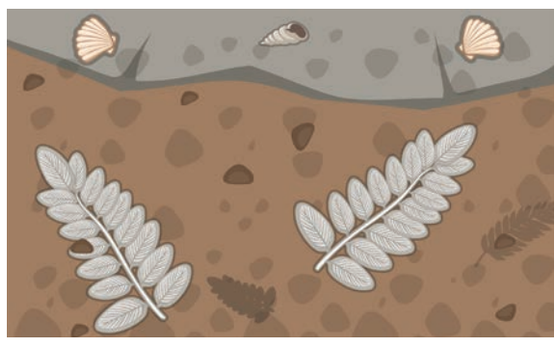
_____

Activity 6.5

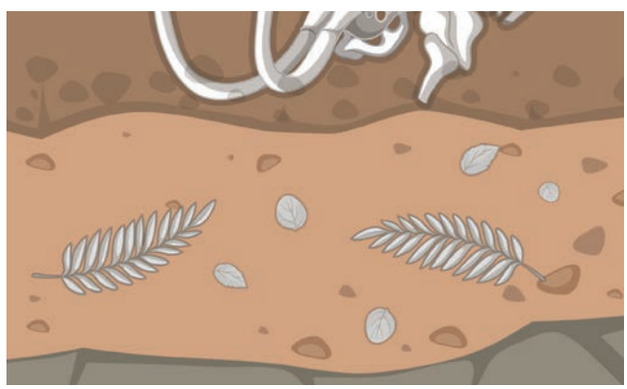
Discovering Fossils

1. (a) Paleontologists discover a fish fossil and a marine snail fossil in the same layer of sedimentary rock. What can they infer about the fossils and the environment in which they lived?

(b) The paleontologists discover a plant fossil in a much deeper rock layer. What can they infer about the fossil and the environment in which it lived?



2. The fossils of tropical plants are discovered in the Antarctic region. What does this tell us about the region long ago?



3. Observe each trace fossil. What does it tell you about the organism that made the trace fossil and environment where the organism lived?

Fossil A

Fossil B

4. Turtles are animals that live on Earth today. What does the discovery of a turtle shell fossil tell you about turtles?

Activity 6.6

Fossils – Comprehension

Use your textbook to help you fill in the blanks.

1. An organism becomes _____ when all of its kind are no longer _____ .

2. New kinds of organisms can gradually develop from existing organisms through a process called _____ .

3. The process by which the Earth's climate is slowly changing is called _____ .

4. A _____ is the preserved remains or trace of an organism that lived on Earth long ago.

5. The process by which the remains or trace of an organism becomes preserved is called _____ .

6. A _____ is _____ such as a footprint, burrow or nest that indicates the presence of life.

Review

Organisms of the Past

1. What are fossils?

_____

_____

2. What can we learn by studying fossils?

_____

_____

3. True or false.

(a) Some extinct animals are alive today. _____

(b) All organisms form fossil when they die. _____

(c) Most fossils are found in sedimentary rock. _____

4. Paleontologists discover a fossil that has features similar to a fish. What can they infer about the organism that made the fossil and its environment?

_____

_____

5. Fossils of trilobites are found several rock layers below dinosaur fossils. What can you infer about the trilobites that formed the fossils?

_____

_____