



TEACHER GUIDE

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STUDENT HANDOUTS

- Reading Comprehension

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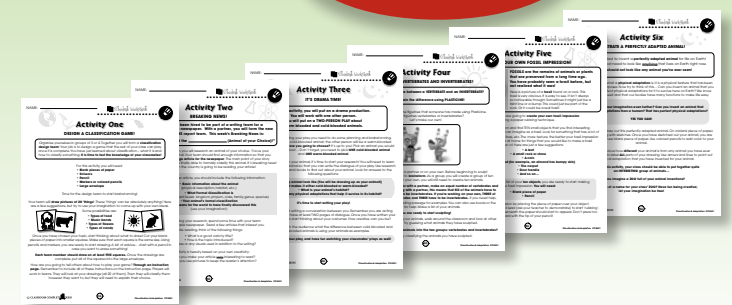
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- Enter pass code CC4501D for Activity Pages..

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A Case Study: The Koala and Its Adaptations

1. Draw a line from the word on the left to its matching definition. Which word is left over? Use the reading passage or a dictionary to help you write out its definition on the right.

- | | | | |
|---|---------------------|--|---|
| 1 | physical adaptation | the regular weather patterns of a place | A |
| 2 | marsupial | a digit of the hand | B |
| 3 | climate | something that has been changed for a specific reason | C |
| 4 | opposable thumb | an animal that has a pouch on its front to carry its young | D |
| 5 | adaptation | _____ | E |

2. Look at the matched definitions in the question above. Use each vocabulary word in your own sentence. Make sure your sentence shows that you understand what the word means.

- a) physical adaptation _____
- b) marsupial _____
- c) climate _____
- d) opposable thumb _____



A Case Study: The Koala and Its Adaptations

We read how animals depend on their physical features to help them survive in their environment. Do you remember what these physical features are called? **Physical adaptations.** Let's find out how the koala has adapted over time for its life in a tree. Before reading on, can you think of a physical feature that might help an animal live in a tree?

The koala is a medium-sized animal with thick, dense fur. Its fur is mainly gray. It looks like a cuddly teddy bear but it is actually a **marsupial**. What is a marsupial? A marsupial is an animal that has a pouch to carry its young. Can you think of another marsupial? Have you ever seen a kangaroo carrying its young in its front pouch?

Koalas live in hot and dry climates. A **climate** is the regular weather patterns of a place. Since koalas live in a hot climate, you would think they would need to drink a lot of water. They have adapted though by eating a lot of eucalyptus leaves. These leaves have so much water in them that koalas almost never need to drink! Did you know that the word "koala" is actually an aboriginal word meaning "no drink animal"?



STOP

Can you think of a physical feature that YOU have that helps you survive in your environment?

Koalas have adapted well to life in a tree. They sleep for fourteen hours every day and then move from tree to tree at night. Their front paws have long, sharp claws. These help them climb from one tree to the next. Koalas also have another very special adaptation. They have **opposable thumbs**. Look at your own hands. You have one thumb. It would be very difficult to do things without your thumb. Koalas don't have one thumb. They have two! This gives them an excellent grip for their life in a tree.



A Case Study: The Koala and Its Adaptations

1. Circle the word True if the statement is true. Circle the word False if it is false.

- a) The koala is an example of a marsupial because it carries its young in a pouch on the front of its body.
True False
- b) A grizzly bear is another good example of a marsupial.
True False
- c) Koalas need to drink a lot of water, so they live next to rivers and lakes.
True False
- d) Long, sharp front claws help koalas climb trees. This is one of their physical adaptations.
True False
- e) Koalas have two opposable thumbs. Having a second thumb gives them excellent grip for their life in trees.
True False

2. Circle the answer that best completes each sentence.

- a) Animals depend on their _____ to help them survive in their environment.
physical energy physical features
- b) A marsupial is an animal that has a _____ to carry its young.
pouch partner
- c) Koalas live in hot and dry climates. They have adapted well to life in a _____.
desert tree
- d) Koalas have _____ thumbs which gives them extra grip for swinging from tree to tree.
opposite opposable



A Case Study: The Koala and Its Adaptations

Answer the questions in complete sentences.

3. What is a **marsupial**? Give two examples of marsupials.

4. How have koalas **adapted** to the hot and dry climates in which they live? Use examples from the reading passage.

5. What is an **opposable thumb**? Why is it such an important physical adaptation for the koala?

Extension and Application

6. Pin the Physical Adaptations on the Koala!

The koala has **many** physical adaptations that have developed over generations to help it survive in its environment. On the next page is a picture of a koala. Lines point to special physical features which have been adapted. Use research tools and the reading passage to **label** these adaptations.

Once you have completed the koala worksheet, you are ready to **choose your own animal!** Create a similar sheet for your own animal. This time you will need to draw your animal. Use a separate piece of paper. After you have drawn your animal, use lines and words to label its own physical adaptations.

By the end of this activity, you should have **two** drawings: the koala and the animal you have chosen.

7. What Does an Opposable Thumb Look Like?

In this activity, you will gather information about the opposable thumb. What is it? What does it look like? What purpose does it serve? You will answer these questions using a format of your choice. Present your information in a fun and creative way. You could put a presentation together, write a newspaper article, design a brochure, etc. It is up to you! Be creative!



The Lake Habitat Thermometer

For this activity, you will need:

- A thermometer
- The picture of the "Lake Habitat"
- Information resources (like the internet or an encyclopedia)

Look at the picture of the "Lake Habitat". Then read the following description of it:

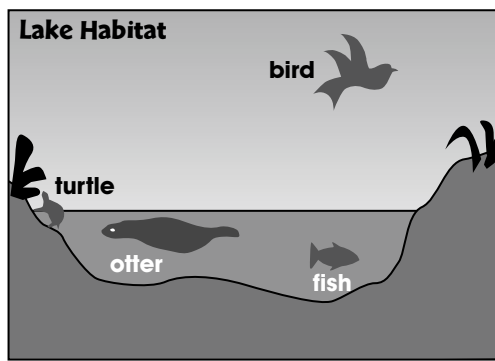
The current temperature of the air is 47 degrees F.
The highest temperature of the water is 37 degrees F.
The temperature of the soil is 49 degrees F.
The date is January 9. The time is late afternoon.
The sky is very cloudy.

While you are reading the above description, look at your **thermometer**. Can you find the above temperatures on your thermometer? Work with a partner if you are having trouble.

In your notebook, copy down the following questions. Answer them using what you have learned about warm-blooded and cold-blooded animals, and your information resources.

Questions:

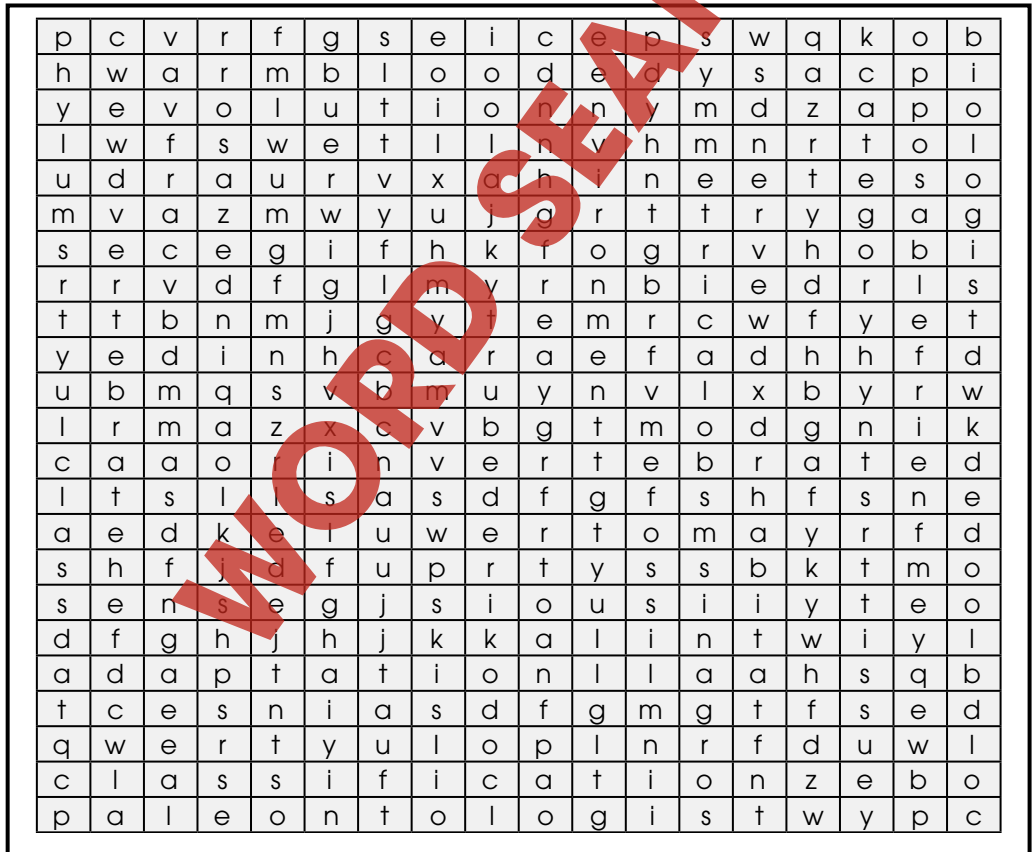
1. Approximately what is the body temperature of the fish?
2. Approximately what is the body temperature of the otter?
3. Approximately what is the body temperature of the bird?
4. Is there anything the fish can do to increase its body temperature to much more than about 37 degrees F?
5. How well is the otter insulated in the cold winter?
6. How well is the fish insulated?
7. If an animal is poorly insulated, what is the disadvantage in cold weather?



Word Search

Find all of the words in the Word Search. Words may be horizontal, vertical, or diagonal. A few may even be backwards! Look carefully!

- | | | | |
|----------------|--------------|----------------|-------------|
| adaptation | environment | kingdom | phylum |
| arachnid | evolution | marsupial | sense |
| biologist | family | mollusk | species |
| class | fossil | nerve | symmetrical |
| classification | habitat | opposable | tissue |
| category | insect | organism | vertebrate |
| coldblooded | invertebrate | paleontologist | warmblooded |



Comprehension Quiz

24

Part A

Circle the word True if the statement is true. Circle the word False if it is false.

1. To classify something means to divide things into groups based on similarities.
True False
2. Biologists are scientists who study evolution and fossils.
True False
3. The difference between warm-blooded and cold-blooded animals is their ability to control their own body temperature.
True False
4. There are more invertebrates living on Earth than vertebrates.
True False
5. Invertebrates are organized the same way as vertebrates. They also have a backbone.
True False
6. Animals adapt their physical features over long periods of time so that they survive in their habitat.
True False
7. The koala has two opposable thumbs on each hand which gives it excellent grip for swinging in trees.
True False
8. Scientists study evolution by reading newspaper reports from hundreds of years ago. These reports show how life on Earth has changed over time.
True False

Part B

Label each picture below as either a **vertebrate** or an **invertebrate**.



a) _____

b) _____

c) _____

SUBTOTAL: /14

Invertebrates

Arachnids



Spider



Scorpion



Tick

Insect



Bee



Butterfly

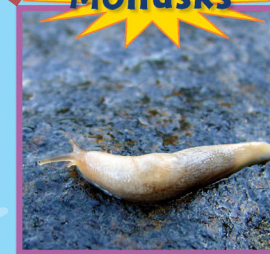


Fly

Mollusks



Octopus



Slug



Snail



A Case Study: The Koala and Its Adaptations

Answer the questions in complete sentences.

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3. Animal that has a pouch on its front to carry its young

4. Eat eucalyptus leaves, long sharp claws, opposable thumbs

5. A second thumb, for excellent grip

6. Accept any verifiable answers

7. Accept any verifiable answers

- 37° F (same temperature as its surroundings)
- 100° F (temperature of most mammals when active)
- 107° F (temperature of most birds when active)
- No - can only swim to the surface where there is more sunlight on a sunny day
- Fairly well - it has fur and layers of fat to insulate it
- Not well - it has scales rather than fur and very little body fat
- Body temperature drops as the temperature of its surroundings (water or air) drops



EASY MARKING ANSWER KEY

