

INV. 3 ACTIVITY—CRAYFISH MEDIA RESOURCES

Review

When you were still learning in your school building, perhaps you welcomed crayfish to your classroom. As a refresher, or in case you did not get that far in the unit, look at images and videos of crayfish in the eBook on FOSSweb in the article called “Crayfish.”

View the images in “Crayfish” in *FOSS Science Resources: Structures of Life eBook*

To access the interactive eBook, login to FOSSweb with the user name and password provided by your teacher. Click on the Structures of Life Module, and go to the Media Library. Click on the eBook.

Read the whole article.

- What do you notice about the crayfish structures?
- How does it move?
- What do you think it uses to eat?
- How does it protect itself?

View the Streaming Video, *America’s Crayfish (26 minutes)*

To access the streaming videos, login to FOSSweb, click on the Structures of Life Module, and go to the Media Library. Click on the Streaming Videos about crayfish. This will help you to answer those questions.

Action

Now, with an adult’s permission, go outside with your science notebook and pencil to look for other animals and compare them to the crayfish. Gather up a clean plastic container, an old yogurt, cottage cheese, or spaghetti sauce jar will do, and a plastic (or metal) spoon for collecting. Go outdoors to your yard or nearby park. You can look in the dried leaves often found along a fence and/or you can look under rocks, small logs, clay pots, or things that have been sitting somewhere for a long time. You can collect the organism for closer observation or you can just look at how it interacts with its environment.

INV. 3 ACTIVITY—ADAPTATION MEDIA RESOURCES

Review

Perhaps if you studied the crayfish at school, you would have learned about their adaptations—a structure or behavior that improves an organism’s chance of survival. After reading the article about the crayfish, what is one adaptation you think would help crayfish survive? For the next two at-home activities, you will focus on animal adaptations.

View the Streaming Video, *All about Animal Adaptations*.

To access the streaming videos, login to FOSSweb, click on the Structures of Life Module, and go to the Media Library. Click on the Streaming Videos. View the video, *All about Animal Adaptations*.

After watching the video answer the following questions in your notebook. Sentence starters are there for you if you’d like to use them.

- 1) What is an adaptation? An adaptation is a _____.
- 2) What adaptations do animals have for moving? The _____ help the _____ move _____. Also, the _____ has _____.
- 3) What adaptations do some animals have for eating or getting food? The _____ has a _____ to help get its food. Another animal has _____.
- 4) What adaptations do animals have to defend themselves? The _____ has _____ to defend itself. Another example, is the _____.
- 5) What adaptations do animals have for raising their young? The _____ has _____ to help feed its young. Another example, is the _____.

Read “Adaptations” in *FOSS Science Resources: Structures of Life eBook*

To access the interactive eBook, login to FOSSweb with the user name and password provided by your teacher. Click on the Structures of Life Module, and go to the Media Library. Click on the eBook.

Now, we will read “Adaptations”. Open to the first page and look at those pictures. What is the same and what is different about these organisms? Before reading, look at all the pictures. What animal adaptations might help an animal move, get food, protect itself, or to reproduce?

Do a 3-2-1 in your notebook after reading the article. List 3 adaptations you learned about, 2 things that surprised you, and 1 question you have about one of the animals you read about.

INV. 3 ACTIVITY—WALKING STICK SIMULATION (PAGE 1 OF 2)

Review

Recently you may have watched the video called *All about Animal Adaptation*. You learned about **camouflage**, which is a protective coloring that helps animals blend in with its environment to protect itself.

Investigation

Today we will work with a computer simulation game of another organism, an insect called a **walking stick**. You will experience what adaptation helps the walking stick survive and reproduce.

Engage with online activity

To access the Online Activities, login to FOSSweb with the user name and password provided by your teacher. Click on the Structures of Life Module, and go to the Online Activities. Go to *Walking Stick Survival*.

Before you begin, read the facts about walking sticks by clicking on “Learn more about Walking Sticks.”

After you read those facts, click on the button that looks like a house.

First, you want to play the “Eat Insects” game. Click it.




Then click “Start” and then click on as many walking sticks as you can.

When the “Your study is complete” message comes up, click on the “results” button to see how many of each you clicked on.

You started with 16 of each.

- How many brown survived (lived)?
- How many green-brown? How many green?

Record your data in your notebook. Based on this data, what color survived the best in the bamboo environment?

| | Brown  | Green-brown  | Green  |
|-----------------|---|--|---|
| Started | 16 | 16 | 16 |
| Survived | | | |

(Continued on the next page)

INV. 3 ACTIVITY—WALKING STICK SIMULATION (PAGE 2 OF 2)

Now click on the home button again and then click on the “Insects in 3 different environments” button.

Select one of the environments and write what environment you selected below.

Environment: _____

Play round one and record how many survived for generation 1 in this chart:

| | Brown | | Green-brown | | Green | |
|--------------|---------|----------|-------------|----------|---------|----------|
| | Started | Survived | Started | Survived | Started | Survived |
| Generation 1 | 16 | | 16 | | 16 | |
| Generation 2 | | | | | | |
| Generation 3 | | | | | | |
| Generation 4 | | | | | | |
| Generation 5 | | | | | | |

This first generation of walking sticks survived and reproduced (had baby walking sticks)—this is the next generation. Click on “Next Generation” and keep playing, complete 5 generations. Record the data for each.

When done, write in your notebook what you learned about walking sticks and how the adaptation of camouflage affects how individuals survive.

Also write about how it affects populations over several generations.

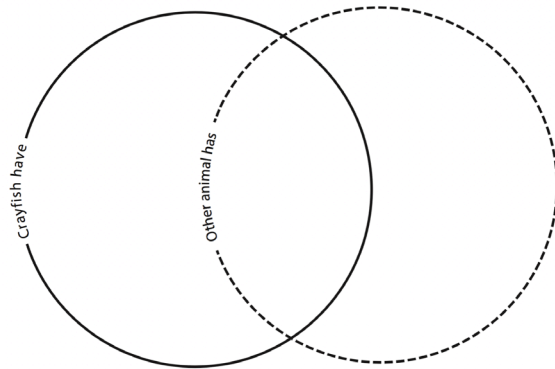
INV. 3 ACTIVITY—COMPARING ANIMALS

Focus Question: How do those organisms interact with their environment?

Rules

- Ask an adult to go outside
- If you don't know what something is--don't pick it up.
- If you want to keep something in a closed container, keep the container out of the Sun—it will get hot in there, just the way a car does in the summer.
- If you found the animal on a leaf or piece of wood, try and put a piece in the container

After you have looked for a while, select one organism. Make a scientific drawing in your science notebook and label any structures you can see. Also write down observations of what it does in its environment.



Next, return home and using a full page of your notebook create two large overlapping circles, to create a Venn diagram. In the left side, list some of the structures or behaviors of a crayfish, in the right side circle list the structures or behaviors of the animal you did a scientific drawing for. In the spot, where the two circles overlap, list the things the two animals have in common.

Answer the focus question in your notebook.

NOTE: If you are unable to go outside you can watch the video called All about Animal Behavior and Communication on FOSSweb and select one of the animals in the video to use to compare to a crayfish.