

SEEKING SURVIVAL



TEACHER GUIDE

ACCELERATE



PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time. Time required for each lesson may vary.

ACTIVITY INFORMATION	SECTION (S)	TIME REQUIRED	DAY/ LESSON
ACTIVITY 1: ORGANISM RELATIONSHIPS Discover examples of organisms working together to increase their own survival. Total time: 30 min	<input type="checkbox"/> The Relationship Game	30 minutes	Day 1
ACTIVITY 2: STUDYING SYMBIOSIS Simulate pollinator and plant relationships. Total time: 3 h 15 min	<input type="checkbox"/> Peculiar Pollinators	45 minutes	Day 2
	<input type="checkbox"/> Scratching Each Other's Backs	45 minutes	Day 3
	<input type="checkbox"/> Al...		
ACTIVITY 3: REVEA...			

Full schedule available with purchase

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activity

ORGANISM RELATIONSHIPS

Do organisms help you to survive? Do you help them to survive? Or, do organisms only work alone?

THE RELATIONSHIP GAME



THINK ABOUT IT!

? Question 1: For each image above, describe how the survival of the two species is impacted by their interaction. If you don't know, write a question you have about their interaction.

- Cleaner Shrimp and Moray Eel
- Moral Eel and Parrot Fish
- Ants and fungus on ground
- Ants and fungus coming from thorax
- Gemsbok and Spider
- Gemsbok and Gazelle

Answer: Answers will vary.

How to Help:

- While your student may not know what each image represents, encourage them to look at the differences between each set of images to determine similarities and differences. The differences are key to the various ecological relationships they'll be learning about, so it'll be beneficial for your student to begin thinking about this now.

- Here are the correct ecological relationships demonstrated in the photos:

Positive Impact on Survival	Negative Impact on Survival
Mutualism	Predation
Mutualism	Parasitism
Commensalism	Competition

? Question 2: What are two questions you have about the images?

Answer: Answers will vary.

How to Help:

- Encourage your student to look back at the ecological relationships they could identify and determine what more they would want to know about these relationships. You can also have your student look for patterns in any questions they posed in Question 1.
- Students should not rewrite questions from Question 1, but instead pose further questions they have about the organisms and relationships in the photos.

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STUDYING SYMBIOSIS

As your student saw in the photos from Activity 1, many organisms have relationships with other types of organisms. These relationships can help them, hurt them, or not impact them at all.

LEARNING GOALS:

- ✓ I can explain how animal behaviors and plant structures affect the success of reproduction.
- ✓ I can describe the relationships that may occur between organisms, including predation and various types of symbiosis.

MULTIPLE AGES AND ABILITIES:

It may be tempting for your student to use only examples provided for them within the text of the kit when they make their presentation book. However, if you have an advanced student, you can encourage them to research new examples and include those in their pocket chart instead. If you are working with a student who doesn't enjoy art, you can have them print, cut out, and paste images of the organisms onto their cards instead of drawing them.

BEYOND SYMBIOSIS

Not all organism relationships are symbiotic because they don't meet the criteria of symbiosis - (1) developed over time, (2) direct relationships, (3) formed between multiple organisms. What's your student's favorite food? One of these "other" types of ecological relationships has to do with what your student eats.

LEARNING GOALS:

- ✓ I can argue that animals form groups to survive.
- ✓ I can describe the relationships that may occur between organisms, including predation and various types of symbiosis.

CLAY CATERPILLARS

PREPARATION AND SUPERVISION

- In this section, your student will learn the vocabulary term predator.
- In this experiment, your student is making caterpillars from clay. The sides of the caterpillars must be smooth with not creases or cracks. Later in the experiment, students will be looking for these marks as evidence of predation from birds or small mammals and it can be difficult to determine if the mark was due to another organism if the caterpillars start off with marks on them.
- Students will make 20 caterpillars of each color. However, they can make and test with more than 20 caterpillars as there is enough clay to make at least 100 caterpillars of each color, as long as the number of caterpillars is the same for each color.
- Students will be placing the caterpillars around an outdoor space. The experiment will work best if the outdoor space has some vegetation, like bushes, flowers, or trees.
- Help your student to super glue the caterpillars to different locations around the outdoor space. It may be helpful to have your student plan out where they'd like the caterpillars to be placed. Make sure the caterpillars are not bunched together and that the different colors are spread evenly throughout the space.
- As part of the results, students are asked to log their data using two different types of charts. One type of chart is a pie chart that they will be making themselves. This may be the first time that your student has used a pie chart, so they may need additional assistance in making one correctly.
- The pie chart is to show preyed upon versus not preyed upon caterpillars of each color. Therefore, they should have a total of four pie charts. A complete pie chart will need to include a title, and legend indicating which section of the pie chart indicates preyed upon caterpillars and which is not preyed upon caterpillars.



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