Cross-Curricular Activities Connected to Life Science, Grade 1

The following activities from ***Exploring Organisms,*** integrate math, social studies, English Language Arts (ELA), art, and more into earth science topics. These cross-curricular connections help students see how science is related to their lives, and the world they live in. These activities reinforce and extend ideas about the survival of animals and plants based on their environment and are perfect for learning-from-home lesson plans. Permission is granted to incorporate these activities into teacher and parent lesson plans.

Changing Plant Resources (Science)

Using bean seeds, set up an investigation in which the plants are grown in different conditions. Encourage students to think about what plants need to survive and create an experiment to test how a plant will grow with limited access to that resource. For example, you might grow a plant in a dark area of the room, grow a plant without soil or water, or place a plastic bag over a plant to limit its access to oxygen.

Nature Walk (Science and Literacy)

Take students on a nature walk around the school grounds. Have them make observations of all the living and nonliving things they see. Choose whether to have students record their observations in their science notebooks during the walk but be sure to discuss them when you return to the classroom.

Crawly Comparison (Science)

Have students compare an earthworm with a gummy worm. Direct them to record their observations of the two objects and explain why an earthworm is considered living but the gummy worm is nonliving. Provide an additional gummy worm for students to snack on after the comparison.

NOTE: Check for allergies before allowing students to handle and eat the gummy worms.

Animal Adaptations (Literacy)

As a class, read What Do You Do with a Tail Like This? by Steve Jenkins or another picture book about animal adaptations or body structures. Ask students to predict what they think each animal's body part is used for. Have students relate each body part to how it helps the animal survive.

Are You My Mother? Literacy Extension (ELA)

Locate a copy of Are You My Mother? by P.D. Eastman. Read the book as a class and discuss the living and nonliving things the baby bird comes in contact with during his journey. Use the following questions to prompt students:

- Why did the baby bird's mom leave the nest? (She wanted to find the baby some food.)
- How was the mom trying to take care of her baby? (She made a nest, sat on the egg, and then went to find food.)
- How did the baby bird try to communicate when it was upset and scared at the end of the book? (It cried and shouted.)
- What sorts of noises do you think a real baby bird makes when it is upset or scared? Can you give an example? (Answers will vary.)

Animal Dads (Literacy)

In most animal species, mothers or a mother and father team look after the offspring. In some animal species, however, fathers take special care of the offspring. With the class, read a book about animal dads or explore websites that discuss fascinating care that animal dads give to their young. Afterward, have students describe in their science notebooks ways that their fathers or mothers take care of them.

How Animal Babies Stay Safe (Literacy)

Obtain a copy of How Animal Babies Stay Safe by Mary Ann Fraser. Read the book as a class and ask students to point out ways that animal parents protect and care for their young. Encourage students to look for patterns and create a chart to describe different strategies. Ask the following questions to facilitate a conversation:

- Did all the animal parents act the same way? (No)
- Which animal parents did things that were similar, or close to the same, as one another?
- Considering all the behaviors we read about, what do you think are the four main ways that animals take care of their young? (Protect, feed, show love, and teach)

Comparing Babies (Math)

Challenge students with word problems that compare the number of babies that two different sets of parents have. Have students determine whether they should use a less-than, greater-than, or equal sign when comparing the two numbers. Use those provided or create your own.

- A sea turtle lays 96 eggs that will hatch into babies. A snake lays 42 eggs that will hatch into babies. Compare the numbers of babies using a >, <, or = sign. (96 > 42)
- A mouse has 21 babies, and a rabbit has 23 babies. Compare the numbers of babies using >, <, or =. (21 < 23)

Introduction to Genetics (Science)

Genetics involves many complex concepts, but pea plants provide strong examples of trait inheritance that are simple enough for young students to understand. Research Gregor Mendel's experiment with pea plants and summarize the patterns of inheritance for the class. Share images of various pea plants (short, tall, purple flower, white flower, yellow pods, green pods, etc.) to show the different traits. Use a symbol to designate which trait is dominant and explain that a dominant trait is what is shown in the baby plant. Choose one of the traits, create homozygous parent crossings, and then ask students to predict the resulting plant. Use the following examples:

- Cross a tall plant with a short plant (The tall plant is dominant, so the resulting plant would be tall.)
- Cross a plant with purple flowers with one with white flowers (Purple flowers are dominant, so the resulting plant would have purple flowers.)

- Cross a plant with yellow pods with one that has green pods (Green pods are dominant, so the resulting plant would have green pods.)
- Cross a plant that produces round peas with one that produces wrinkled peas (Round peas are dominant, so the resulting plant would produce round peas.)

Animal Theater (Art)

Divide students into groups, and have each group choose one or two leaders to be the "parents" of the group. Give each group a sticky note or an index card that lists a type of animal and the ways that the animal cares for its young. Allow time for groups to develop a skit that displays all the parental care actions listed on their card. Invite groups to perform their skits for the class. While each group performs, the students in the audience should try to figure out what animal is being represented and the care methods being portrayed.

Animal Research (ELA and Science)

Have students use a variety of picture books or Internet resources to research an animal and discover at least one adaptation that helps it better survive. Ask students to draw a picture of their animal and label the adaptation(s) they learned about. Have each student present his or her animal to the class and explain how the adaptations help it better survive.