Lesson Topic: Animal Reproduction Strategies

Objective: Animals engage in characteristic behaviors that increase the odds of reproduction.

Students will be able to:

1. Describe characteristic animal behaviors that increase the odds of animal reproduction and provide specific examples.

Time Required: 115 minutes

Materials Needed:

- Teacher computer with internet access
- Projector/Smartboard
- Assorted materials collected from outside (twigs, grass, leaves, dirt, mud, mulch, rocks, plastic litter, etc)
- Small chicken eggs
- Trays or similar item to contain the mess of the nest building design challenge

Teacher Preparation:

- Assign a Legends of Learning Instructional Quick Play playlist for the day(s) you will be teaching the lesson.
    - Instructional - Middle School - Animal Reproduction Strategies
- Assign a Legends of Learning Content Review Quick Play playlist for the day(s) you will be teaching the lesson.
    - Content Review - Middle School - Animal Reproduction Strategies
- Collect bird nest design challenge materials prior to students building the nests. Alternatively, you could have the students collect these items either outside at school or at home to bring into class.

Engage (10 minutes):

1. Ask students how they think animals find a mate in nature. Answers will vary.
2. Show students this video (3:23 min) on the mating rituals of the birds of paradise.
3. As students watch the video, have students take brief notes on their observations of behaviors of the male birds related to attracting a female mate.
4. After the video, have a class discussion on the students' observations. Possible observations may include:
    a. Answer: singing/calling
    b. Answer: tidying up/preparing his display area
    c. Answer: dancing
5. Explain to students that animals engage in characteristic behaviors that increase their odds of reproduction or affect the probability of plant reproduction.

Explore (30 minutes):

1. Have your students sign in to Legends of Learning. Instruct students to complete the Instructional playlist.
2. As students complete the assigned game, students should answer the questions on

Animal Reproduction Strategies handout.
3. Assist students as needed during game play, pause playlist if you need to address content or questions to the entire class.

Explain (20 minutes):

1. Review the answers to the Animal Reproduction Strategies handout together as a class.
2. Discuss with students: Why is reproduction and protection of offspring important for survival?
    a. Answer: reproduction and protection of offspring is important for survival so that parents can pass their genes to the next generation.
1. Relate student knowledge to demonstration at the beginning of class.
    a. Discuss with students: Do all animals exhibit the same behaviors to attract a mate?
        i. Answer: No, for example the birds in the video did an elaborate dance while fireflies flash their lights in a pattern to attract mates.

Elaborate (45 minutes):

1. Explain to students that, in groups of 2 to 3, they are going to build a bird nest that will protect an egg.
2. Remind students that nest building is a characteristic behavior of birds in order to protect their young.
3. Tell students they will have 30 minutes to build the best nest that they can with the collected materials. Students cannot use tape, glue, or scissors. All materials must be collected from outside.
4. At the end of 30 minutes, have student groups test their nests in front of the whole class.
    a. Place the egg in the nest.
    b. Can the nest be picked up without falling apart?
5. What are some characteristics of the nests that did not fall apart?
    a. Student answers will vary based on what groups have constructed.
6. Ask students what they would do differently if they constructed another nest.
    a. Student answers will vary.

Evaluate (10 minutes):

1. Have your students sign in to Legends of Learning. Instruct students to complete the Content Review playlist.
2. Analyze student results to determine what concepts need to be a focus for reteaching.

Additional Lesson Strategies:

- To use Legends for additional instruction, create a custom playlist with an instructional game and pre and post assessment.
- To use Legends for a quick formative assessment, create a 5-question assessment in a playlist.
- To use Legends for a student-directed experience, create a targeted freeplay playlist.

- Encourage students to play on their own at home in Legends of Learning: Awakening for a student-driven experience including avatars, battling, and quests all centered around topics they are covering in class.

Animal Reproduction Strategies

1. Give two examples of a mating ritual.

2. What is an example of a characteristic parenting strategy used by animals?

3. How does nest building increase the odds of reproductive success? Give one example of an animal that builds a nest.

4. Do all animals use the same strategies to raise and protect their young?

Animal Reproduction Strategies
Teacher Key

1. Give two examples of a mating ritual.
    a. a buck's mating call help attract female deer.
    b. peacocks put on elaborate displays of their feathers.
    c. fireflies flash their lights in a pattern to attract mates.

2. What is an example of a characteristic parenting strategy used by animals?
    a. Elephants raise young as a group to help them find food and protect them from predators
    b. Fish create a lot of offspring to increase the chances that some survive in an unstable environment
    c. Primates invest a lot of time and care into their young to ensure their survival.

3. How does nest building increase the odds of reproductive success? Give one example of an animal that builds a nest.
    a. Nests protect young from predators and the elements. For example eagles build nests up high, rabbits burrow underground, and bees build hives.

4. Do all animals use the same strategies to raise and protect their young?
    d. No.