Grades: K-2 **Length**: 45 min

Anatomy & Life Cycle

Summary: In this hands-on lesson, students sequence the stages of the oyster life cycle by observing how the oyster's body changes over time. They construct a life cycle crown, and use that model to identify patterns.

Outline

- **Activate prior knowledge of life cycles (5 min)**
- **Sequence the stages of the oyster life cycle (15 min)**
- **Create a life cycle crown (20 min)**
- **Identify patterns (5 min)**

LESSON OVERVIEW

Objectives (Students will be able to…)

- Develop a model of the oyster life cycle to identify patterns in all organisms' life cycles

Standards

- Patterns (Cross Cutting Concept): patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

BOP Connections

- ORT or ORS: Your oysters will generally have their shells shut. This lesson can help students explore what's going on inside the shells.
- Spat Tag: This game is a variation on freeze tag, that models the oyster life cycle and how it is able to survive at each stage.

BEFORE YOU GET STARTED

Supplies

- Grades K-2: Oyster Life Cycle Stages
- Grades K-2: Slides
- For each student:
  - Sentence strip or other sturdy piece of paper
  - Tape or glue
  - Scissors

Tips for Teachers

- Review with students:
  - Plants and animals are two big groups of living things. You may be able to connect to life cycles of plants or animals that students are familiar with.
- Decide:
  - Whether you want students to make a life cycle crown or tape/glue the stages to a flat piece of paper.
  - If you want to lead a guided dissection or play this short video of an oyster dissection to give students a better understanding of the body parts of an adult oyster.
- Heads up:
  - Stapling students' completed life cycle crowns into a complete circle, rather than having students glue or tape them, can often be more secure.
  - The lesson focuses on patterns. Students will hopefully identify the pattern that the stages follow (egg, larva, spat, juvenile, adult). The last section of the lesson encourages them to generalize that pattern to processes shared by all living things (birth, growth, reproduction, death). This connects to upper elementary standards, so you may choose to skip this for your students, but it is included as many may be able to make those connections already.

Materials Preparation

- Pre-cut cardstock or sentence strips to the correct length ahead of time to be the base of the crown.

Vocabulary

- Life cycle: stages or changes in a plant or animal's life
- Reproduction: the process where living things make offspring (more of that type of living thing)

INSTRUCTION PLAN

OPENING:
Activate prior knowledge of life cycles. (5 min)

1. **Show:** Image of oyster toadfish larva and adult oyster toadfish. [slide 2]
    - **Ask:** *Does this baby fish look like a fully grown fish? Why?*

2. **Explain**: The baby fish hasn't gone through its life cycle yet. All living things have a life cycle. [slide 3]
    - **Define:** A life cycle is the stages or changes in a plant or animal's life. [slide 4]

3. **Show:** Images of a human life cycle and a flower plant life cycle. [slide 5]
    - **Ask:** *Do you know about the life cycle of any plants or animals?*

ACTIVITY:
Sequence the stages of the oyster life cycle. (15 min)

1. **Frame:** Today we'll focus on the life cycle of an oyster. We'll figure out what order the stages of the oyster life cycle go in.

2. **Facilitate:** Distribute one Oyster Life Cycle Stages to each student. Students cut out each stage and place them in the order they think they go in. It's okay if they put stages in the incorrect order. [slide 6]
    - **Compare**: When students finish sequencing their cards, have them compare their order with another nearby student.

3. **Discuss as a whole group:** [slide 7]
    - *Which stage do you think comes first? Why?*
    - *Which stage do you think comes next? Why?*
    - *How are the stages similar?*
    - *How does the oyster change during its life cycle?*
    - *Do any of these stages remind you of anything?*

4. **Share:** The name and actual sequence of each stage, as well as information about what happens throughout the life cycle (info on slide). You may choose to pair kinesthetic movement or hand motions to each stage, or review the stages a few times as call and response. [slide 8]
    - Egg: it is too small to see
    - Larva: it has a squishy body and floats in the water
    - Spat: it attaches to a hard surface, and stays forever
    - Juvenile: it grows a hard shell

- Adult: it keeps growing, and makes new baby oysters

Create a life cycle crown. (20 min)

1. **Facilitate**: Each student creates a life cycle crown, by following these steps… [slide 9]
   - Re-order their set of cut out stages, as needed
   - Write the name of each stage on the line at the bottom of each card
   - Tape or glue each image to a sentence strip or other long narrow piece of paper to make a life cycle crown
   - Draw an arrow pointing between one stage and the one that comes after it
   - Wear their crown when they finish!

2. **Discuss as a whole group**: Your crown is a model of the oyster's life cycle! [slide 10]
   - *What shape does this model (your crown) make?*
   - *Why might that shape make sense for a life cycle?* (circle - it keeps going in a predictable order)
   - *What do the arrows represent?* (an oyster changing to the next stage)
   - *Do you think you should have an arrow between adult and egg? Why?* (yes, the cycle keeps going when a new oyster is born)
   - *Does this cycle have a beginning or an end? Why do you think so?* (an individual oyster is born and will die, but an adult oyster can create more baby oysters so in a way the cycle keeps going)

CLOSING:
Identify patterns. (5 min)

1. **Discuss as a whole group:** Guide students toward generalizing the life cycle pattern to processes shared by all organisms, not just the stages that oysters have [slide 11]
   - *When in the life cycle would you label "birth"? Why?* (between adult and egg)
   - *When in the life cycle would you label "growth"? Why?* (constantly during all stages)
   - **Define:** Reproduction is where living things make offspring, or more of that living thing. [slide 12]
   - *When in the life cycle would you label "reproduction"? Why?* (sometime between adult and egg)
   - *When in the life cycle would you label "death"? Why? (*could happen at any point)
   - *What pattern does the oyster life cycle show?* [slide 13]

2. **Explain**: Oysters' life cycle follows the pattern: birth, growth, reproduction, death.
   - **Ask:** *Do you think oysters are the only living thing to follow this pattern?*

- **Explain:** All living things, including oysters, follow this pattern. Though, some might choose not to or be able to reproduce, or have a shorter life and not experience all of the stages.

3. **Extend** (optional): Students may work in a small group to create a short skit acting out the stages of the oyster life cycle.

4. **Extend** (optional): You may lead a guided dissection or play this short video of an oyster dissection to give students a better understanding of the body parts of an adult oyster.