

# The Cycle of Life

## Materials

- copies of the *Crab Life Cycle* wheel and cover per student
- construction paper
- brads
- scissors
- crayons

## Objectives

- To learn how animals change as they grow
- To learn a complete life cycle of a marine invertebrate

## Introduction

*Metamorphosis* is the process by which an organism transforms from one stage in its life to another, such as from larva to adults. Many ocean animals have complex *life cycles*, morphing through several developmental stages before reaching adulthood.

Crabs are a good example of a complex marine *invertebrate* life cycle. After mating, female crabs carry eggs on their abdomen and release them into the water. Once the eggs reach a certain developmental stage, they hatch in larva called *zoeae* (singular – zoea, pronounced *zoh-ee-uh*). These zoeae drift with the ocean currents because they are too small to swim. After about four to five weeks and about seven *molts* the zoeae have developed into *megalops*. The megalops are still too small to swim. They appear to be a cross between a lobster and a crab and are now about 45 days old. This stage only lasts about one week until the megalops have molted into juvenile crabs. Juvenile crabs resemble adults, only they are much smaller. They can swim or walk along the ocean bottom and hide in underwater grasses for protection from predators. Juveniles will molt many times, possibly up to twenty, before reaching adulthood. It can take 12 to 18 months for a crab to reach adulthood. Water temperature and salt concentration can affect the timing of crab life cycles.

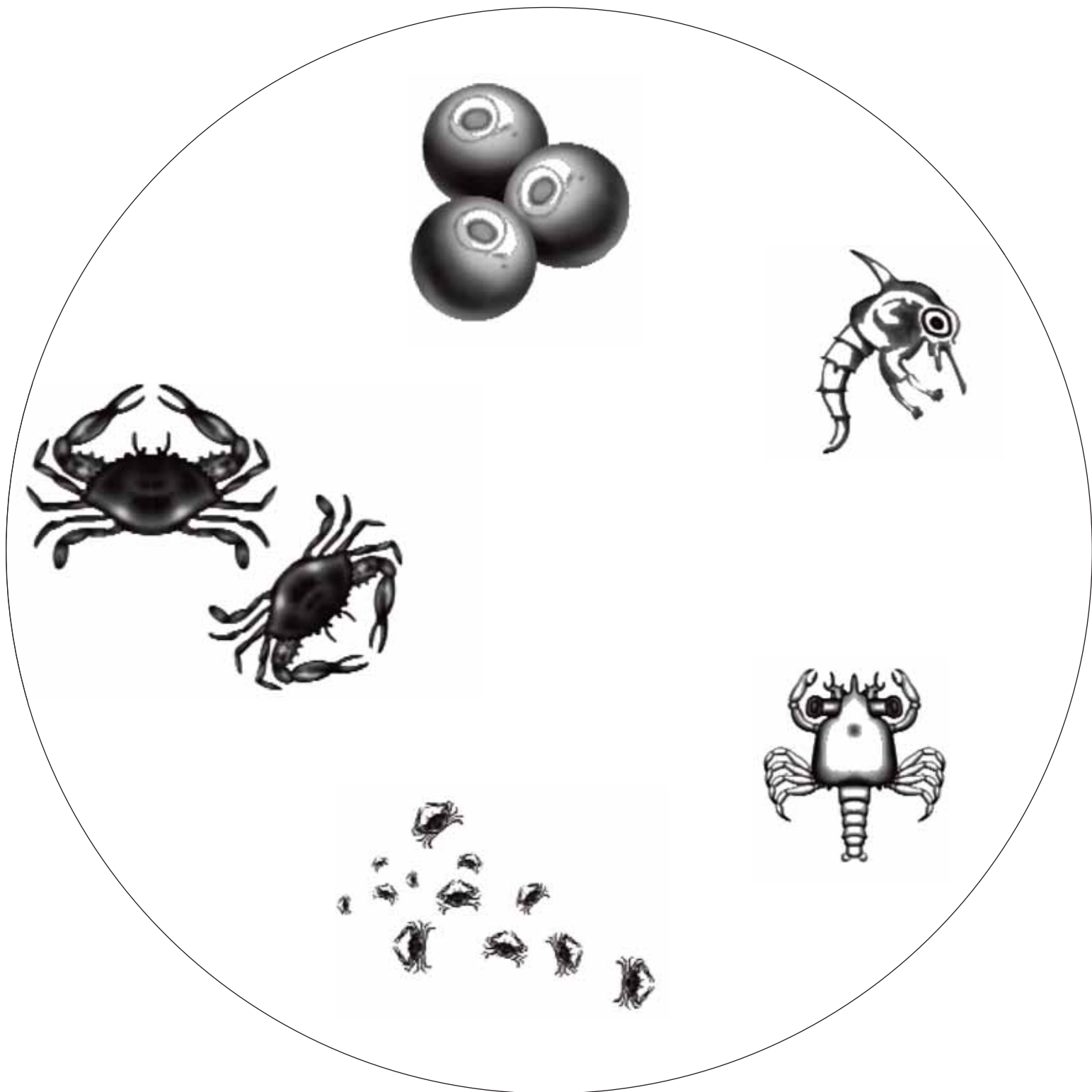
## Action

1. Introduce students to life cycles and metamorphosis. What are some animal life cycles that students are familiar with?
2. Review the crab life cycle with students.
3. Have students cut out the life cycle wheel. It may be helpful to mount the wheel on a piece of construction paper. This will make it easier to turn.
4. Students will cut out the cover of the life cycle wheel. They will cut on the dotted lines to remove a triangle from the cover. This is where they will view each phase.
5. Students will connect the wheel and the cover with a metal brad.
6. As students turn the wheel, they can write the name of each phase of the life cycle by the drawing that represents that phase. Students can also write the amount of time that each phase lasts.

*Deeper Depths: Discuss with students ways that crabs of the same species may vary from each other.*

# The Cycle of Life

Cut out the entire circle. Glue it onto construction paper and cut around the circle, leaving some of the construction paper showing.



# The Cycle of Life

Cut this circle out. Then, cut on the dotted lines. You may color and decorate your wheel cover. Place the wheel cover on top of the wheel with the life cycle phases on it. Place a metal brad through the center of the wheels to secure them. As you turn the wheel, write the name of each life cycle stage and how long each stage lasts.

