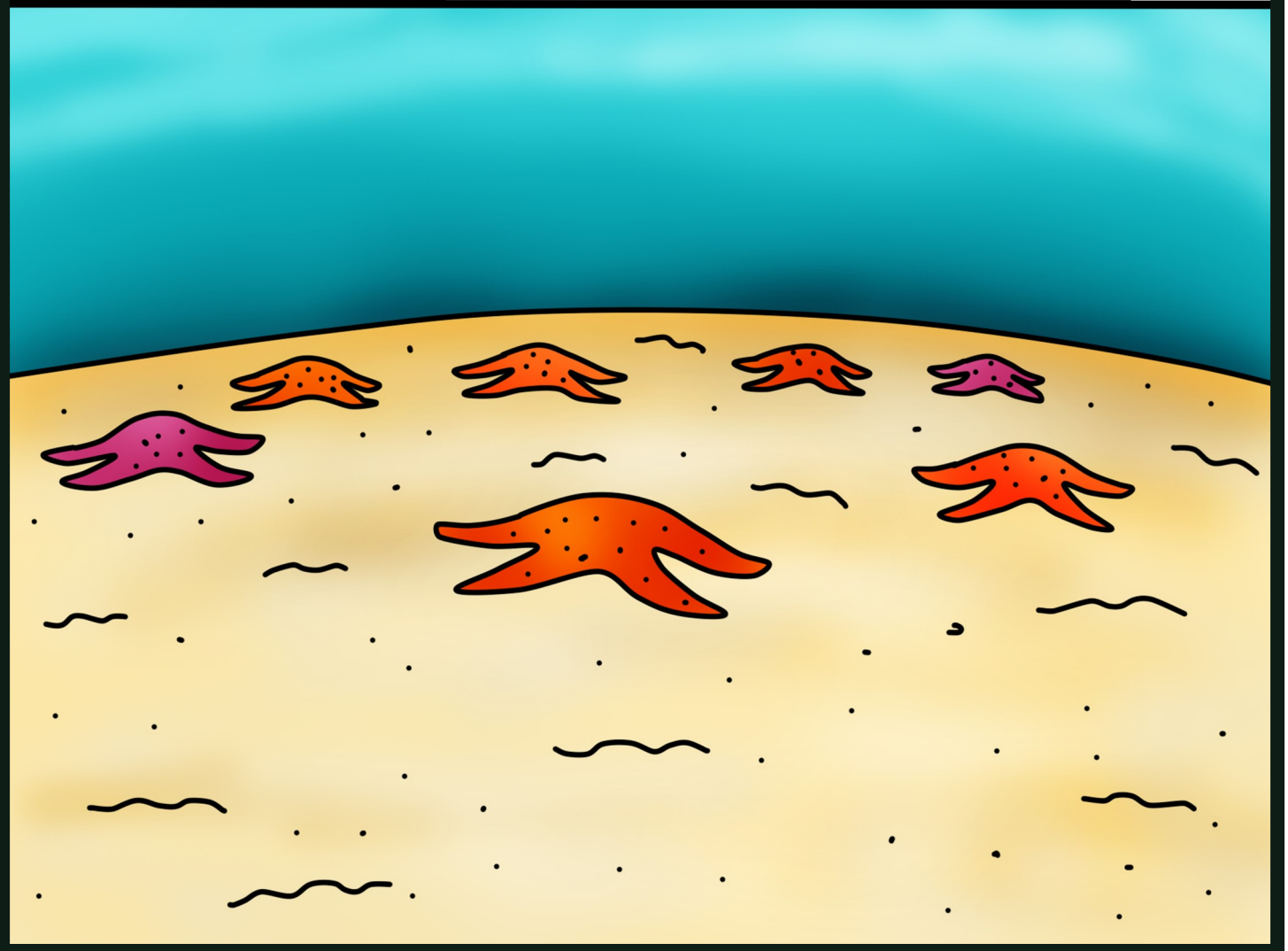


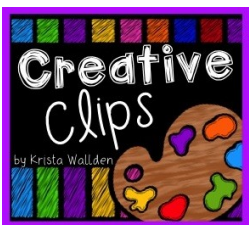
Sea Star Lapbook



Terms of Use

This product may be used for your own classroom or personal use. It may not be shared as a pdf file, on the web, or in any other way. © www.homeschoolshare.com

Clipart and Font Credit



I 365 Art



Sea Star Research & Lessons

Vocabulary

Enchinodermata: comes from the Greek, meaning "spiny skin". This group includes sea stars, sea urchins, sand dollars, sea cucumbers, and sea lilies.

Asteroidea: comes from the word, "asteroid". These animals are star shaped.

Ventral side: underneath part of a sea star

Dorsal side: the top or spiny surface of a sea star

Cardiac stomach: the stomach that comes outside of the sea star's body to grab the food

Pyloric stomach: this stomach digests the food.

Tropical: hot and humid

Temperate: neither hot nor cold

Polar: extremely cold, the areas at the top and the bottom of the world

Omnivore: eating both plants and animals

Zooplankton: small or microscopic animals that float in the oceans

Phytoplankton: microscopic plant life that floats in the oceans

Radial symmetry: animals have radial symmetry if they have no right or left sides, only a top and a bottom. They can be "cut" into equal or similar sections.

Bilateral symmetry: animals that have bilateral symmetry have a left and right side. Each side is the mirror image of the other side.

→ Complete Vocabulary Book

→ Complete Ventral/Dorsal Book

Classification

Kingdom: Animalia

Phylum: Enchinodermata

Class: Asteroidea

Physical Traits (Anatomy)

Sea stars have radial symmetry, which means that their arms radiate (like the sun's rays) from the central part of the body. They tend to have five arms or multiples of five arms. At the end of each arm is a microscopic eye which allow the sea star to only see light and dark and detect movement.

They also have spines on their skin for protection. Although there are many species of sea stars that don't really have spines, but have a bumpy texture.

The ventral side has the "mouth" in the center and the tube feet on the arms.

Sea stars have two stomachs: the cardiac stomach and the pyloric stomach. The cardiac stomach can come out of the body and envelope the food. The cardiac stomach begins the digestion process. The food is then transferred to the pyloric stomach to be digested.

The sea star's tube feet are located on the ventral side. They have two functions. They aid in movement and can be used to open scallops or clams.

→ Complete Sea Star Parts Tab Book

→ Complete Stomachs Simple Fold

Habitat and Diet

Sea stars live in tropical, temperate and polar oceans. They are normally found around rocks and coral, but can be found living in the sand. They can live in tidal pools, rocky shores, sea grass, kelp beds, and coral reefs. Sea stars cannot live in fresh water.

Sea star are omnivores. Their diet tends to be shellfish such as scallops, oysters, clams, or plant material.

→ Complete Diet File Folder

→ Complete Habitat Simple Fold

Defense

Due to the sea star's spiny skin, it doesn't have many predators.

→ Complete Defense Simple Fold Book

Growth (Life Cycle)

Sea stars start as eggs and then hatch into tiny larva that float/swim in the ocean. They become a part of zooplankton for about two months and have bilateral symmetry. They survive feeding on phytoplankton. After that they settle out of the zooplankton and begin to develop radial symmetry.

→ Complete Lifecycle Wheel Puzzle

Locomotion

Sea stars move using their tube feet. The feet latch onto surfaces and move in a wave. One body section attaches to a surface as another body section releases. Sea stars are slow moving. There are a few species that can move rapidly along the sea floor.

→ Complete Movement Star Shape Book

Regeneration

Regeneration means that a missing body part can be regrown. Some sea stars are capable of growing new arms. Most species need the central part of the body unhurt to be able to regrow an arm. However, there are some stars that can regrow a whole new body from a single ray.

Sometimes when a sea star loses an arm, it will grow two!

→ Complete Regeneration Book

Species of Sea star


There are over 1,600 species of sea stars! Some of the most well-known stars are:

- *Blue sea star
- *Japanese sea star
- *Carpet sea star
- *Eleven-armed sea star
- *Pincushion sea star
- *Comb sea star
- *Crown of thorns sea star

Fun Fact

An active sea star can travel about one mile in a week. How far can you travel in one week?

Directions: Cut on the solid lines. Add words and definitions.
Stack pages together with cover on top and staple on the left side.

<h1>Sea Star Words</h1> 	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

Cut book out as one piece. Fold sides to the front. Write a definition for each word under the appropriate flap.

Dorsal

Side

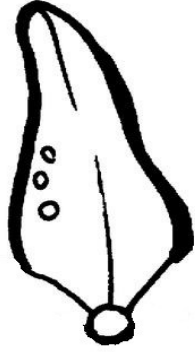


Ventral

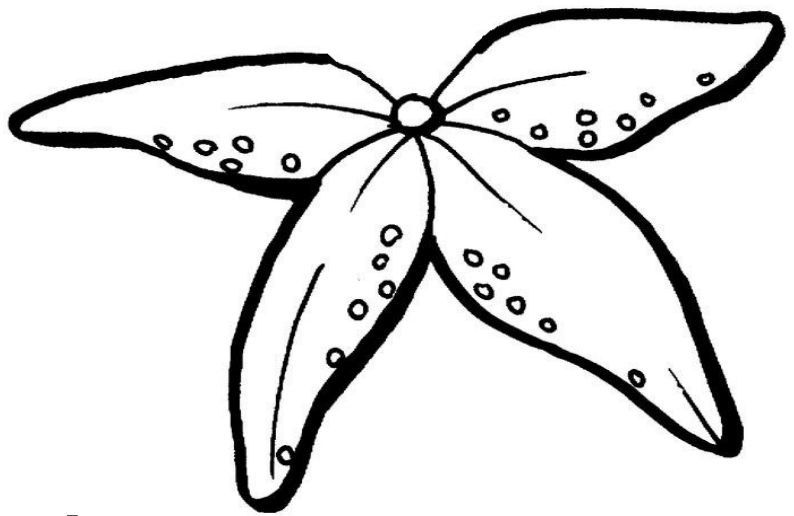
Side



PRINT THIS PAGE on CARDSTOCK. Discuss regeneration with your student. Color the sea star. Cut out the arm. Attach the arm with a mini-brad. Cut out the book and fold in half. Let your student manipulate the arm so that it is missing and then grows back. On the inside of the book write (or cut and paste the information) about regeneration.

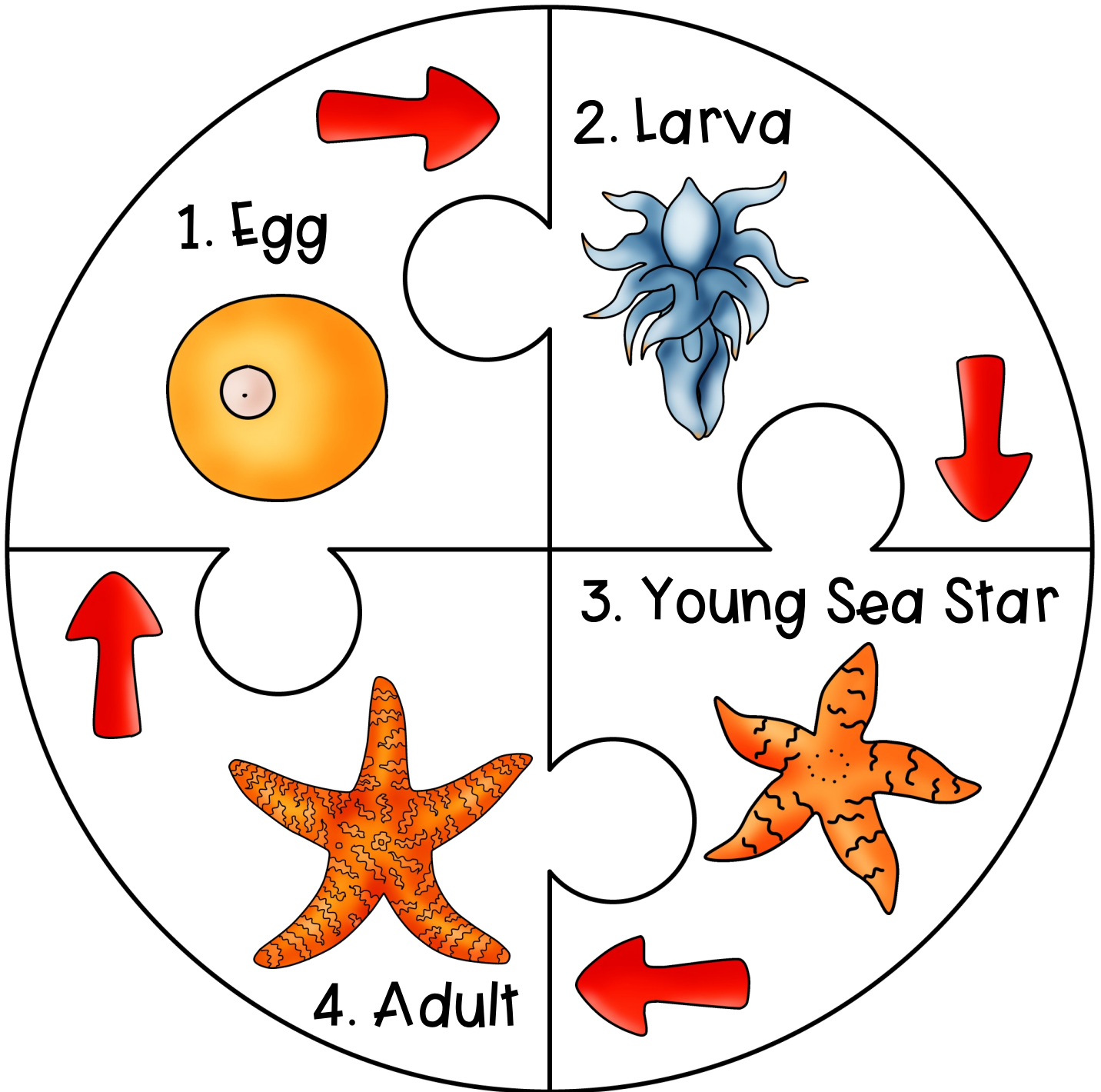


Regeneration means that a missing body part can be regrown. Some sea stars are capable of growing arms. Most species need the central part of the body unhurt to be able to regrow an arm. However, there are some stars that can regrow a whole new body from a single ray.

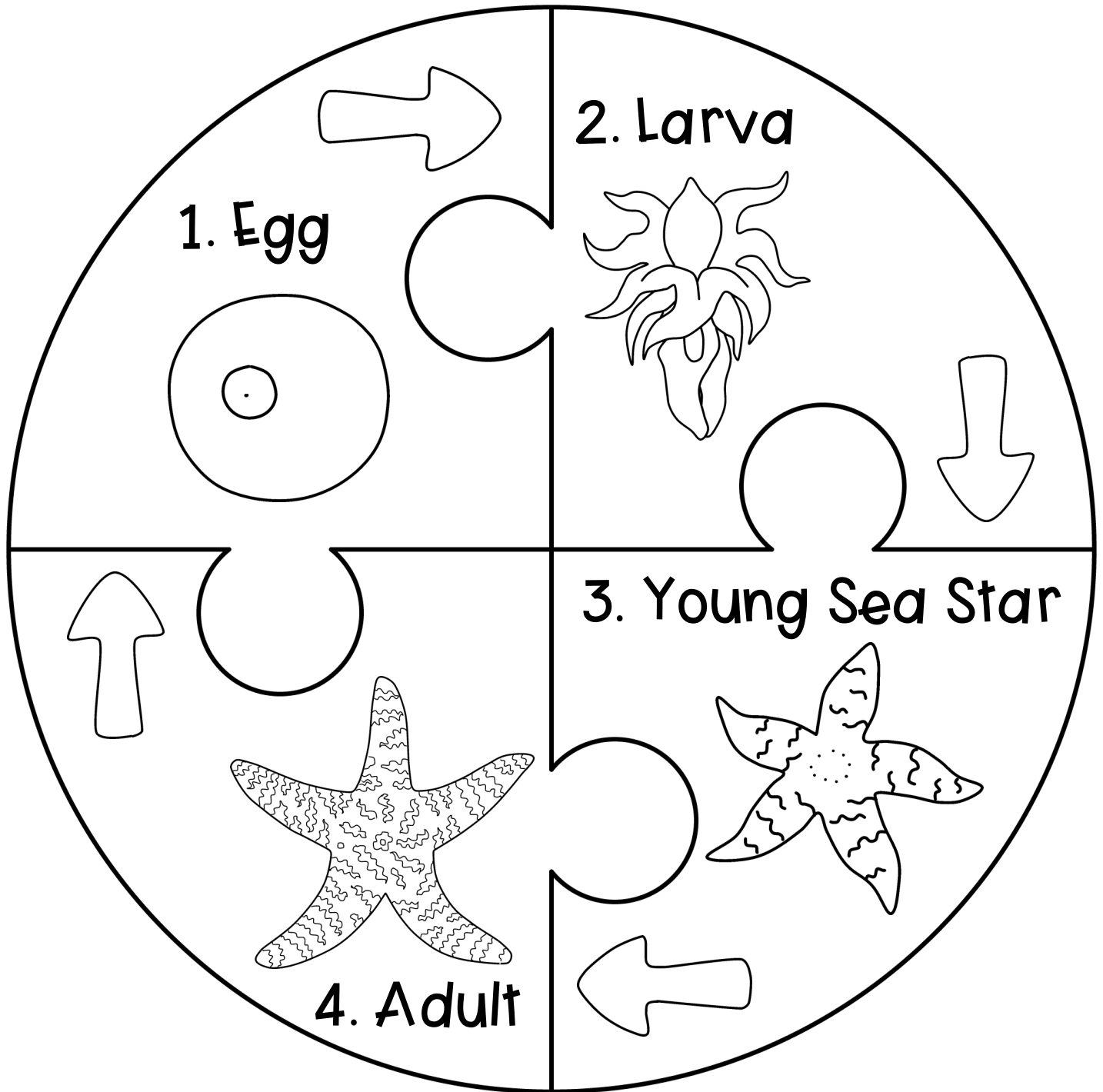


Regeneration

Sea Star Lifecycle: Print on cardstock. Cut out puzzle and let your student assemble it. Discuss the life cycle of the sea star. Glue pieces to the back of your lapbook or store them in your lapbook in a pocket.



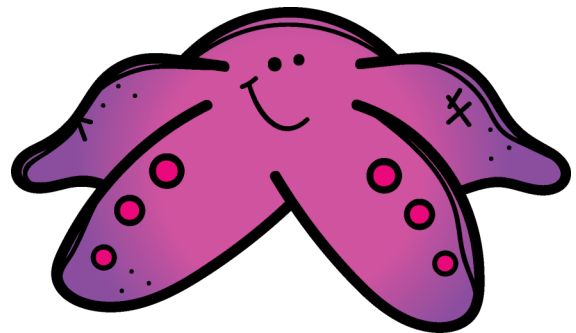
Sea Star Lifecycle: Print on cardstock. Color the images. Cut out puzzle and let your student assemble it. Discuss the life cycle of the sea star. Glue pieces to the back of your lapbook or store them in your lapbook in a pocket.



Habitat



Stomachs



Sea stars have two stomachs: the cardiac stomach and the pyloric stomach. The cardiac stomach can come out of the body and envelope the food. The cardiac stomach begins the digestion process. The food is then transferred to the pyloric stomach to be digested.



Cut out book as one piece. Fold in half. Ask your student to draw pictures and add words to represent the various things found in a sea star's diet.

Defense



How Far Can
a Sea Star
Travel in One
Week?

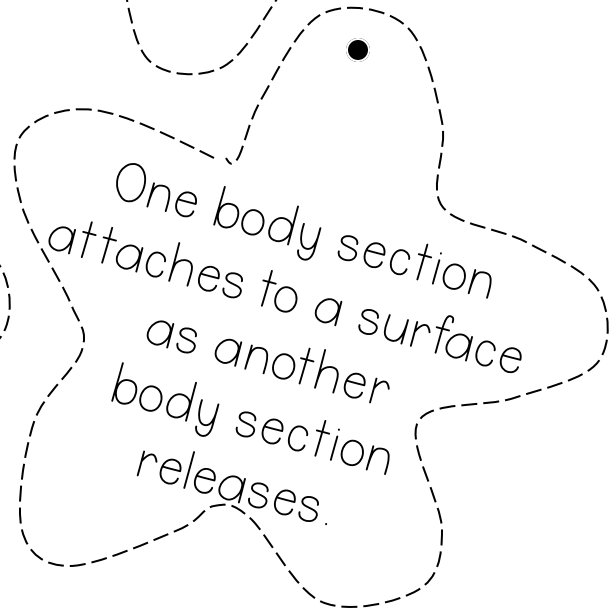
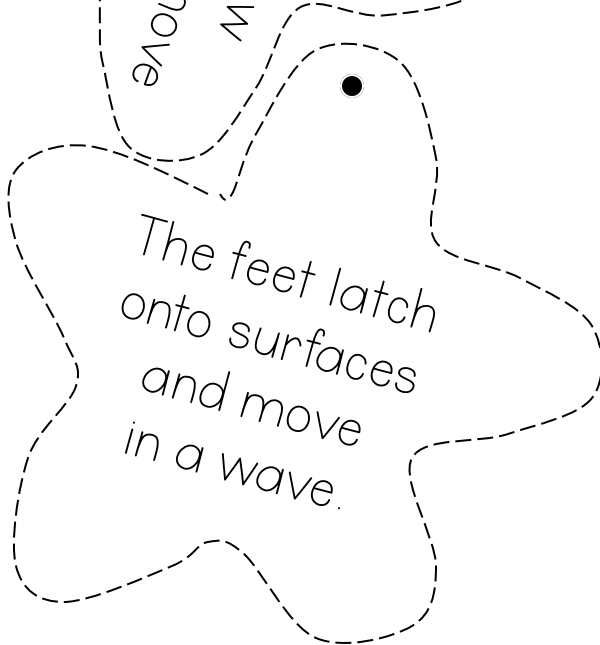
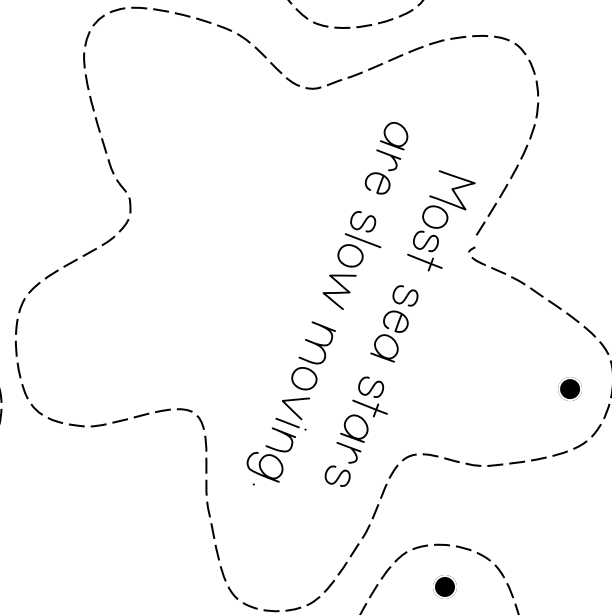
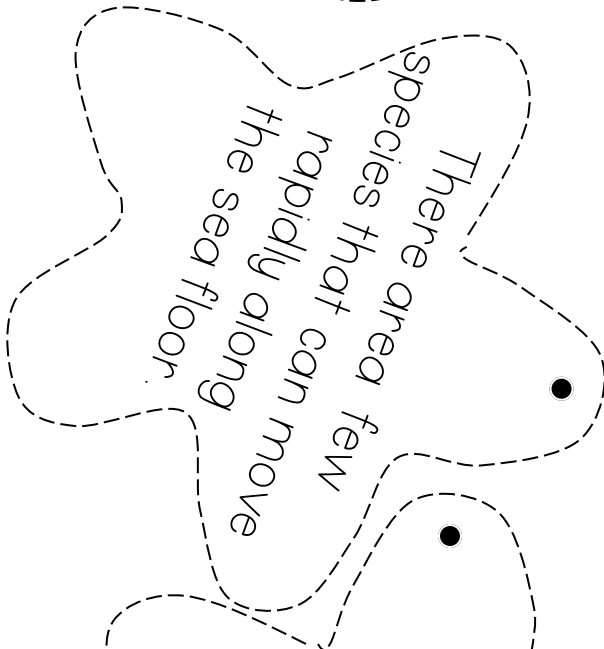
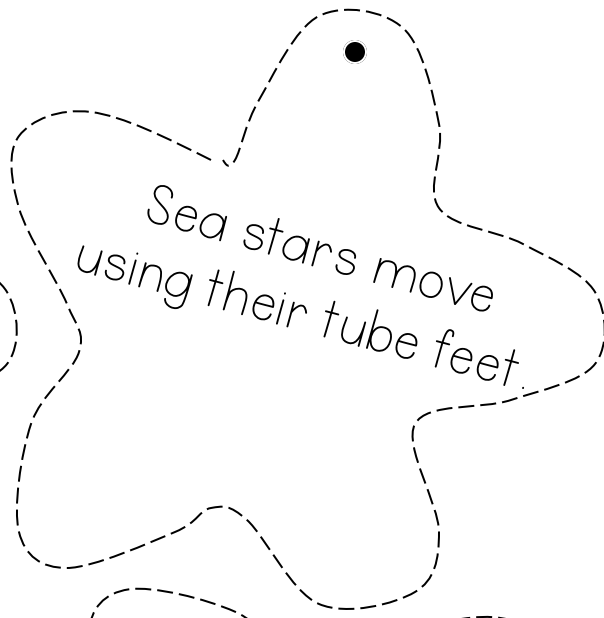
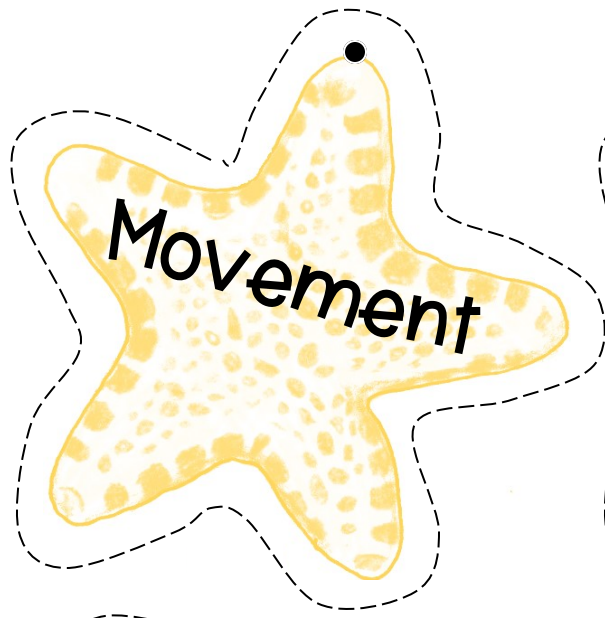
Directions: Cut out book as one piece. Fold in half.

Defense

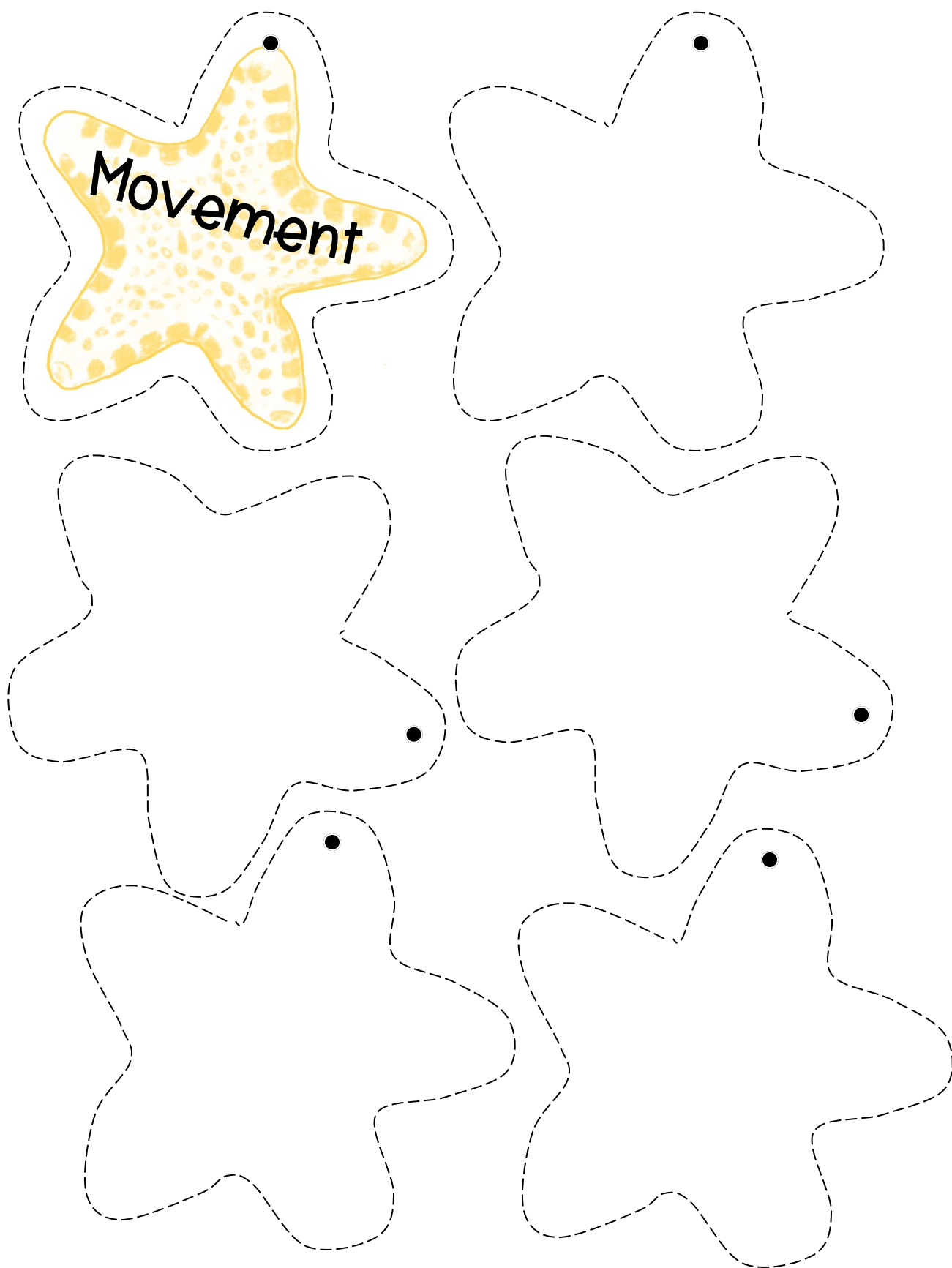
How does a sea star defend itself? Write about it inside the book.

Travel

Write the answer inside the book.



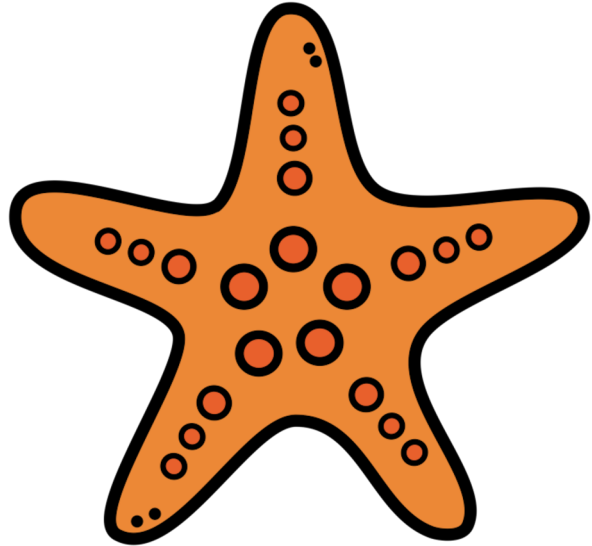
Print on cardstock. Stack together and secure with a brad as indicated.



Cut out as one piece. Draw an example of each type of symmetry as indicated.

Example of Radial Symmetry	Example of Bilateral Symmetry

Sea Star Parts



Arms

Spines

Eyes

