

Seaside Crafts at Home! Create Your Own Bat Star (*Patiria miniata*)

Materials:

- Two paper plates
- [Bat star printable template](#)
- Scissors
- Sandwich bag
- Clear tape
- Crayons
- Markers
- One or more Legos

Step 1: Stack two paper plates and trace the bat star template (available [here](#)).

Step 2: Keeping the two paper plates stacked together, cut out the bat star. You will now have two paper plates shaped like a bat star.

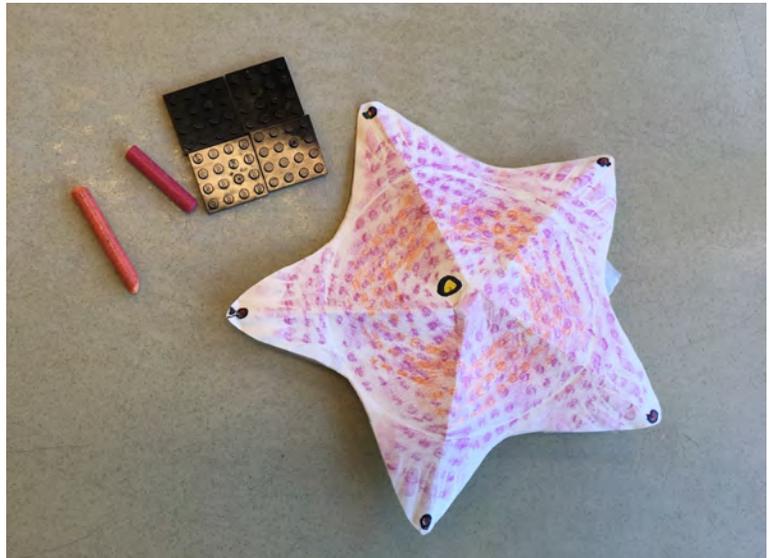
Step 3: Choose one plate to be the top side (called the aboral side) of the bat star. On the bottom of the plate, draw a **madreporite** near the middle of the star,



off center, and color it yellow. A **madreporite** is a filter plate where seawater enters the sea star. The water moving through the sea star is what powers its ability to move around.

Step 4: Draw an **eyespot** on the tip of each arm and color them red. An **eyespot** is a bat star's eyes! Bat stars can't see colors and shapes like humans and many other animals can, but they can detect light and dark.

Step 5: Place a lego under the plate. Rub the side of a crayon over the plate to capture the lego pattern underneath. This represents the pattern created by the hard **ossicles**. Cover the entire plate with **ossicles**. To the touch, bat stars feel very rough, like sandpaper, because just beneath the skin of the bat star are flat, crescent-shaped plates called **ossicles**. Ossicles help protect sea stars and make them more rigid.



Step 6: Restack and align the paper plates. Gently crease a ridge that extends from the tip of each arm to the center of the plate. This will make the bat star 3-D.

Step 7: Cut a nickel-sized hole in the middle of the plate you have not drawn on yet. This hole is the bat star's mouth.

Step 8: Using markers or crayons, draw yellow lines from the mouth of the bat star to the tip of each arm. Next, draw small black dots on top of the yellow lines. The small black dots represent **tube feet**. **Tube**



feet allow the sea star to move and stick to surfaces. Sea stars also use their tube feet to move food into their mouths.

Step 9: Stack the paper plate with the bat star's mouth on top of the sandwich bag. Gently pull a corner of the sandwich bag through the mouth to represent the stomach. A bat star has two **stomachs**. The one called the cardiac stomach can extend outside of its body! The bat star begins to digest its prey outside of its body and then pulls the stomach back inside to complete digestion.

Step 10: Match up the patterned aboral side (top side) and the bottom or oral (mouth side) of your bat star, and carefully tape around all but one of the sides. Keeping one side open will allow readjustments to the stomach/bag.

