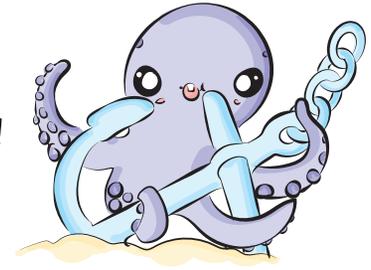


Explore the  
Phenomenon!



## Lesson Anchor

### Make an origami boat compass

Origami is the practice of folding paper into fun and interesting shapes. We are going to use an origami boat as a compass! If you put a bar magnet in an origami boat, it will naturally turn its north end towards the magnetic north pole of the Earth, exactly how a compass does.

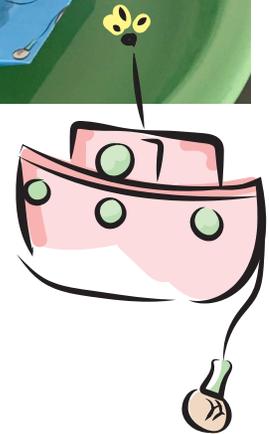
#### What you'll need:

- one bar magnet
- one pair of scissors
- a bin of water (one per group)



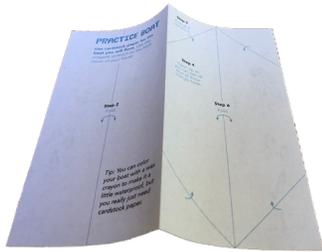
#### What you'll do:

- Step 1- Cut out a square piece of origami paper.
- Step 2- Fold your paper into the shape of a boat.
- Step 3- Float your boat in still water. Put a magnet in your boat. Watch your boat turn to the north!



# How to fold your boat:

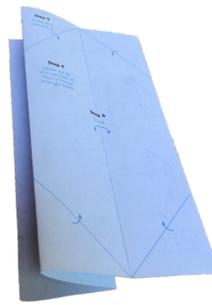
**1.** Fold paper in half outward.



**2.** Fold two sides inward to form a W shape.

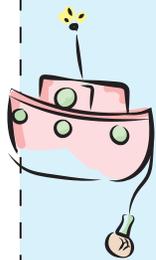


**3.** Fold out one side of the W.



Three pieces thick on one side and one piece thick on the other.

**4.** Fold each corner inward to the center line.



## ORIGAMI BOAT

Use card stock paper for your boat or tape your boat to make it waterproof. You can practice making a boat out of this paper, however, this paper will get too soggy if you put it in the water (Look for card stock insert or get card stock paper)

**Step 2:**

Fold inward



**Step 1:**

Fold outward



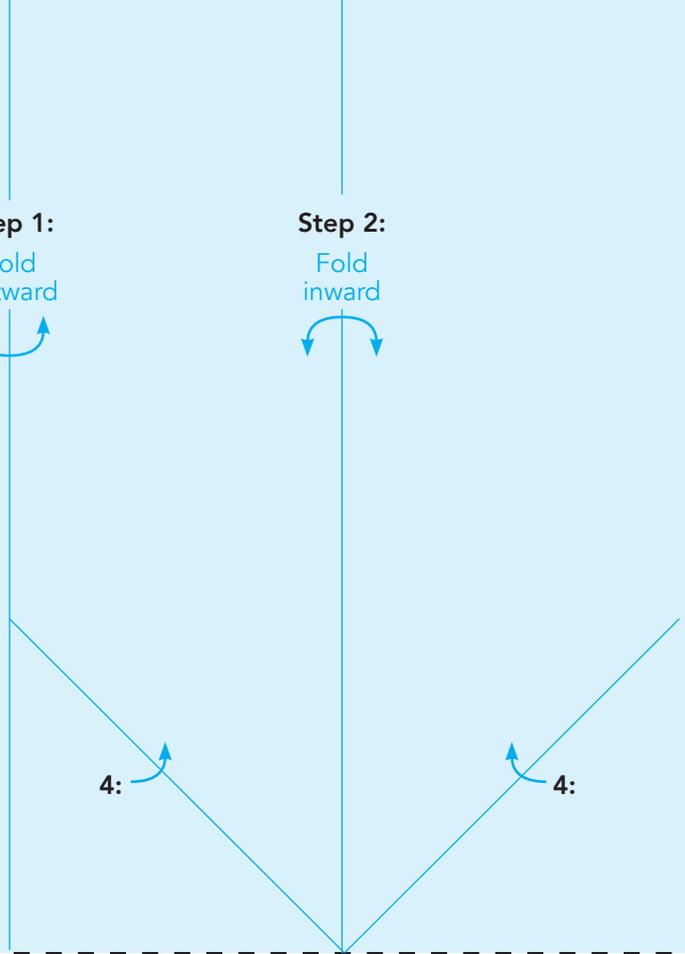
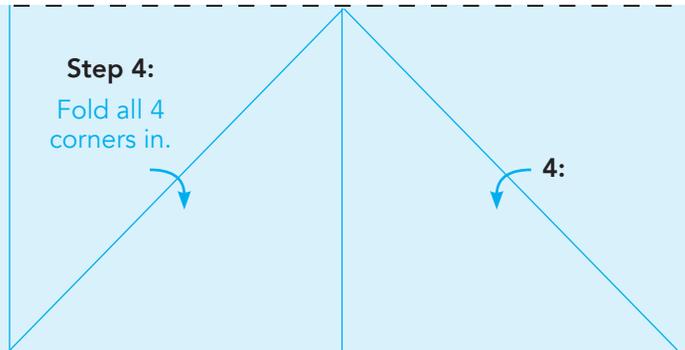
**Step 2:**

Fold inward



**Step 4:**

Fold all 4 corners in.



Note: Your students must use card stock paper to make their boat. This page is intended for folding practice only. If you put this paper in water it will get too soggy to make a boat compass. Look for a card stock insert in this book to use, or cut the back cover, or get card stock paper for your students.

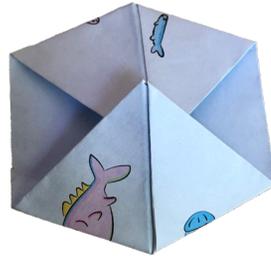
**5.** Fold in half to make a trapezoid. Conceal the folded corners from Step 4



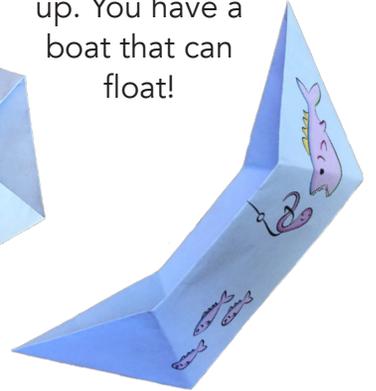
**6.** Find the opening along the long edge. Open your boat.



**8.** Open it back up. You have a boat that can float!

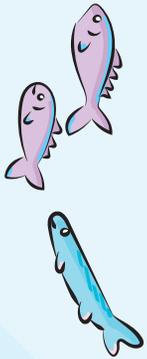


**7.** Fold the front and back of the boat towards the center.



**Step 3:**

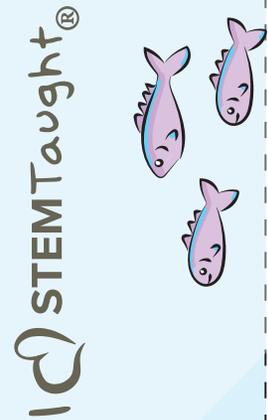
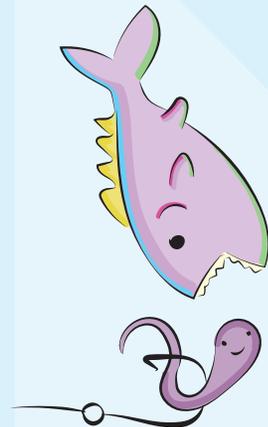
Fold this whole rectangular tab out.



Step 6: Open here!

IC STEM Taught®

Name: \_\_\_\_\_

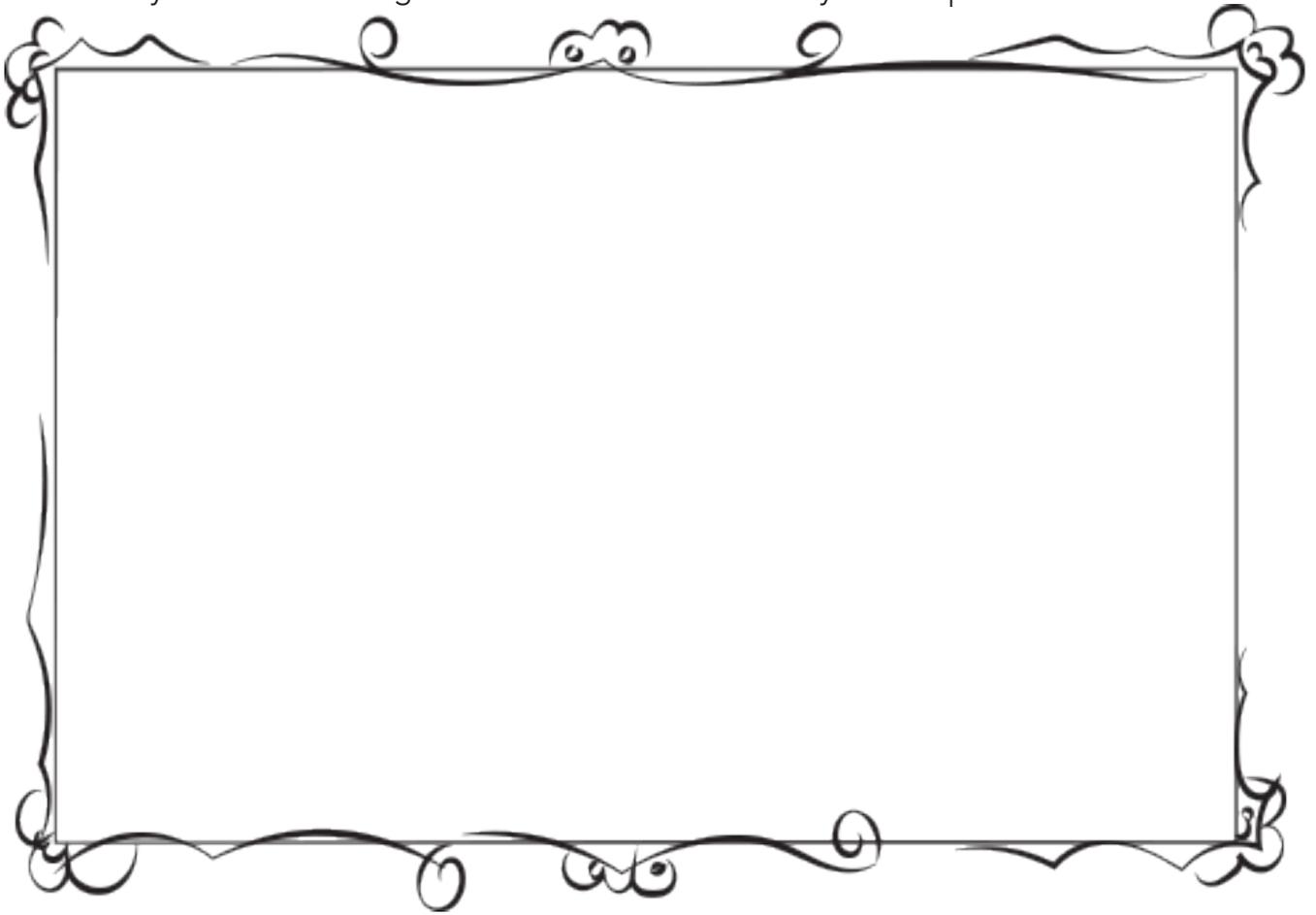


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Step 5  
Fold in half to make a trapezoid.



Draw your boat and magnet in the water to show how your compass works.



Describe what your floating boat does when you put a magnet in it.

Answers will vary. Encourage your students to be descriptive of their observations. Ask: How quickly or slowly does your boat turn? (Pretty slow)

In what direction does it turn? (Either direction depending on the position of the boat. The magnet will take the shortest path to point north), What happens when the boat gets near the side or the container? (It sticks).

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