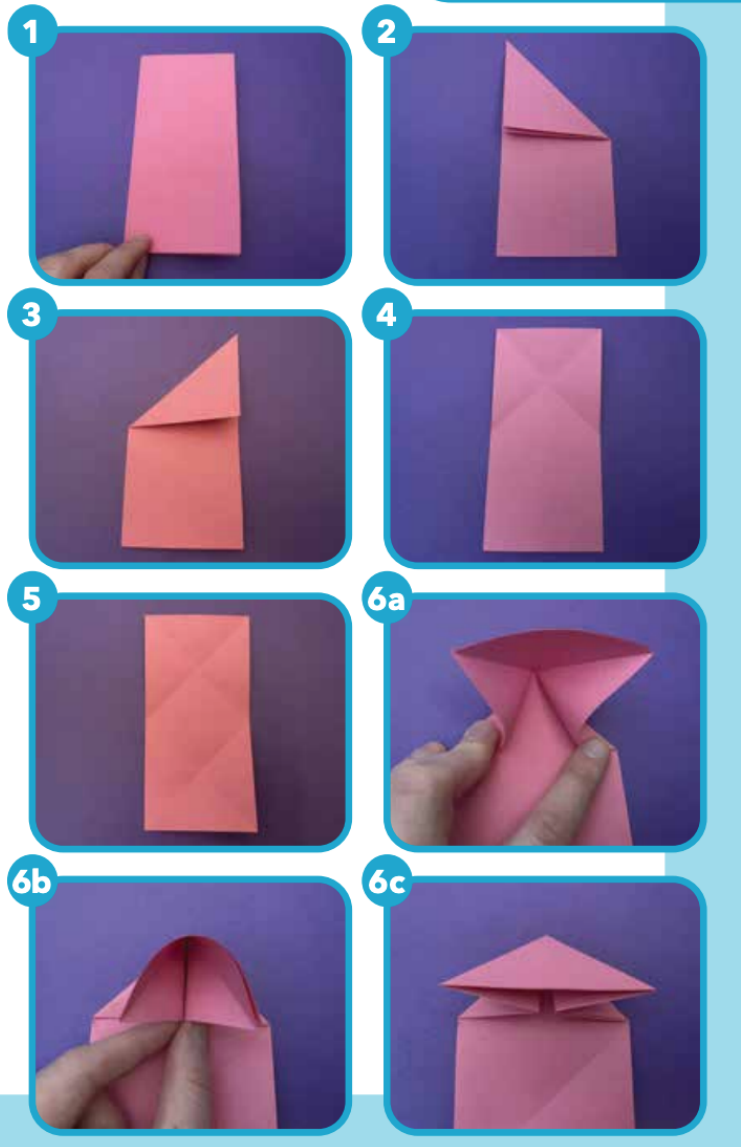


Origami Tips:

- Use the written directions *and* the photos to help you complete each step.
- Make each fold clean and precise.
- Go over each fold several times to make sure it is strong.
- If you need help completing any steps of the frog-folding, check out this video: <http://bit.ly/frogfoldingorigami>

- 1 Fold your origami paper in half.
- 2 Fold the top right corner down, then unfold.
- 3 Fold the top left corner down, then unfold.
- 4 The top of your half sheet should now look like it has an X folded into it.
- 5 Repeat steps 2-4 on the bottom half of your origami paper. Your paper should now look like it has two X's folded into it.
- 6 Focus on the top X first. Tuck the two side triangles inward and fold the top triangle down. Your paper should look like it has one triangle above the bottom X.



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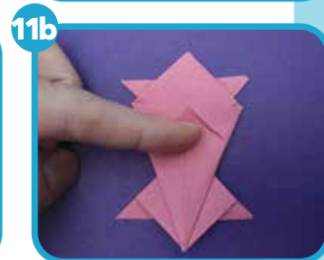
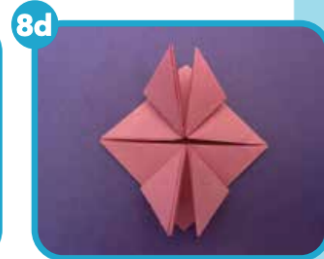
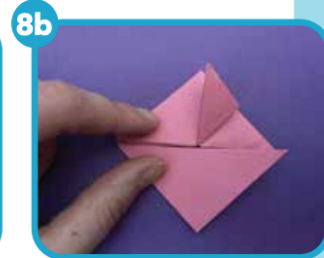
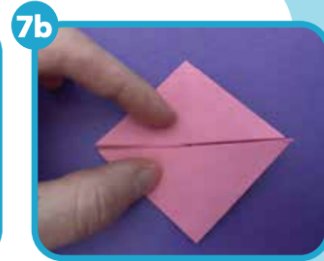
7 Complete the same fold as **Step 6** on the other half of your origami sheet. Your paper should now look like two triangles on top of each other with their bases touching.

8 Fold the bottom points of each triangle up to the top point. Your origami square should now have four mini triangles sticking up.

9 Fold each of the four mini triangles that are sticking up in half back toward the center fold again. These will be the frog's legs!

Flip the entire origami over.

Fold the left and right points of the origami to meet in the middle.



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STEM Explanation:

How does a paper frog leap across the ground? It's all about physics! The frog is folded in a special way so that when you press down on it, its legs store potential energy. Then, when you release the frog, the potential energy is converted into kinetic energy, or the energy of motion. This causes the frog to spring forward! The frog origami works by using **Newton's Third Law**, which states that for every action there is an equal and opposite reaction. The more force that is exerted on the frog, the further it will jump! How could you modify the frog to make it jump even farther?

Here's a fun idea: Challenge a friend or family member to a jumping frog competition! Use a ruler or measuring tape to see how far each of your frogs can jump.

Career:

Physicists study the world, from the tiniest subatomic particles to the largest galaxies. They study matter and energy and do experiments to discover the laws of nature.

Resources:

<https://origami.me/jumping-frog/>

http://www.physics4kids.com/files/motion_laws.html

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