

Tweens DIY Package

Origami Frog



This package provides Tweens the opportunity to problem-solve through a do-it-yourself activity.

Just follow the instructions and have fun!

STEAM CONNECTIONS FOR THE FROG

Math

- Learn about polygons after folding and unfolding the lines of the model completely.
- Practice math terminology as you go through the folding process.
- Hold a frog jumping contest by tracking the height and distance of jumps. Graph your results!

Science

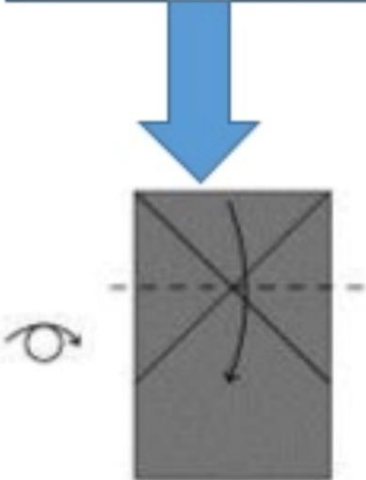
- Research interesting frog facts.
Did you know a frog can jump 20 times its body length? If you were a frog, how far do you think could jump?
- Study the mechanics of a frog jump and compare this to your origami frog.

Art

- Look at the different skin patterns and colours of frogs, and decorate the colouring sheet attached. Try and camouflage your frog with its environment.



STEAM CONNECTIONS FOR THE FROG- MATH

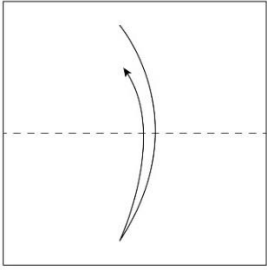
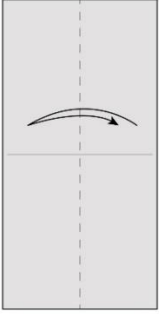
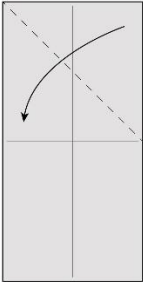
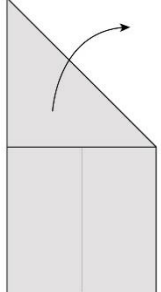
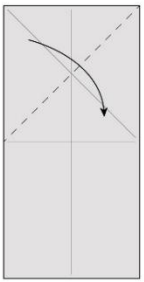
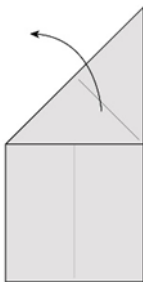
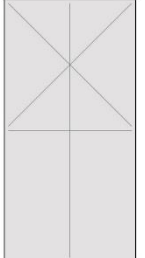
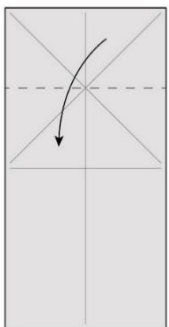
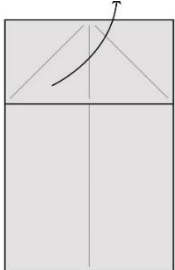
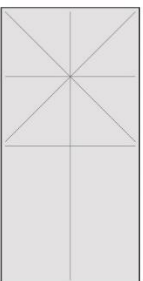
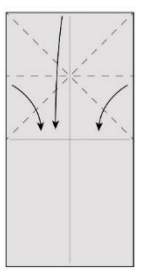
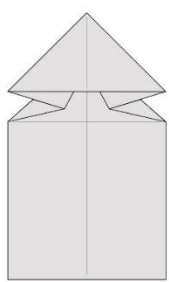
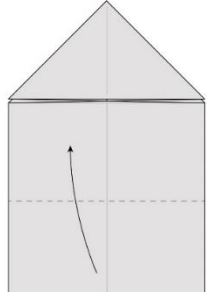
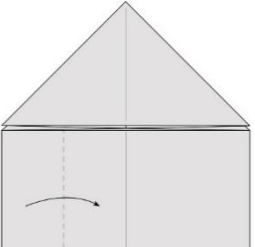
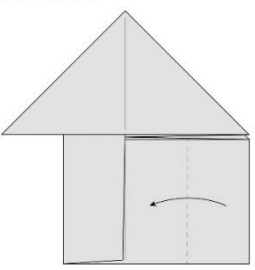
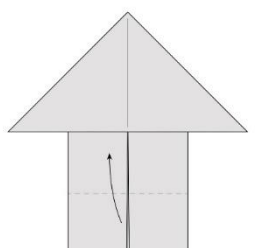
<p>Can you see....</p> <ul style="list-style-type: none">-Vertical angles-Supplementary angles-Perpendicular lines-Isosceles triangles..... 	<p>Vertical angles</p> <ul style="list-style-type: none">• The angles opposite each other on intersecting lines
	<p>Supplementary angles</p> <ul style="list-style-type: none">• Two angles are supplementary when they add up to 180°
	<p>Perpendicular</p> <ul style="list-style-type: none">• A line meeting at a right angle, or 90°
	<p>Isosceles triangles</p> <ul style="list-style-type: none">• A triangle that has two sides of equal length

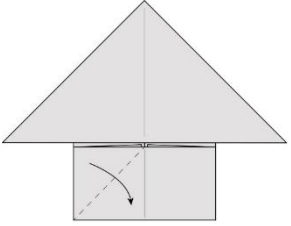
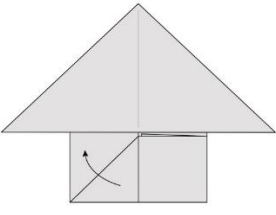
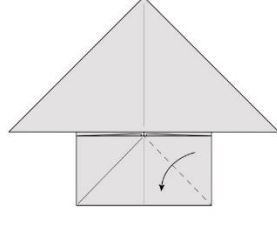
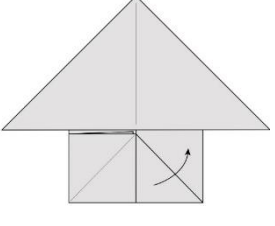
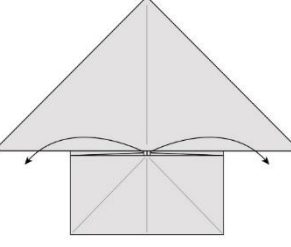
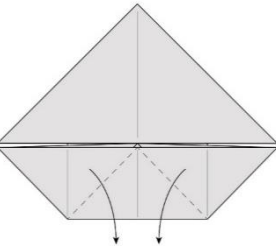
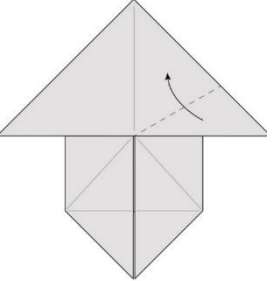
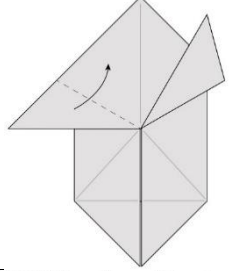
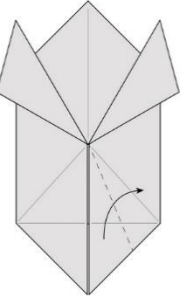
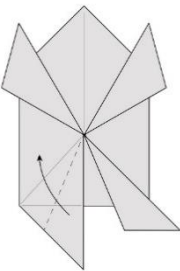
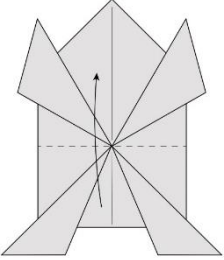
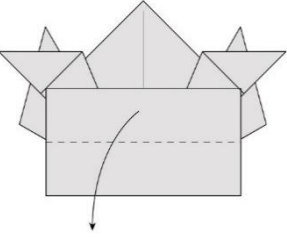
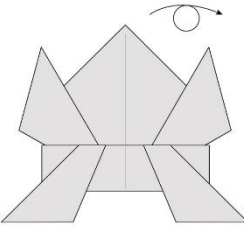
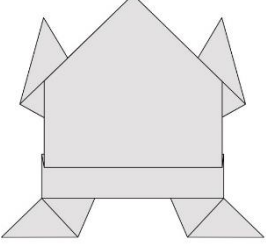
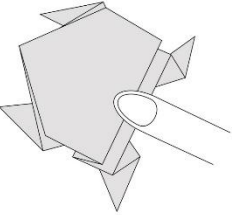
Source:

1) <https://www.slideshare.net/mobile/nboakes/adding-steam-to-math-with-origami-njea-2016-presentation>

2) <https://www.merriam-webster.com/dictionary>

FOLD A JUMPING FROG

<p>Step 1) Start with a square sheet of paper with the white side up. Fold it in half horizontally and un then unfold.</p> 	<p>Step 2) Fold the paper in half vertically.</p> 	<p>Step 3) Fold the paper in half vertically again and then unfold it. You'll use this crease as a guide in later steps.</p> 	<p>Step 4) Fold the paper down along the dotted line.</p> 
<p>Step 5) Crease this fold well and then unfold it.</p> 	<p>Step 6) Fold the paper down along the dotted line.</p> 	<p>Step 7) Crease this fold well and then unfold it.</p> 	<p>Step 8) Turn the paper over.</p> 
<p>Step 9) Fold the paper down along the horizontal dotted line.</p> 	<p>Step 10) Crease this fold well and then unfold it.</p> 	<p>Step 11) Turn the paper back over to the way it was before.</p> 	<p>Step 12) Fold the paper down along the existing creases just like you're making a Water Bomb Base.</p> 
<p>Step 13) Push everything down flat.</p> 	<p>Step 14) Fold the bottom part of the paper up along the dotted line.</p> 	<p>Step 15) Fold the left side of the paper towards the centre along the dotted line. Don't fold that top triangle. The paper will tuck in behind it.</p> 	<p>Step 16) Fold the right side of the paper towards the centre along the dotted line. Again, don't fold the top triangle but tuck the paper in behind it.</p> 

<p>Step 17) Fold the bottom part of the paper up along the dotted line.</p> 	<p>Step 18) Fold the paper down along the dotted line.</p> 	<p>Step 19) Crease this fold well and then unfold it.</p> 	<p>Step 20) Fold the paper down along the dotted line.</p> 
<p>Step 21) Crease this fold well and then unfold it.</p> 	<p>Step 22) Pull the two flaps of paper on the inside of either side out. Just like you're making a Boat Base.</p> 	<p>Step 23) Fold the two flaps of paper on each side down along the dotted lines.</p> 	<p>Step 24) Fold the top right part of the paper up along the dotted line. This will make one of the frog's front legs. Don't worry about the angle of the crease. As long as you get a shape like what you see in the next step it's fine.</p> 
<p>Step 25) Fold the left part of the paper up along the dotted line to make the other front leg. It should match the other leg from the previous step.</p> 	<p>Step 26) Fold the bottom right part of the paper up along the dotted line. This will form one of the back legs. This crease also doesn't have to perfectly match the diagrams as long as you end up close to the shape in the next step.</p> 	<p>Step 27) Fold the bottom left part of the paper up along the dotted line to form the other back leg.</p> 	<p>Step 28) Fold the entire model up along the dotted line.</p> 
<p>Step 29) Fold the top part of the model down along the dotted line.</p> 	<p>Step 30) Turn the whole model over.</p> 	<p>The Completed Traditional Origami Jumping Frog.</p>  <p>If you push down on the folds on it's back you can make it jump!</p>	<p>Source: https://origami.me/jumping-frog/</p>



Did you know that many frogs can jump more than 20 times their body length? Their eyes are shut to protect them during the leap.

Taken from: <https://www.dkfindout.com/us/animals-and-nature/amphibians/how-frog-jumps/>

Did you know frogs camouflage to hide from their predators? Some blend in with their environment by changing their pattern or colour.

Some frogs remain dull and only become very brightly coloured to warn and startle predators.

Taken from: <https://animals.mom.me/camouflage-protect-frog-4972.html>

