

Endangered Species



ART

Grades: 3-5

Objective: Students will use origami to think, interpret, and engage with learning about endangered species.

What's Inside?

- Lesson Background
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- "How to Cut Your Own Origami Paper"

Sources: Edutopia, Origami Resource Center

Background

Origami, the Japanese art of folding paper, has been around for thousands of years. In its infancy, these creased creations ranged from practical to purely whimsical. In the 21st century, its uses have expanded, especially in classroom settings. It can be used to help children understand physics, geometry, and even simple fractions.

This past year, our school used this paper art form to help students learn more about endangered and threatened animals. Understanding more about endangered animals is helpful to encourage environmental stewardship, empathy, and awareness. Our hope was that it might even be the catalyst to get students involved in doing more to help these wonderful creatures.

Origami allows students to think, interpret, and engage with the learning material, all things that are important when it comes to retaining information. Clear memories of a lesson paired with positive, novel, or visual content can create strong ties to what is being taught. There is a small window of time to take something from our short-term memory and place it in our long-term memory. Manipulating paper to create origami is one way to prevent knowledge memory loss.

Online Resources

ENDANGERED SPECIES

International Union for Conservation of Nature's Red List of Endangered Species

<https://www.iucnredlist.org>

US Fish & Wildlife Service Endangered Species

<https://www.fws.gov/species>

ORIGAMI

Origami Fun

<https://www.origami-fun.com/origami-instructions.html>

Art for Kids Hub

<https://www.artforkidshub.com/origami/>

Origami Resource Center- Origami Basics

<https://origami-resource-center.com/origami-basics/>

Getting Started with Origami

Resource from Edutopia

Setting up an origami lesson such as this takes practice and preparation. Here are some tips to help you succeed on your folding journey.



iStock. Image of koala origami. Source retrieved on July 22, 2022 from Website (<https://www.edutopia.org/article/using-origami-teach-children-about-endangered-animals>).

First, you will need paper. If your time or budget allows, you may consider buying precut squares of origami paper. You can buy packs of up to 500 sheets for an affordable price. Six- to 8-inch squares should suffice. Another option is to cut the paper yourself. Regular printer paper works fairly well if you are going this route. Stay away from paper that is too soft or too rigid, such as tissue paper or construction paper, as they have a tendency to rip or not hold their shape, and they can be difficult to fold. You could also have students cut their own squares using printer paper. Simply fold one corner of the paper to an opposite side until it forms a triangle, and cut off the bottom. You can use the diagram on page 4.

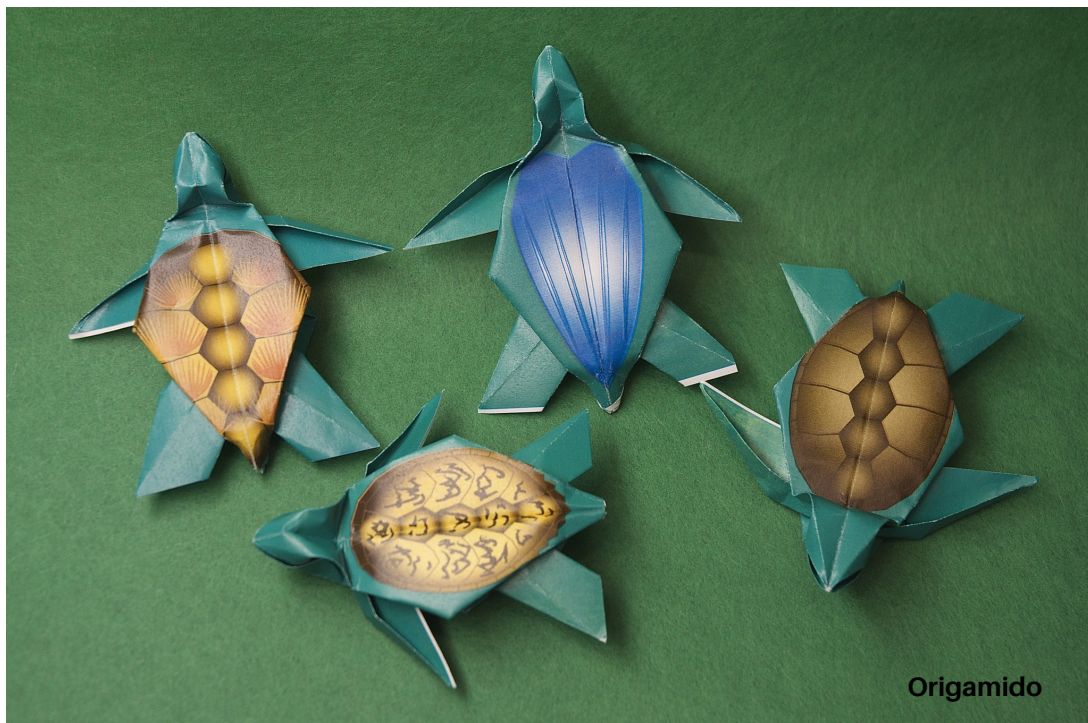
Next, in preparation for the lesson, familiarize yourself with some different origami models by folding them. If planning a more direct-instruction style lesson where you will teach kids how to fold the model, you will want to practice many times until folding that animal becomes second nature to you. Always remember to choose models that are skill-level and developmentally appropriate. Most origami books, websites, and videos rank models using a system such as easy, medium, or hard. Determine which is best for you and your students.

Consider scaffolding the lesson by starting off with a simple animal and working your way up. For example, a third-grade class may start off with a dog face, then fold a simple butterfly, and end with a traditional swan. Some chosen threatened animals for these models could be the African wild dog, Karner blue butterfly, and trumpeter swan.

A PLACE-BASED OPTION

One final option is to use local animals that are listed as threatened or endangered for the lesson. This presents a more place-based educational approach that can get kids thinking about their own community. Increasing their awareness may motivate them to make changes where they live. The U.S. Fish and Wildlife Service has an excellent database and search engine tool that can help students look up plants and animals of various vulnerability levels by state.

No matter which way you choose to structure the lesson—direct instruction, or inquiry- or place-based learning—it is always fun to let kids decorate their origami models. Encourage them to add details like those on their animal. Depending on their age, they may even want to play and interact with their origami. Decorating or playing with their pieces can help increase their enjoyment for the media, as well as strengthen the learning connections being made.



Origamido. Image of sea turtle origami. Source retrieved on July 22, 2022 from Website. (<http://www.origamido.com/portfolio/origami-endangered-animals-kit>)

How to Cut a Square from a Rectangle

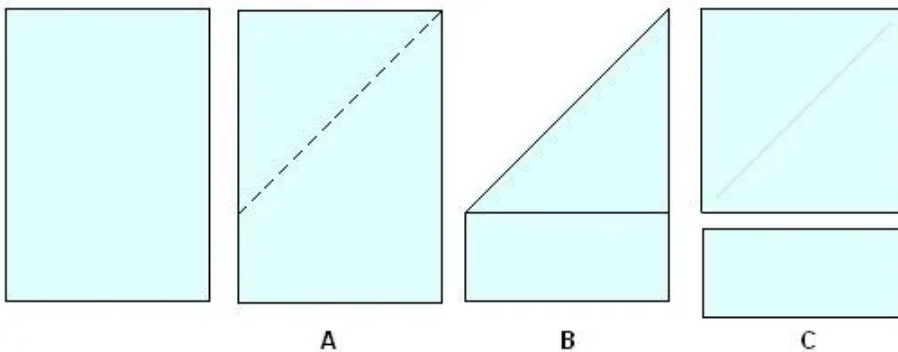
Making Your Own Origami Paper

Resource from the Origami Resource Center

There are two easy ways to cut a square from a rectangular sheet of paper.

Method 1:

1. Take a sheet of rectangular paper and fold it as shown.
2. Use the edge as a guide to cut off the lower rectangle.
3. Unfold the triangle and you will get a square with a diagonal crease in it. You can save the excess paper for another project.



Method 2:

- If you need a square sheet without the diagonal creases, try the next method.
1. Take two sheets of paper of the same size. Rotate one of them and overlay the two sheets perpendicular to one another.
 2. Use the edge of the top sheet as a guide to cut off the protruding section from the lower sheet.
 3. Remove the top sheet and you will get a square with no creases. You can use this square or the excess rectangle as a template to cut the other rectangular sheet into a square.

