Nature

Fold-Along Stories

Quick and Easy Origami Tales
About Plants and Animals

Text and Illustrations by
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By the same author:

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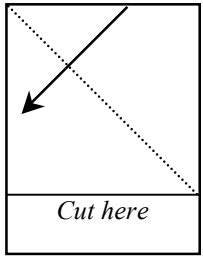
To my special friends at Origami USA, the world's largest organization of origami enthusiasts: I am honored and humbled to have been selected as the recipient of the 2008 Florence Temko Award. My participation at the Origami USA conference inspired this new Storigami collection. Thank you for your kind support, positive encourgement and especially, your unwavering devotion to origami in all its various forms.

I would also like to express my gratitude to the many thousands of students, teachers, librarians, parents, and grandparents who have participated so enthusiastically in my paper folding sessions and storytelling programs since 1990. Thank you for your generosity and contagious energy. These nature stories are for you to enjoy and share with others.

How To Make The Origami Figures

1. Origami paper is available in a variety of lovely colors and textures, but all of the figures in this book can be made very satisfactorily with regular 20 lb. office paper, too. Experiment with different weights, but avoid soft papers that tear easily or resist folding.



2. Most origami figures start as squares, so each side must be exactly the same length. To cut a square from letter-sized paper, fold one corner down and trim away the excess. Save the leftover strip of paper for use in "Toadly Awesome" on page 69.

3. Use a hard, flat surface when making the initial folds on the prefolded model required for each story. Line up edges and corners precisely and hold in place before creasing. This sample model should be as large and as accurate as possible. Use stiff construction paper, freezer wrap, brown paper bags, gift-wrap, or art paper to make oversized models.

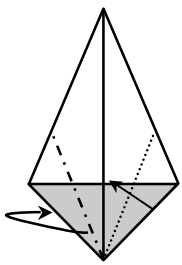
4. Follow each step in the order it is given.

5. Explanation of symbols:

   • Shaded areas indicate that the back side of the paper is now facing up.

   • Arrows point to the direction of the fold.

   • Broken lines indicate where the next fold will be. Unless specifically noted, dotted lines are "valley folds," where the resulting crease resembles an indented valley shape.

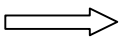


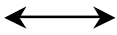
   • Solid lines mark an existing crease, fold, or edge.

   • Dots & dashes mean that the next step is a "mountain fold," where the edges align in the back of the figure and the resulting crease resembles a mountain.


Flip the figure over to the reverse side.


Rotate the figure.


Push the corner into the inside of the figure.


Fold and then unfold.

Storytelling + Origami = Storigami

The concept is simple. While telling or reading a story, paper is folded into shapes that depict or illustrate an action, setting, or character. When the story ends, a surprise three-dimensional figure is created. The reader's or listener's mind automatically pairs the story events with the progressive folding steps, so while enjoying the story, an origami model is also learned.

Author Christine Petrell Kallevig has presented Storigami to the public steadily since 1990. This book, her fifth collection of origami stories, emerged from a blending of those performances with her favorite non-writing pastime, hiking, bicycling, camping, and canoeing in the great outdoors. What better way to express her love and respect for nature than to illustrate it with her other passion, origami, the ancient art of Japanese paper folding?

These nature-themed stories work well for people of all ages in large or small groups. They can also be enjoyed at home by single readers or families. The content is factual and provides basic information about biology and ecology. Success with these simple stories goes a long way toward conquering the irrational fear of origami that's still very prevalent in the general public today. There are also several educational benefits resulting from the combination of storytelling and origami:

- **Improved listening skills:** Paper folding adds interest and grabs attention. Listeners are curious and motivated to pay closer attention.

- **Opportunities to practice right cerebral hemisphere visualization skills:** Listeners and readers imagine the scenes described in the stories and understand the symbolic representations of the progressive origami folds. Researchers believe this ability is related to skills located in the right brain, an area sometimes overlooked in conventional learning tasks.

- **Opportunities to practice left cerebral hemisphere language comprehension skills:** Listeners and readers understand the words used in the stories. Language comprehension is a skill that is located primarily in the left-brain.

- **Emphasis is placed on multi-sensory, integrated whole-brain learning:** Visual, tactile, and auditory senses are all combined to provide the right and left cerebral hemispheres with input, resulting in an atmosphere of whole-brain learning. Learning is most effective when several areas of the brain are activated simultaneously.

- **Memory enhancement:** Short-term memory is improved through paired associations (story events with folding steps) and multi-sensory stimulation.

- **Improved fine motor skills:** Folding and manipulating paper provides practice in eye-hand coordination.

- **Opportunities to examine and practice spatial relationships:** Spatial concepts include right and left, front and back, top and bottom, inside and outside, beside, under, parallel, symmetrical, etc. These are all key elements of origami.

- **Supplemental material:** The index lists optional follow-up activities in math, language arts, social studies, art, and science.

- **Opportunities to enhance creativity and social skills:** Increased self-esteem is a by-product of successfully learning new skills and new experiences generate new ideas.

Who Benefits From Nature Fold-Along Stories?

- Children and their parents or grandparents who want to build family traditions or participate together in a fun and creative new hobby.

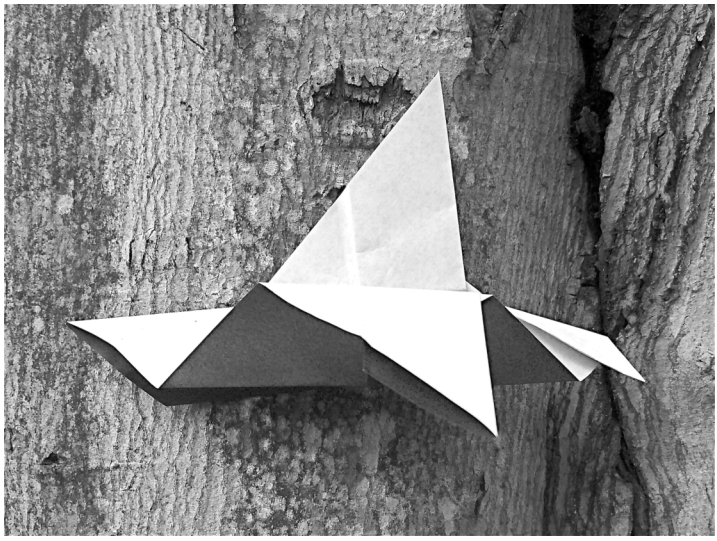
- Art teachers or origami specialists who need an effective and non-threatening method to teach origami to beginners.

- Science teachers and librarians who want to reinforce learning about plants, animals, and the environment.

- Recreation, troop, and club leaders who organize and present nature-themed activities on limited budgets.

- Camp leaders, storytellers, or nature programmers who serve families or groups composed of mixed ages, multiple interests, or widely diverse ability levels.

Pain and Gain of Nature's Food Chain



This seagull is easy to fold, but will it fly?

About the story: A food chain, from mosquitos to seagulls and back again, is described and illustrated with sequential origami folds.

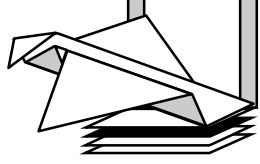
Recommended ages:

Listening only: All ages.
Listening & paper folding: age 5 – adult.

Required materials: Prefold the bird from a large square, and then completely unfold it for storytelling. Paper with contrasting sides creates the best results.

Special notes:

1. Several folds in this design are estimates and can vary in depth from other folders, but paired folds should be symmetrical within the model itself.
2. The fold in Step #4 is a mountain fold. Make sure it's folded toward the back of the model.



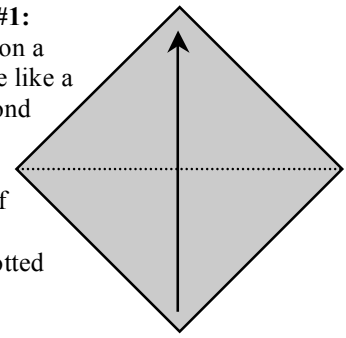
Pain and Gain of Nature's Food Chain

What are you more afraid of, a grizzly bear or a mosquito? Your answer will probably depend on where you are, right? If you're in the Alaskan Wilderness and a 500-pound grizzly bear wants to eat you, then it's definitely scarier than a tiny, six-legged, two-winged insect that only wants to eat *part* of you. But if you're just about anywhere else in the world, the best answer might be a mosquito the size of a grizzly bear!

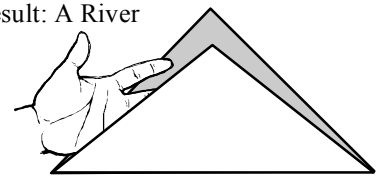
Did you know that mosquitos have killed more people than all other insects and animals combined? There are about 3,000 different kinds in the world. Some, not *all,* mosquitos spread deadly diseases when they bite people and animals. Female mosquitos only bite when they need blood to make eggs that they deposit into fresh water, like **lakes** *(hold up the square to represent a lake)* or **rivers.** *(Demonstrate with Step #1.)*

If the temperature of the water is warm enough, mosquito eggs quickly hatch into larvae, which are a favorite meal for helpful creatures like dragonflies and **small fish**. *(Demonstrate with Step #2.)*

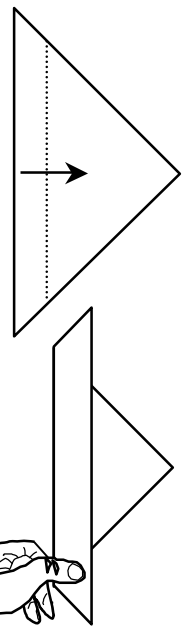
Step #1:
Position a square like a diamond and fold in half along the dotted line.



Result: A River



Step #2:
Position as shown and fold the folded edge toward the tip of the triangle along the dotted line. This crease can vary in depth. Hold as shown and move like a fish. The top and bottom points are fins.



Result: A Small Fish

Optional Follow-Up Activities

1. Fold more seagulls with increasingly smaller squares of paper, making sure to label each step with its name from the story. Pairing story events with folding steps greatly enhances short-term memory of both, and using ever smaller paper increases precision.

2. What other origami plants and animals featured in this book form a circular food chain? Fold them, arrange them in order, and display on a bulletin board or suspend as a three-dimensional mobile.

3. Will the seagull fly? Not very well. It needs some modifications. Experiment with changing the angle of the wings and collapsing the head to the inside of the figure. Make a new bird with fresh, unfolded paper. Try to glide each step as you build it. Does the plain triangle in the first step glide better than the finished seagull? Compare and contrast the flying results of birds made from differently textured or sized papers. Does heavier, thicker paper result in longer flights? Do miniature birds fly further?

4. Research the actual colors and markings of different species of birds, and then draw these characteristics on the origami model. Attach a short summary about the featured bird. Include its scientific name and facts about its habitat, diet, and size.

5. Several fables, legends, and folktales feature foxes as prominent characters. Identify as many as you can. Do the stories share similar themes or plots? Is the fox always a scoundrel? Write your own story about your origami fox. Make it fanciful, factual, or both!

6. Find and build other origami birds. Make a display showing the various styles and instructions. Compare the number of folding steps and levels of difficulty.

7. Use this story to introduce or complement discussions about:
   a. Habitats and characteristics of mosquitos.
   b. Nature's food chain. Is it cruel? Why or why not?
   c. Are there really mosquito fish? Where do they live?
   d. What diseases do mosquitos carry? Who is vulnerable?
   e. Grizzly bears. What is their position in the food chain?

Prime Time

Fold this traditional cicada with paper that has contrasting sides.

About the story: Prime numbers are demonstrated with progressive origami folds.

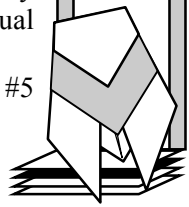
Recommended ages:

Listening only: All ages.
Listening & paper folding: age 5 – adult.

Required materials: Presenters should prefold the cicada from a large square, and then completely unfold it for storytelling. Paper with contrasting sides creates the best results.

Special notes:

1. This cicada is often one of the first models that beginning paper folders learn to make.
2. The counting sequences in the story are only suggestions and may be adjusted for individual presentation styles.
3. The depth of the resulting fold in Steps #4 and #5 can vary between different folders.



Prime Time

Prime numbers are very interesting to mathematicians and scientists, especially when they appear mysteriously in nature. Prime numbers are easy to remember. They are whole numbers that can only be divided by themselves and the number one.

For example, **two** is a prime number. When we divide these two halves by two, we get one whole square. *(Hold up a square and point to each of its halves.)*

Three is a prime number, too. *(Demonstrate with Step #1. Point to the three corners to represent the number three.)*

But **four** is not prime. It can be evenly divided by 2. *(Demonstrate with Step #2. Point to and count out the four corners of the resulting diamond shape. Continue pointing and counting in the same way for all the next numbers, too.)*