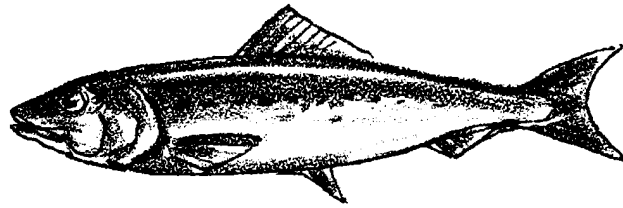


Adapted from "Swimmy's Story" by Deborah Tippins which appeared in *Science and Children* January 1991



Swimmy

Swimmy is the captivating story of a little fish who is the sole survivor of a school of fish swallowed by a tuna. Swimmy eventually meets another school of fish and devises a plan to camouflage himself and his new companions so that they may continue to explore the wonders of the sea. Written and illustrated by Leo Lionni, *Swimmy* teaches important ecological concepts and lends itself to a variety of science lessons, including the following:

Guided Imagery

Prepare children to listen to the story of Swimmy, by constructing a guided "fantasy" to help students explore ocean-related ecological concepts.

Begin by playing a tape of ocean sounds in the background (Dan Gibson's *Seascapes* is a good choice). Tell students to close their eyes and imagine that they are at the sea. Devise a script or use the one below written by Deborah Tippins:

It is a warm, sunny day, and you are standing on the shoreline watching the pattern of the waves washing over the sand. Looking down you see your own footprints and feel the wetness of the sand as it squishes between your toes. What do the footprints look like? How big are they? Suddenly, a wave washes over and leaves behind no trace of footprints.

You find a single shell, old and worn. What colors does it have? How does it feel? Look up at the sky and see white, puffy clouds and a sailboat far on the horizon. Listen to the bright piercing cries of the sea gulls in the distance.

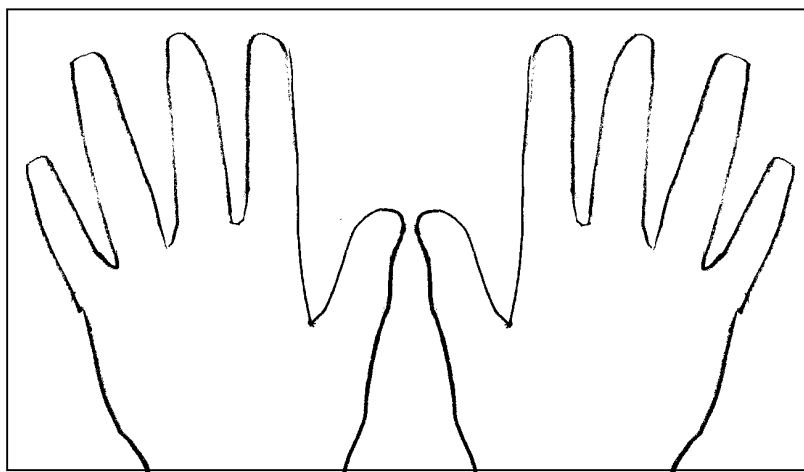
Now, imagine you are a tiny black fish, moving through the water. Swimming along, you discover wonderful creatures that live in the sea—a medusa, looking like rainbow jelly, a lobster walking like a "water-moving machine," and sea anemones swaying like pink palm trees. As you swim through a forest of seaweed, you encounter little red fish that look much like you. You swim gracefully with them.

Enjoy your swimming. Now slowly open your eyes and return to the classroom.

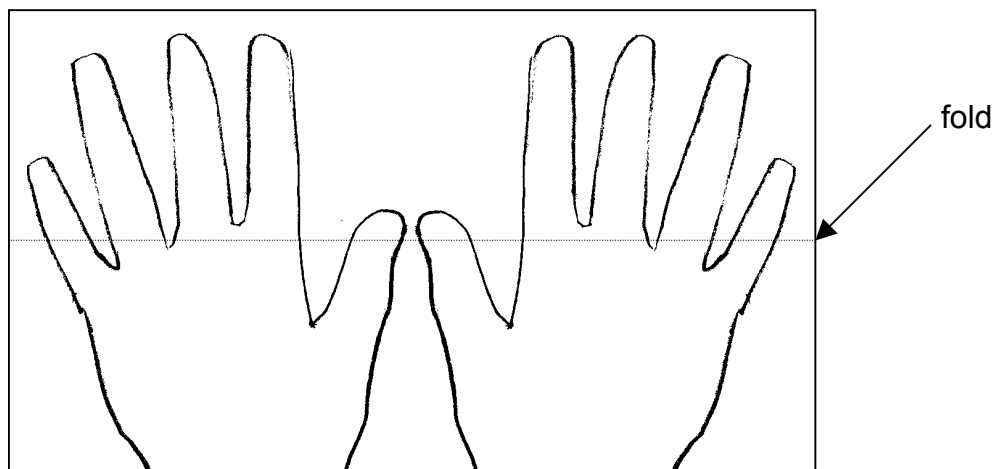
Natural Camouflage

Swimmy provides a great opportunity to discuss camouflage. Draw children's attention to the picture in the book of seaweed growing from assorted rocks (pages 13, 14). Discuss methods of disguising fish so that they will look like part of their surroundings. Have children follow the instructions below to make a forest of seaweed and then have them make their own camouflaged fish to hide in the seaweed.

1. Select three crayons, each one a color different from your tablemates' selections.
2. Draw, color, and cut out a fish or two about the size of a fist.
3. Spread your fingers apart and place your hands on a sheet of paper.



4. Using a dark crayon or marker, trace around your hands.
5. Color in the outlined hands using only your three crayons.
6. Now, fold the paper in half and, beginning at the folded edge, cut lines about 1 cm. apart across the paper, being very careful not to cut through to the edge. (Leave about 1 cm. at the top.)



7. Unfold the paper and weave the fish between the cut lines so that it is camouflaged.

Have students exchange fish with their classmates and try to hide the new fish in their own seaweed forests. In the process they will discover that some fish are difficult to see because they blend with the colors of the seaweed, while other fish can be spotted easily.

The same paper fish may be hidden in other habitats, as well. Hide the fish in sandy or grassy areas outside. See how many fish can be found in three minutes. Let students predict which fish will be the easiest to catch in the grass or sand.

In preparation for the activity "Schooling For Survival", ask children to think about how Swimmy solved the dilemma of hiding his new companions from the larger fish. This is an ideal time to introduce the idea of an ocean food chain in which smaller fish are prey for larger fish. Swimmy's solution was to teach his new companions to swim close together in the shape of one large fish, so that larger fish would be frightened away.

Keep in mind that children acquire concepts from more than just the story line of a book. The visual art that accompanies the story provides rich images from which children learn. Experiences that assist children in developing ecological concepts about marine life involve active exploration. Literature-based science can serve as a vehicle for initiating these discovery experiences.

Resources

Carle, E. (1987). *A house for hermit crab*. Saxonville, MA; Picture Book Studio.

Center for Environmental Education. (1985). *The ocean: Consider the connections*. Washington, DC: Author.

Gibson, D. (Originator). (1988). *Seascapes*. (Cassette Recording Vol. 9). Toronto: Dan Gibson Productions.

Heller, R. (1985). *How to hide an octopus and other sea creatures*. New York: Grosset and Dunlap.

Lionni, L. (1963). *Swimmy*. New York: Alfred Knopf.

National Oceanic and Atmospheric Administration. (1978). *Coastal awareness: A resource guide for elementary science*. Washington, DC: Author.

DEBORAH TIPPINS is an assistant professor of science education at the University of Georgia in Athens.