Acknowledgments

We appreciate the valuable contributions of the following to this team effort:

Debra Branner, Art Director
Gabriela Browarnik, Bilingual Curriculum Developer
Trish Byrnes, Senior Copyeditor
Betty Chambers, Director of Early Learning
Traci Cottrell, Curriculum Developer
Diana Dugan, Administrative Assistant
Mollie Gamelin, Senior Publications Designer
Maureen Keck, Curiosity Corner Product Manager
Flo Kennedy-Stack, Curriculum Developer
Jol Kerr, Curriculum Developer
Lauren Loran, Associate Manager of Art and Design
Susan Magli, SFA Middleschool Science Team Leader
Laura Burton Rice, Supervisor of Bilingual Development
Pam Russell, Curriculum Developer
Maria Sanz, Bilingual Editor and Translator
Ursula Sayers-Ward, Bilingual Curriculum Developer
Judith Sorgen, Supervisor of Bilingual Development
Irene Baranyk, Publications Designer

Creature Features: Fish was developed under the direction of Robert E. Slavin and Nancy A. Madden, codirectors of the Success for All Foundation family of programs.

The mission of the Success for All Foundation is to develop and disseminate research-proven educational programs to ensure that all students, from all backgrounds, achieve at the highest academic levels.

These programs were originally developed at Johns Hopkins University.

© 2003 Success for All Foundation. All rights reserved.
Creature Features: Fish

Sally Francis Anderson
Look down in the water!

Many, many creatures of different colors, different shapes, and different sizes live in water—fresh and salty—all over the world.

Could they be fish?
Look down in the bay!

Tiny eggs in gooey globs, drift freely or stay safe in sandy nests guarded by protective parents.

Could they be fish?
Look down in the reef!

Schools of flicking fins swim and turn together—dorsal fins above, pectoral fins below, and tails swaying to and fro.

Could they be fish?
Look down in the ocean!

Their floppy bodies flip and flex.
Could there really be bony skeletons inside?

Could they be fish?
Look down in the fishbowl!

Hundreds of slippery scales shimmer from head to tail. Tiny shields, side by side, cover the body.

Could it be a fish?
Look down in the river!

Each gill cover and mouth opens and shuts, as water with oxygen passes through. Underwater, they breathe without air.

Could they be fish?
Look down in the sea!

One wide-awake eye on each side,
or two on top! They never blink.
They never close. They always watch.

Could they be fish?
Look down in the cove!

Colors and shapes hide them among the reefs and rocks. Look closely! They're camouflaged!

Could they be fish?
Look down in the lake!

Hooked on a fishing line, it was tricked by the bait. Now it’s twisting and thrashing, pulling to swim free.

Could it be a fish?
Look down in the pool!

He has many bones, two open eyes, and one mouth blowing bubbles.

He even swims underwater...like a fish!

Could he be a fish?
Look! Could it be a fish?

It lives down in the water. There’s a bony skeleton, flicking fins, slippery scales, pulsing gills, two wide-awake eyes, and one hungry mouth.

Yes, it is a fish!
variety of tropical fish

clown anemone fish

grunt fish

sunfish

sea horse

goldfish

rainbow trout
Further Fish Facts

For Teachers and Parents

This book focuses on bony fish, the class of the fish species that has backbones and true bones making up the skeleton. Other bony fish characteristics include: scales, fins supported by flexible spines, and one gill opening on each side of the body. Minnows, goldfish, sea horses, tuna, and many others are bony fish. Sea horses have a regular internal bony skeleton, as well as an armor of thin, interlocking bony plates just under the skin.

Sharks, skates, and rays belong to the cartilaginous class of the fish species. They have skeletons made of cartilage instead of bone, four to six gill openings on each side of the body, fins supported internally with cartilage, and dermal denticals instead of scales. These make the shark’s skin feel like sandpaper.

The characteristics that cartilaginous and bony fish share are: gills, aquatic habitat, general body form, backbone, and spinal cord. There are more than 20,000 species of bony fish and fewer than a thousand species of cartilaginous fish. By comparison, there are around 5,000 species of mammals.

Other animals that are not classified as fish but that share the aquatic habitat include mammals (dolphins and whales), crustaceans (crayfish and crabs), and echinoderms (starfish and sea urchins).

Fish do not have lungs. Their gills absorb oxygen from water.

Most bony fish eggs are massed in gelatinous globs and scattered in the water, without parental care. The clown anemone fish (page 2) are mated pairs and lay their eggs near sea anemones’ stinging tentacles for protection. The parents stay close by to guard and oxygenate the eggs. Male sea horses carry their young in a pouch on their bellies. A few species of fish, such as Pacific Ocean rockfish, are viviparous, meaning that they give birth to live young.
Acknowledgments

We appreciate the valuable contributions of the following to this team effort:

Debra Branner, Art Director
Gabriela Browarnik, Bilingual Curriculum Developer
Trish Byrnes, Senior Copyeditor
Bette Chambers, Director of Early Learning
Traci Cottrell, Curriculum Developer
Diana Dugan, Administrative Assistant
Molli Gamelin, Senior Publications Designer
Maureen Keck, Curiosity Corner Product Manager
Flo Kennedy-Stack, Curriculum Developer
Joi Kerr, Curriculum Developer
Lauren Loran, Associate Manager of Art and Design
Susan Magri, SFA Middle School Science Team Leader
Laura Burton Rice, Supervisor of Bilingual Development
Pam Russell, Curriculum Developer
María Sanz, Bilingual Editor and Translator
Ursula Sayers-Ward, Bilingual Curriculum Developer
Judith Sorgen, Supervisor of Bilingual Development
Irene Baranyk, Publications Designer

Creature Features: Fish was developed under the direction of Robert E. Slavin and Nancy A. Madden, codirectors of the Success for All Foundation family of programs.

The mission of the Success for All Foundation is to develop and disseminate research-proven educational programs to ensure that all students, from all backgrounds, achieve at the highest academic levels. These programs were originally developed at Johns Hopkins University.

© 2003 Success for All Foundation. All rights reserved.
Creature Features: Fish is one of a series of SFA Big Books developed by the Success for All Foundation to help young children explore theme-related ideas and to build their book sense: their enjoyment of books and their understanding of how printed words and pictures communicate meaning.

The Success for All Foundation programs for young learners provide children with experiences that foster the abilities and attitudes necessary for their success in the primary grades. These programs support the development of children's language, literacy, math, science, interpersonal, and self-help skills.