Blue Star EDUCATION

5037

TEACHER'S GUIDE

Reading • Writing • Science Connections

AQUATIC ANIMALS & REPTILES

Blue Star Education

Overview

Introduction

It is no surprise that the unique characteristics and intriguing habits of animals capture the interest of people of all ages. School children in particular enjoy learning about different animals, what roles they play in the world, and how they adapt to their environments. National and state content standards require that students learn about animals and their functions as organisms in our environment.

The resources in *Reading, Writing and Science Connections—Animal Lives:*

- motivate students to learn more about the animal kingdom by providing them with well-written and beautifully-illustrated nonfiction resources.
- help teachers meet reading, writing, and science requirements through lessons and activities that improve students' nonfiction reading comprehension skills.
- take learning to a higher, cross-curricular level by connecting writing, reading, and science.
- provide correlations to reading, writing, and science standards.
- enhance students' awareness of the diversity and similarities among animals and the importance of animal lives to the health of the planet.

What's Included

This supplemental kit includes:

- a two-part Teacher's Guide—*Reading and Writing Activities* (Part A) and *Science Resource Activities* (Part B).
- six copies of each of the six *Animal Lives* titles:

  —*Alligators and Crocodiles*

  —*Dolphins and Porpoises*

  —*Penguins*

  —*Tortoises and Turtles*

  —*Sharks*

  —*Whales*

  The nonfiction science readers are full of factual, fascinating information. The easy-to-understand text and the lavish, full-color photographs will be sure to capture student interest and transform the task of research into an intriguing investigation.
- a CD (Windows and Mac compatible) of the reproducible student pages found in both parts of the Teacher's Guides. This will make duplicating materials easier and will improve the copy quality. The pages have been prepared as PDF files and can easily be printed.

Whales

Reading Focus: Comprehension / Cause and Effect

Standard 5. Benchmarks 1 and 2

Standard 7. Benchmarks 1 and 7

Materials

- 1 copy of *Whales* per student
- 1 copy of the Whales Study Guide Bookmark per student (page 46)
- 1 copy of Cause and Effect per student (page 47)

Preparation

Have students cut out and prepare the Whales Study Guide Bookmark. Prepare students to look through their copies of *Whales*.

Lesson

Explain to students that they will be paying specific attention to how the book is organized and what information is included in each section. Guide students on a detailed preview of the book, paying close attention to the headings and bold words.

Have students fill out the Study Guide Bookmarks either while you read together as a group or as an independent activity later on. Have students save the bookmarks for later activities and also as a study guide. Afterwards, students can use these Study Guide Bookmarks for information reports or other types of writing activities once they have finished studying all the animals in the *Animal Lives* books.

Have students read the book and use the following questions to help guide group discussion. Remind students to use the glossary in the back of the book to define words that they do not understand. All of the words in **bold** type are included in the glossary.

Guided Questions

Pages 4 and 5

What is the largest animal in the world? (blue whale) What animals are close relatives of whales? (dolphins and porpoises) How do we know that whales are mammals? (they produce milk for their young and even have hair in their nostrils) Why are whales considered to be unusual mammals? (they live their entire life in the water and still breathe air)

Pages 6 and 7

How many species of whales are there? (50) What is a baleen whale? (a very large whale that has large plates that hang from its jaws instead of teeth that it uses to strain food from the water) What is a toothed whale? (a whale that has teeth in its mouth that it uses for chewing food) What is the difference between the two types of whales? (toothed whales are smaller and are predators; baleen whales are larger and have plates in their mouths)

Pages 8 and 9

Where in the world are whales found? (in all of the oceans of the world, including the coldest oceans; some whales live in very deep water where it is pitch black) Why do many whales live in habitats with cold water? (cold water is rich in food for whales, especially krill and plankton)

Pages 10 and 11

How long is a female whale pregnant? (between 9 and 17 months, depending on the species) How does a mother whale care for her calf? (she feeds it milk, helps it learn how to breathe without swallowing water, and also how to stay upright in water)

Whales

There are many different families of whales and dolphins. All of these creatures are mammals. They breathe air with their lungs. They must come to the surface of the water often to breathe air before they go back into the water. Mammals have hair or fur. Whales have a few bristles of hair. Whales are warm-blooded. Their bodies maintain the same basic temperature—just like people's do—even if the ocean temperature is very warm or very cold. A whale has **blubber** to keep out the cold. Whales have live births, and whale mothers feed their babies milk from their own bodies.

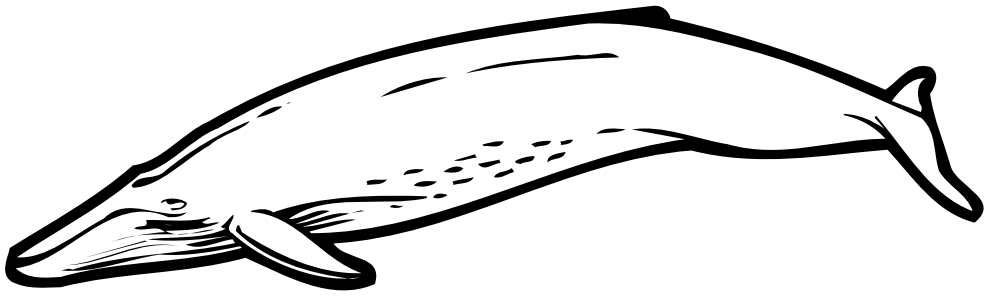
Blue Whales

Blue whales are the largest animals that have ever lived on Earth—on land or in the ocean. Some blue whales have grown as long as 110 feet—as long as three school buses parked end-to-end. They can weigh 150 tons—as much as 75 cars stacked on top of each other. They are as tall as a two-story house. Two classrooms' worth of children could fit on a blue whale's tongue!

A blue whale doesn't have teeth; it has hundreds of **baleen** plates in its mouth. These plates are as tall as a room. To eat, a blue whale swims through the water with its mouth open. It may take in 70 tons of water, small shrimp-like crustaceans called **krill**, small fish, and other tiny sea creatures. The whale squeezes out the water with its tongue and swallows the food. A blue whale can eat 3 tons of food—the weight of 6 cars—in one day.

A blue whale has two **blowholes** on top of its head, which it uses for breathing. It has long, thin **flippers** that help it to turn left or right, dive, surface, and roll over. The flat fins in back, called *flukes*, push the whale through the water. The color of the blue whale can be blue or blue gray and it may be spotted. Blue whales live in all oceans.

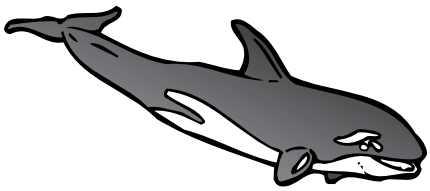
A newborn blue whale is as long as a classroom and weighs as much as a small car. The baby, called a *calf*, may drink 130 gallons of milk in one day and grow 10 pounds heavier every hour. Mothers will feed their babies milk for about 7 months. A young calf does not become an adult for 5 or 6 years.



Identification Cards

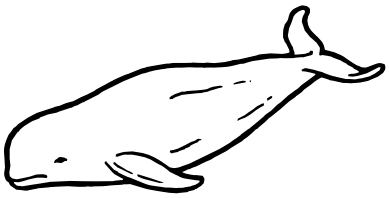
Directions: Cut along the dashed lines. Fold along the solid lines. Use a glue stick to glue the two sides together.

Killer whale



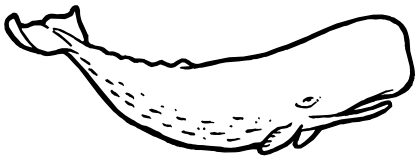
Killer whale
- can swim 40 m.p.h.
- eats whales, seals, walruses
- called *orca*
- over 20 feet long
- weighs 5 tons
- 40–48 large teeth

Beluga whale



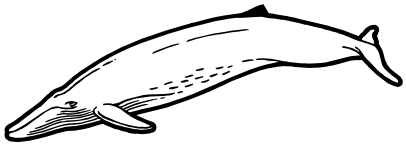
Beluga whale
- lives in pods
- noisy whale
- hunted by killer whales
- eats fish, clams, shrimp, crabs
- white whale
- toothed whale

Sperm whale



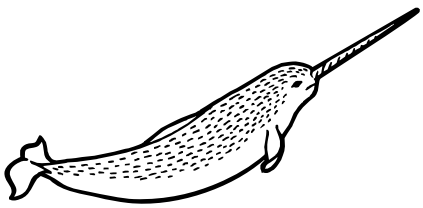
Sperm whale
- 50 feet long
- weighs 40 tons
- largest toothed whale
- eats squid, octopus, fish
- makes ambergris
- dives over ½ mile
- head full of sperm oil

Blue whale



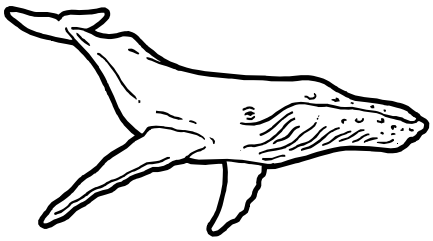
Blue whale
- 100 feet long
- 150 tons
- largest animal ever on Earth
- baleen whale
- eats krill
- blue or blue-gray

Narwhal



Narwhal
- 10-foot tooth
- can look dead
- spears fish
- eats fish, squid, and crabs
- dark spots on body
- has only 2 teeth

Humpback whale



Humpback whale
- 60 feet long
- long flippers
- black on top
- white underneath
- eats krill and fish
- weighs 48 tons
- up to 400 baleen plates
- "sings"

Raising Brine Shrimp

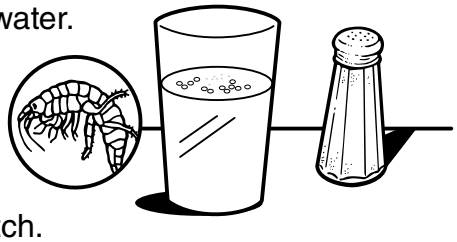
The giant baleen whales eat some of the smallest creatures of the sea called *krill* (shrimp-like creatures). The brine shrimp you will raise in this activity resemble krill.

Materials

brine shrimp eggs	water	baking yeast	toothpaste
clear plastic cups	salt	magnifying glasses	

Directions

1. Pour 1 tablespoon of salt into a clear, plastic cup filled with 8 ounces of water.
2. Stir the salt and water until the salt is completely dissolved.
3. Place 1 pinch of brown brine shrimp eggs on top of the water.
4. Put the cup in a warm place in the room.



Hatching the Shrimp

- Check your container every day.
- It usually takes 3 or 4 days for some of the shrimp to hatch.
- Use a magnifying glass to inspect.
- Look for a small, white, kite-shaped creature.
- The shrimp often move very fast and are hard to keep in focus.

Counting Shrimp

Keep this daily chart to record how many shrimp have hatched.

Number of Brine Shrimp

Day 1 _____ Day 4 _____

Day 2 _____ Day 5 _____

Day 3 _____

Feeding the Shrimp

After the fifth day, use a toothpick to lift a little baking yeast from the package. Put the yeast in the plastic cup. Let it settle in the cup. Do not overfeed; this will spoil in the cup and kill the shrimp. Draw a sketch of the shrimp in the space at the right.