



Science  
**Actual Size**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34  
**Blue Whale**

**Big  
Animals!**

A young girl with light brown hair and blue eyes, wearing a red t-shirt, is smiling and holding a purple crayon. She is positioned on the right side of the page, partially overlapping the large text.

Easily create **Full-Scale** Drawings Right on Your Playground!

# To the Teacher

Turn the playground into a landscape for learning—and get ready to have some fun! *Actual Size—Big Animals!* brings high-interest science topics to life.

## **How *Actual Size—Big Animals!* is Organized**

*Actual Size—Big Animals!* includes 10 delightful activities. Each one focuses on an actual size (full scale) drawing or diagram.

Each activity consist of two pages:

- The **Activity Page** provides teaching material for how to create and use the drawing or diagram.
- The **Plan Page** provides the blueprint for the drawing or diagram itself.

## **Materials Needed**

The materials needed for each activity are listed in the Prepare section of each Activity Page. For most activities, the key tools are:

- sidewalk chalk (and lots of it!)
- a meter or yardstick
- a measuring tape and/or a measuring wheel
- a carpenter's square
- chalk line reel

## **How to Use the Activities**

You may wish to integrate these activities into your curriculum or you may wish to use them as standalone fun. Teachers have used these activities as:

- lesson/topic openers
- main lesson topics
- extension activities
- enrichment activities
- independent class rewards

# To the Teacher

A general lesson cycle for using the *Actual Size—Big Animals!* includes the following steps, detailed on each of the Activity Pages:

## **Prepare**

Each Activity Page begins with “Prepare.” There are two parts to Prepare: *Allow time* is the approximate amount of time the activity will take. *Gather materials* lists the materials you will need for the activity.

## **Focus**

Each Activity Page follows Prepare with “Focus.” Focus includes bellringer and/or background information about the topic to help you get students excited about the lesson.

## **Present**

Each Activity Page follows Focus with “Present.” Present provides step-by-step instructions for creating the drawing or diagram and leading your students in interacting with it. Here is where the real learning—and the real fun!—takes place. Depending on your situation, you may wish to create the drawing or diagram yourself or, more likely, to divvy up tasks among your students working individually or in groups or as a class. *Actual Size—Big Animals!* can be used with children of all different ages; simply adjust the amount of help you give them as they draw the diagrams accordingly.

Many of the diagrams were drawn very simply so that they would be easier for children to replicate. If you wish, you can show students relevant photographs and paintings of their subject (included on the Activity Pages) to provide them with more detail. Older or more advanced students can add greater details to their illustrations.

Notice any boldfaced vocabulary terms that you may integrate into the activity. At the end of Present is a list of the vocabulary term(s) with concise definitions that you can share with your students.

**KEY:** Above all else, make sure that kids have the freedom to wander in and out of what they created, play (younger children enjoy make-believing), ask questions, and simply enjoy themselves. Essentially, you have just led them in creating a two-dimensional specialized playscape. Let them have fun!

## **Conclude**

Each Activity Page ends with “Conclude.” Here you will find ways to wind the lesson down, questions for you and the students to discuss, or extension activities. They can help students concretize the ideas they encountered during the activity.

# To the Teacher

## Pedagogy

The activities in *Actual Size—Big Animals!* fall under many pedagogical categories. These activities are kinesthetic, multisensory, interdisciplinary, concrete, accommodating, converging, diverging, assimilating “hands-on,” project-based, grouped, and so on. Depending on your focus, and your pedagogical leanings, any of these aspects can be highlighted.

However you categorize the activities, though, the research is clear: the activities in *Actual Size—Big Animals!* are pedagogically sound. According to the U.S. Department of Education, “the use of multiple representations—pictures, diagrams, charts and models—helps students visualize and understand difficult concepts.” Further, “research has found that when teachers make connections between abstract and concrete representations, students are better able to apply what they have learned across a range of situations.”

But, a simpler test is this: ask an adult to recall something from their own school days. Chances are, it will be a project or an activity. *Actual Size—Big Animals!* is designed to help you create projects and lead activities that your students will find, literally, unforgettable!

We had one teacher share this about her experience: “My students got to see the fruits of their labor in just one class. It made them feel confident in themselves and in their imaginations.”

## Confident kids—is there anything better?

Care to share? We would love to see pictures of your students’ creations.  
Please email them to [info@SunflowerEducation.net](mailto:info@SunflowerEducation.net).

Visit [ActualSizeBooks.com](http://ActualSizeBooks.com) to extend instruction:  
see videos, consult maps, listen to recordings, and more!

[ActualSizeBooks.com](http://ActualSizeBooks.com)

Grab some chalk  
and get ready  
for some fun!



*This teaching packet is excerpted from the book, Actual Size—Science.  
The Activity and Plan page numbers are for reference only.*





## Activity 2

# Blue Whale

Students create a full-scale drawing of a blue whale in order to comprehend how big the world's largest animal can be.

### Prepare

- *Allow time:* approximately 30 minutes for this activity
- *Gather materials:* Plan 2, measuring tape or measuring wheel, sidewalk chalk

### Focus

What is the world's largest animal? The blue whale! Where do blue whales live? In the ocean. Discuss with your class why the world's largest animal lives in the ocean. Ask "where do you feel lighter, in the water or on land?" The water in the ocean helps support the weight of the blue whale.

### Present

① Consult Plan 2. On the playground (or appropriate indoor floor), draw a 108-foot line. Using this line as the center of the blue whale, guide students as they draw the outline of the blue whale.

② This is an outline of the largest blue whale ever recorded by people. Can you guess how heavy it was? A whopping 190 tons! A blue whale is so big that its heart is the same size as some small cars!

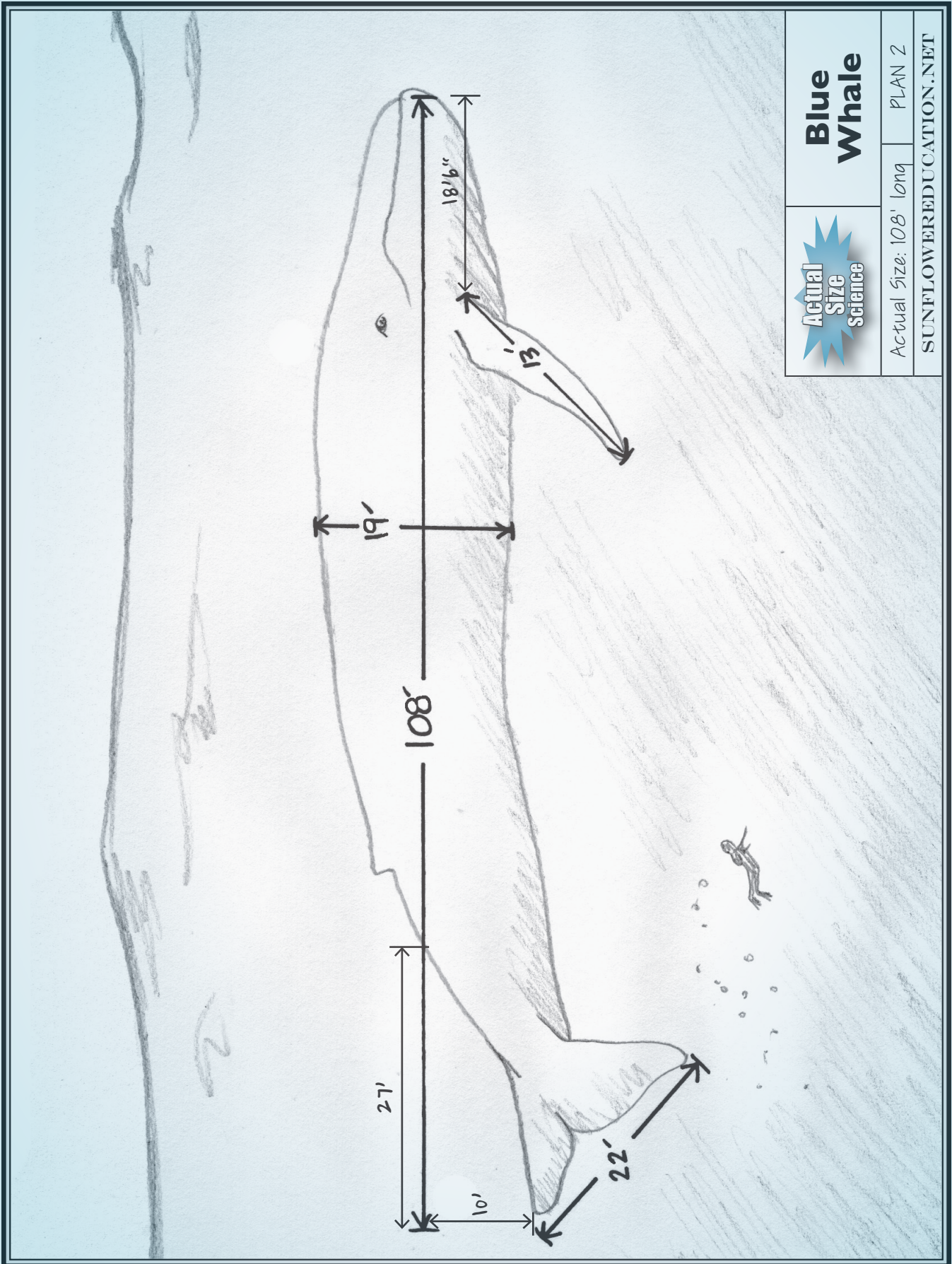
③ What does an animal this big eat? Sharks? Sea turtles? Giant fish? Surprisingly, the blue whale, the largest animal on Earth, eats one of the smallest animals on our planet, *krill*. Krill are tiny shrimp-like animals. Blue whales don't have teeth; instead they have *baleen*, which they use to strain krill out of the water. A blue whale can eat as many as 40 million krill in a day!

### Vocabulary

*krill:* a small shrimp-like animal that lives in the ocean  
*baleen:* rows of hard plates that hang down from the upper jaw of some whales  
*endangered:* a species threatened to go extinct, or disappear completely

### Conclude

Talk with students about what it means for an animal to be *endangered*. Before we learned how to use oil from the ground, people hunted down whales to use the oil from their bodies. So many whales were killed that they were in danger of disappearing forever. Fortunately, today, there are people who look out for blue whales and other types of whales and are trying to help their numbers grow again.



# Blue Whale

Actual Size: 108' long PLAN 2

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