

# Measuring Noah's Ark

*A Math Activity with Some Amazing Results!*



Calculate the size of the Ark and how many animals it could hold, using the dimensions given in the Bible. This activity involves measurement conversions, scale, volume, and percent.

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## Notes for the Teacher

This is a fun math activity that uses the description from the Bible to calculate the size of Noah's Ark and the number of animals it could hold. The students will discover that the ark was a gigantic ship that could not only house all the animals but had ample space left over for food and supplies.

The math concepts used in the activity are measurement conversions, scale, volume, and percent .

### Answers

Page 1: Most of my students will draw a version of the cute houseboat image. The number of animals may vary from 25—100.

Page 2: The description of Noah's ark is found in Genesis 6:14-16 which says:

*“So make yourself an ark of gopher wood; make rooms in it and coat it with pitch inside and out. This is how you are to build it: The ark is to be three hundred cubits long, fifty cubits wide and thirty cubits high. Make a roof for it, leaving below the roof an opening one cubit high all around. Put a door in the side of the ark and make lower, middle and upper decks.” (NIV)*

Length = 300 cubits, Width = 50 cubits, Height = 30 cubits. 3 decks.

Length = 450 ft, Width = 75 ft, Height = 45 ft. Each deck is 15 ft in height.

After the students make their scale drawings, they should see that the ark was an extremely large ship—much larger than most people think.

Additional objects may be added to the scale drawing such as a 707 airplane, an elephant, a 3-story building. All these will be dwarfed by the size of the ark.

For an optional, additional project, you can have your students create scale models from cardboard or balsa wood. One side of their models can be left open so it is possible to see inside. Animals drawn to scale and cut from paper may be glued inside.

Name \_\_\_\_\_

## The Dimensions of Noah's Ark

1. There is a description of Noah's Ark in the Bible.

Where in the Bible would you find it? \_\_\_\_\_

2. What were the dimensions of the ark given in the Bible?

Length \_\_\_\_\_

Width \_\_\_\_\_

Height \_\_\_\_\_

3. How many decks (floors) were there inside? \_\_\_\_\_

4. If a cubit is about 1.5 feet, convert the Bible dimensions into feet.

Length \_\_\_\_\_

Width \_\_\_\_\_

Height \_\_\_\_\_

5. What is the height of each deck in feet? \_\_\_\_\_

## A Scale Drawing

On the next page, use these dimensions to make a scale drawing of a top view and a side view of Noah's Ark. Make the side view a cut-away to show the decks inside.

1. Draw a short line next to the side view to represent a man who is 6 feet tall.

2. Draw a railroad boxcar that is 40 feet long and 7.5 feet high on the same page.

3. Based on your scale drawing, what conclusions can you draw about the size of the ark?

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# CALCULATING THE ACTUAL DIMENSIONS INSIDE THE ARK

*First, record your data from the previous page.*

Name \_\_\_\_\_

Length = \_\_\_\_\_ feet, Width = \_\_\_\_\_ feet, Height = \_\_\_\_\_ feet

The mathematical name for space inside is the \_\_\_\_\_.

The formula to calculate the space inside is \_\_\_\_\_

What is the total space inside the ark? \_\_\_\_\_ cubic feet

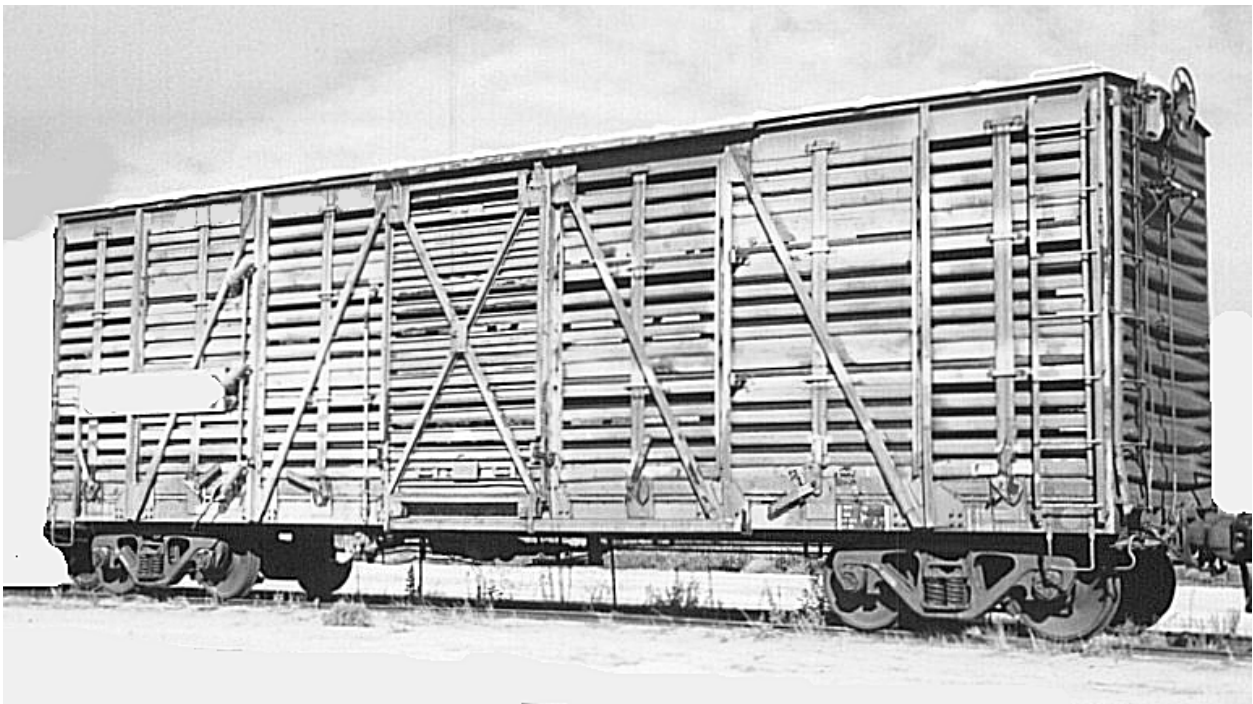
## A RAILROAD STOCK CAR (a car that holds livestock)

The interior measures:

40 feet long, 7.5 feet wide, and 10 feet high

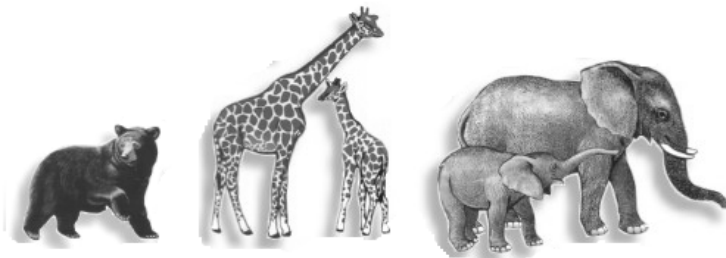
The space inside = \_\_\_\_\_ cubic feet.

How many RR cars could fit inside the ark? \_\_\_\_\_



# THE NUMBER OF ANIMALS

Name _____
_____
_____



Some animals were large, such as \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

However, the great majority of the animals would have been quite small such as: \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.



Assuming that the average size animal was approximately the size of a sheep and using the railroad car as our gauge, we can calculate the total number of animals the ark could possibly hold.

240 small to medium-size animals could fit in a standard railroad stock car. Calculate how many animals could fit inside the ark. \_\_\_\_\_

Since Noah would not have to take animals that live in the sea, all the animals aboard the ark were the non-aquatic, air-breathing animals. Zoologists have estimated the number of these animals would certainly be less than 35,000.

If there were 35,000 animals on board, what percent of the available space in the ark would have been taken up by the animals?

\_\_\_\_\_

Conclusions: \_\_\_\_\_

\_\_\_\_\_