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SCENIC SCIENCE LESSONS 2B

A large wooden ship, resembling Noah's Ark, is shown from a side profile, sailing on a turbulent sea with white-capped waves. The sky is filled with dark, heavy clouds, suggesting a storm. The ship's hull is made of horizontal wooden planks, and it has a simple, functional design with a small cabin structure on top.

WHAT IF ...

What if the secret to life or death was listening to instructions?

1. Would you listen?
2. Would you be able to follow the instructions?
3. What knowledge would you need?

MEASUREMENTS

God gave Noah measurements for the ARK.

DIMENSIONS – a measurable extent of some kind, such as length, breadth/width, height/depth.

These were essential to save lives.

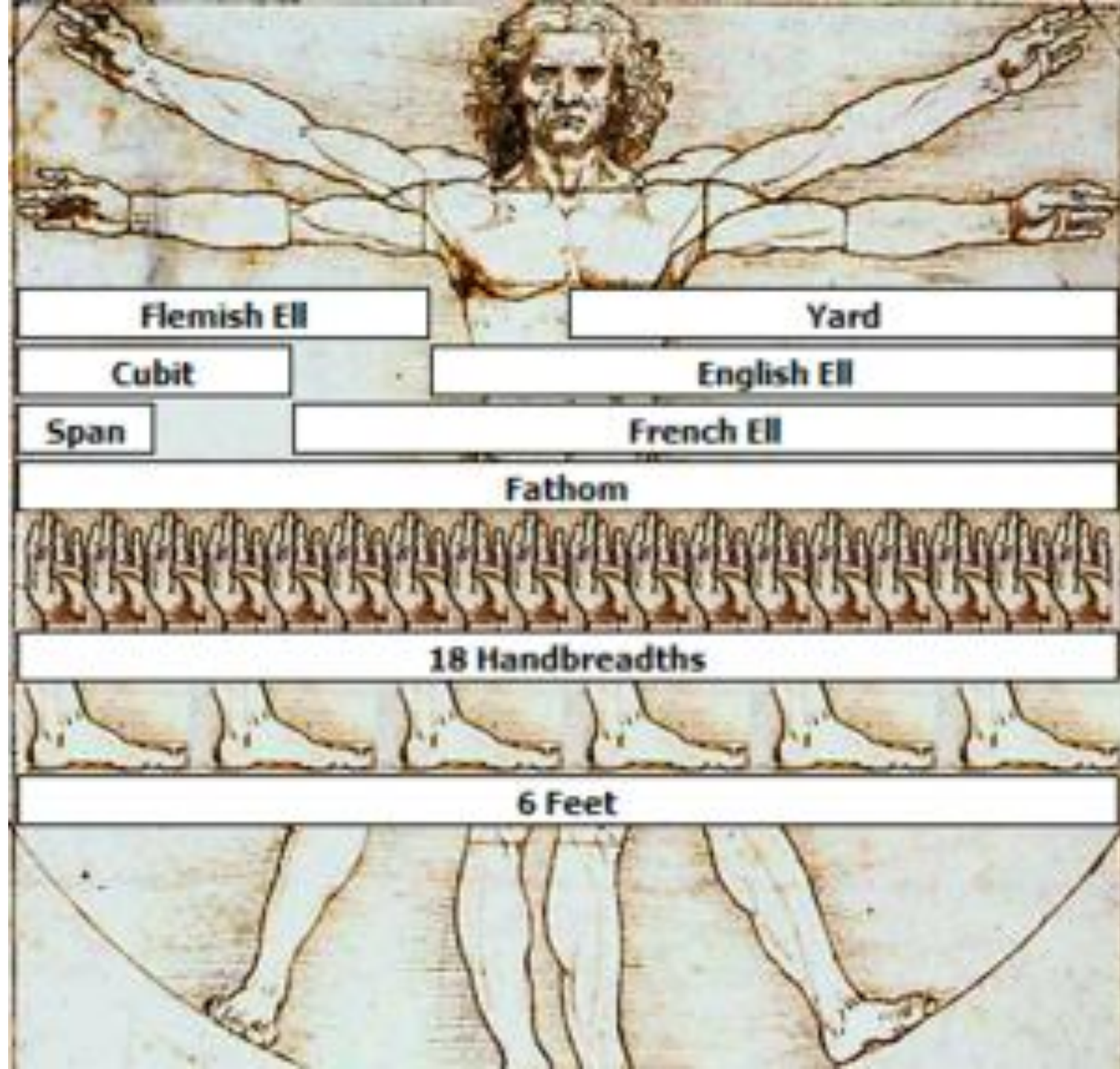


LENGTH	300 cubits = ~450 feet or ~135 meters long
WIDTH	50 cubits = ~75 feet or ~23 meters wide
HEIGHT	30 cubits = ~45 feet or ~14 meters tall

CUBITS vs METERS

- One Cubit = 1.5 Feet
- One Meter = ~2 Cubits

English/US Measures are more cumbersome. We'll use metric, the **STANDARD for Physics.**



God gave us the ability to measure things, so we can...

- Build and create
- Know how
 - Far away something is
 - Fast it's going
 - Big it is (or small it is)
- Consider the needs
 - Like could the ark carry all the animals and food needed
 - Could Noah find all the wood he would need

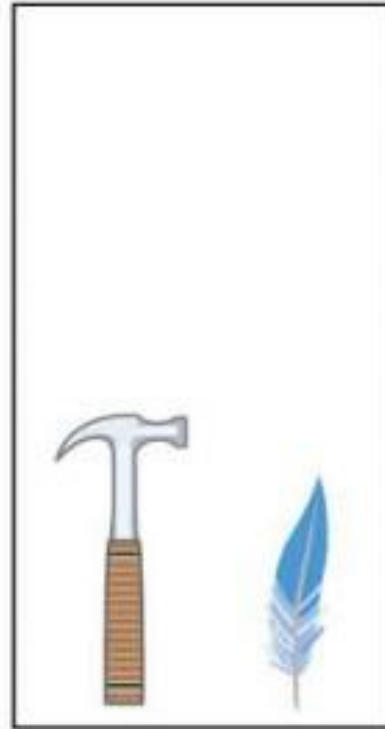


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Experiments with Measurements/Meters



In air



In a vacuum



In a vacuum (the hard way)

<https://youtu.be/Oo8TaPVsn9Y?si=ftgrdTQUiwUm1FT1>

A large, multi-story wooden ark is shown on a body of water. The ark has a long, low profile with a series of small, dark rectangular openings along its top edge. A wooden ramp extends from the side of the ark down to a smaller wooden boat on the water. The sky is a pale blue, and the water is a light blue-green color. The overall scene is a classic representation of Noah's Ark.

THE CAPACITY OF THE ARK

- 450 semi-trailers or
- 570 railroad cars.
- This is more than adequate space to house all the diverse kinds of animals aboard the ark.

BASE 10 BASICS

GOD GAVE US: **10 fingers**
 10 toes

We count by 1's, 10's, 100's
These are Base 10 numbers
Our decimal system is Base 10
Our changing numbers are Base 10
tens, hundreds, thousands

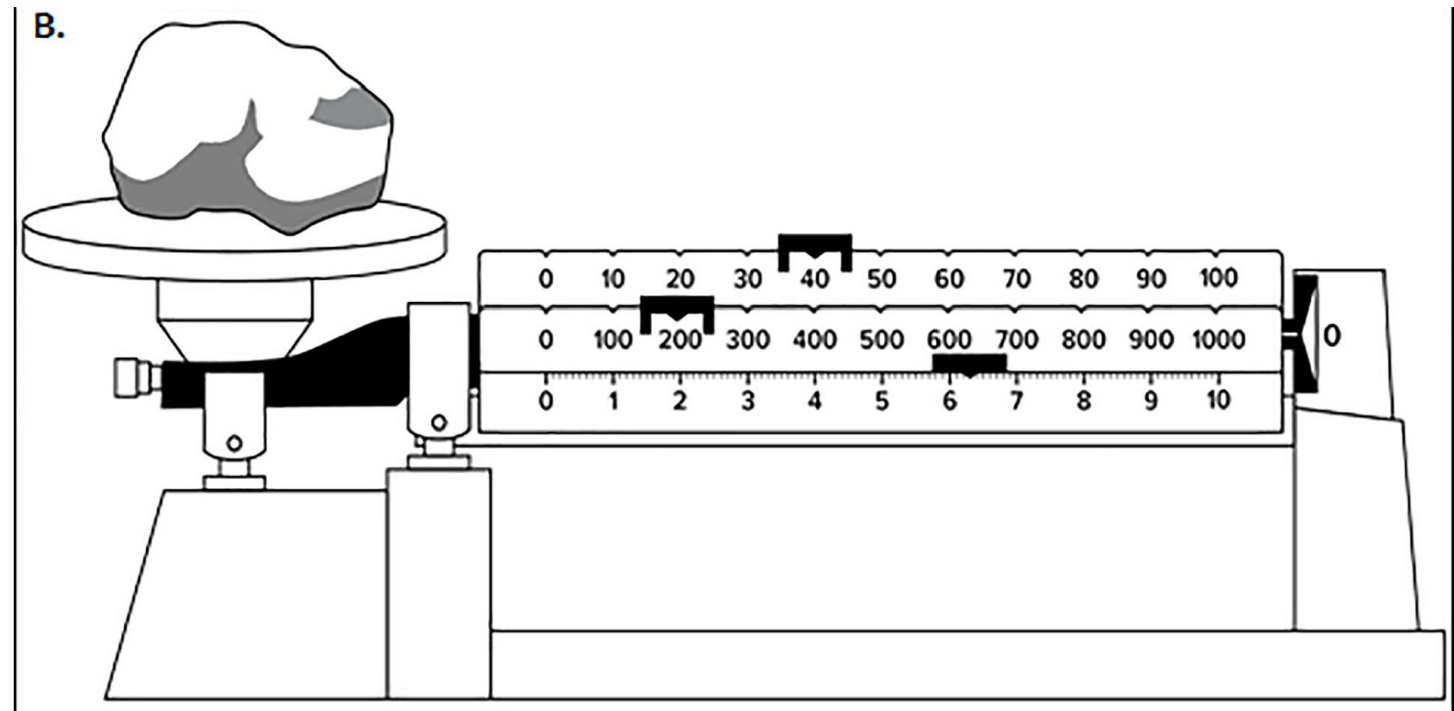


Base 10 Measurements

Weight Measures

Scaler values are normally Base 10.

A scale (right) shows: 1's, 10's, 100's grams on separate beams.

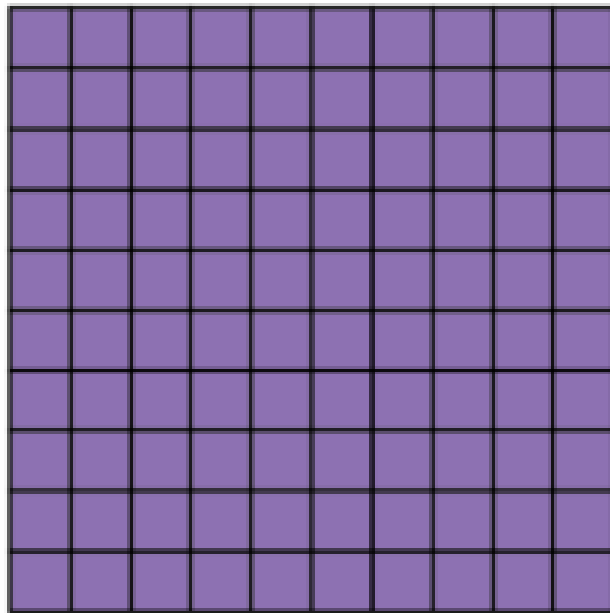


Quantities combine 1's, 10's, 100's...

The interface features a large yellow board with the text $x = 0$ in the center. To the left of the board are three circular buttons labeled 1, 10, and 100. Below the board is a task bar that reads "Make x = 55 blocks. ?". To the right of the board is a pile of green base ten blocks, including several rods and a small cluster of cubes. At the bottom left, there are three purple and green cylindrical blocks, each with a white circle containing the number 0. A small white character with a smiling face is positioned behind them. At the bottom center, there is a wooden ruler with a yellow hand pointing to the 0 mark. The ruler is marked with numbers from 0 to 90 in increments of 10.

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Linear to Squares – $10 \times 10 = 100$ squares



1 hundred



3 tens



8 ones

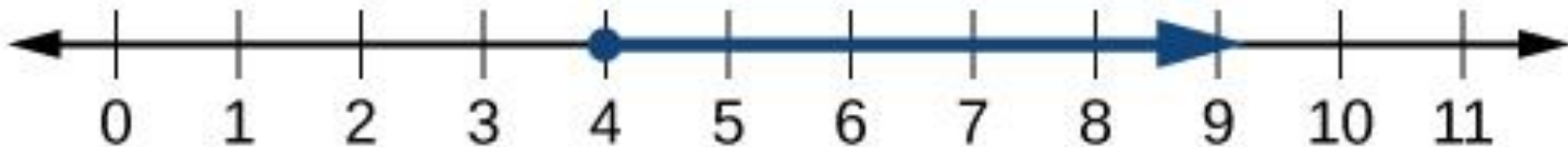
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We live in a 3-D World – Three Dimensions

A point, a line, or a plane are often called imaginary because nearly everything we can see has 3 dimensions

- One dimension (like a line)
- Two dimensions (like a piece of paper)
- Three dimensions (everything else)

Even a line you can draw on your “white board” has a thickness, though it is very small. Draw a line like this:



Cubic Measures

Capacity, Volume, Liquids
Displacement, and Others

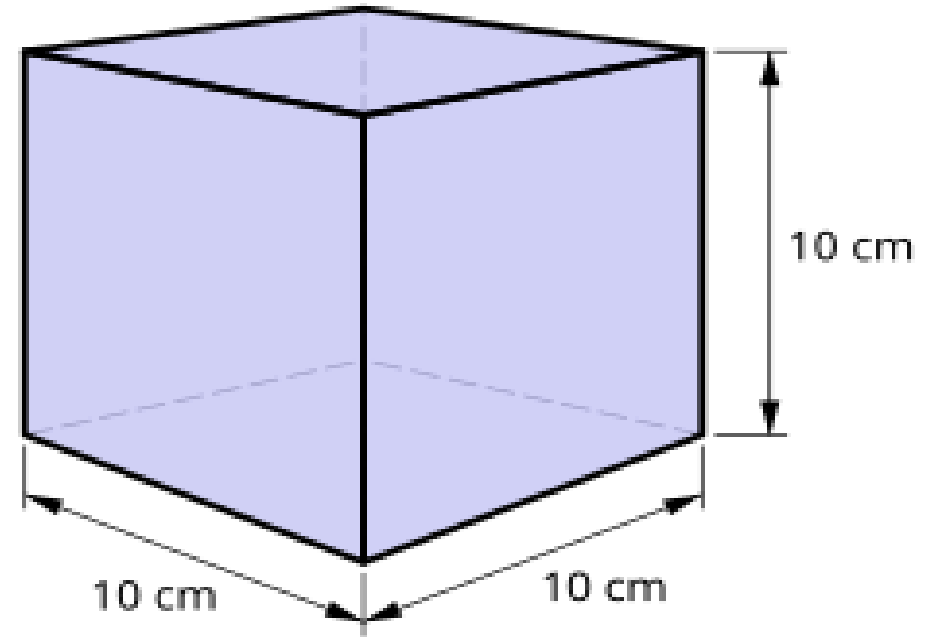
WHAT A CUBE CAN HOLD

LENGTH 10 cm

WIDTH 10 cm

HEIGHT 10 cm

$$10 \text{ cm} \times 10 \text{ cm} \times 10 \text{ cm} = 1000 \text{ cubic cm}$$

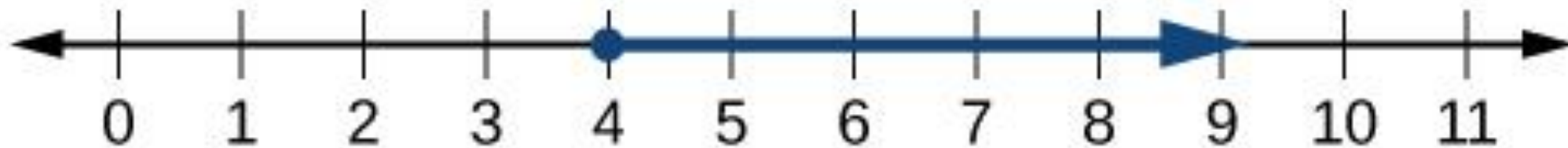


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Number Lines with Vectors

Learn to View Number Lines AND Vectors

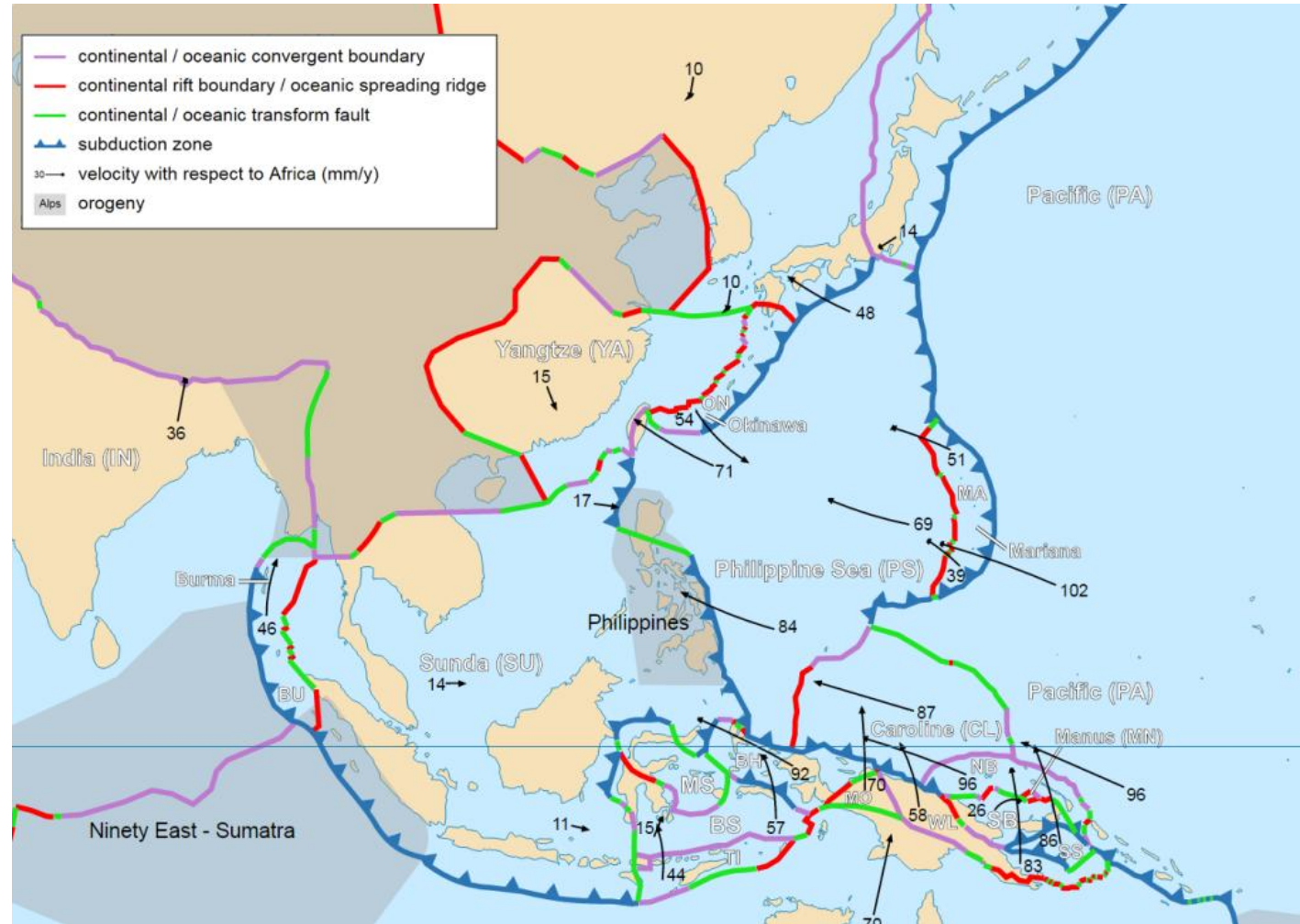
$$\boxed{4} + \boxed{5} = \boxed{9}$$



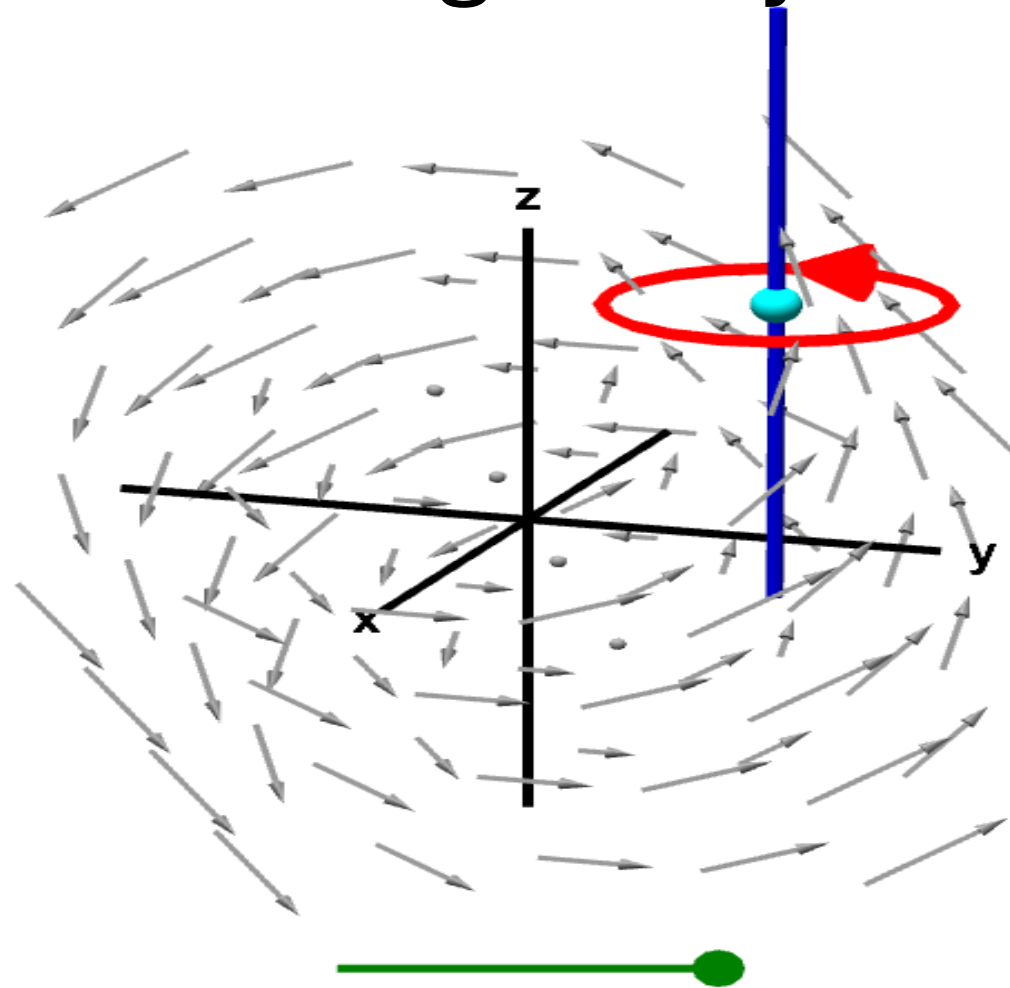
Although a standard number line has only 2 directions, shown as positive and negative, can be used for anything with only two opposite directions, such as north/south, or east/west.

Vectors 2-D

- Vectors indicate magnitude and direction
- Acceleration and Velocity are vector quantities
- Example plate motion



3-D Vectors can give any Direction



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The Volume/Capacity of the Ark Calculations

CUBITS

- 300 LONG
- 50 WIDE
- 30 TALL



$300 \times 50 \times 30 = 450,000$ cubic cubits or cubits³

METERS

- ~137 LONG
- ~23 WIDE
- ~14 TALL

APPROXIMATE METRIC CONVERSION

$137 \times 23 \times 14 = 44,114$ cubic meters or meters³

REMEMBER THESE THINGS



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MEASURES: (a Ruler)

Luke 6:8 A good measure, pressed down, shaken together, running over, will be put into your lap; for the measure you give will be the measure you get back.

We should measure our lives, not as man would, but as God does. Too often we'll find ourselves following the crowd, or valuing what others believe is important, such as "keeping up with the Jones's." Learn to rightly measure, as Noah did, so you don't miss the boat when God is seeking you to fulfill a mission or calling.