



HOW LONG IS IT?

Measuring length and expressing measurements

Subject: Didactics of geometry and measurement

2nd year of
Primary Education
Degree (about 70
students per class)

For practical
sessions, they are
arranged in
groups of 5-6

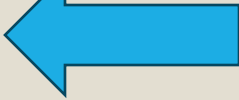
Each session takes
1h30

Material
consisting of 2
sessions

Unit outline:

- Measurement of magnitudes: length
- Measurement of magnitudes: mass and capacity
- Measurement of magnitudes: time

Unit outline:

- **Measurement of magnitudes: length** 
- Measurement of magnitudes: mass and capacity
- Measurement of magnitudes: time

Objectives

- Compare objects in terms of a magnitude: length
- Relevance of unit in measuring magnitudes
- Social role of measurement and relevance of its communication
- Non standard units vs standard units (palms, feet, clips, meter, centimeter, kilometer)
- Focussing on standard units and their use: kilometer, meter and centimeter



Session 1: practice in groups

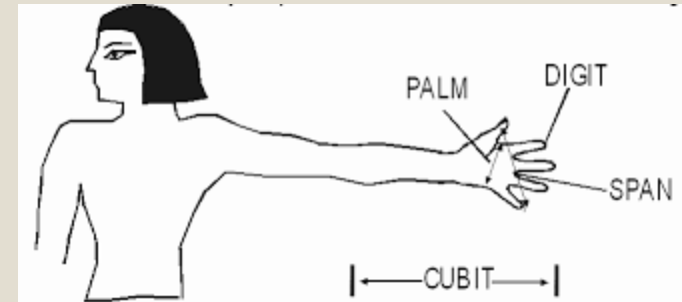


- Materials: your own body (palms, steps, feet) or tools you have in your case (pen, eraser, etc)
- Work in groups
- 1. Choose one object to measure: your table, the width of the room, the height of the door, etc.
- In groups, measure each mate the chosen length and share with another group mate.
- 2. Question to reflect on with the whole class:
- Did you measure the same length as your Group partners'? If so, did you say the same number for it?
- Which part of the body will you use to measurethe table, the room?
- Note: Image source: [Group Work Guide | Center for the Advancement of Teaching Excellence | University of Illinois Chicago \(uic.edu\)](#)

How did you express the measurement?

Communicating measurements

- It is5 palms long (Group 1 says)
- It is 6 palms long (Group 2 says)
- The classroom is20 steps width



Egypt Centre: Swansea
University

- What other parts of the body/case have you used for measuring?

Which objects did you use to measure in the previous practice?

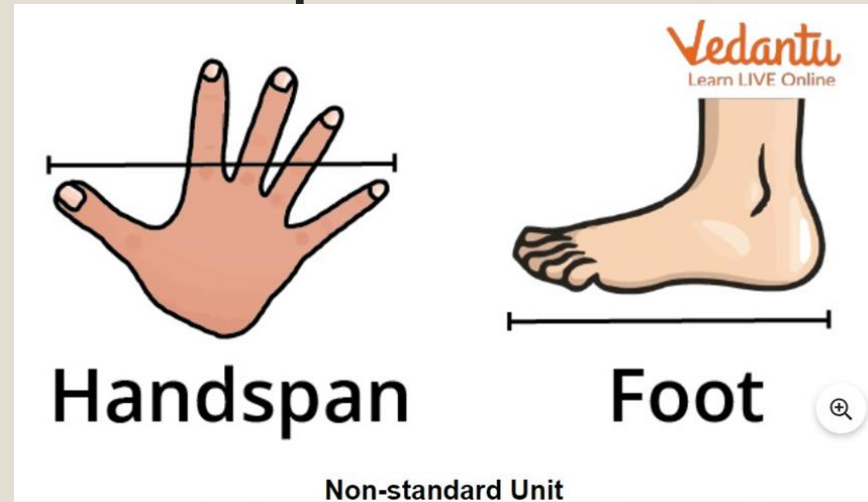
Glossary:

Palm/handspan

Step

Foot/feet

Standard/non standard



- Are they standard or non-standard units? Did you know standard units? (activate the knowledge on units and the vocabulary associated)

Video to summarize the meaning of measuring and how to measure length

- [Measuring! | Mini Math Movies | Scratch Garden \(youtube.com\)](#)

Comparatives for using salamanders!!!

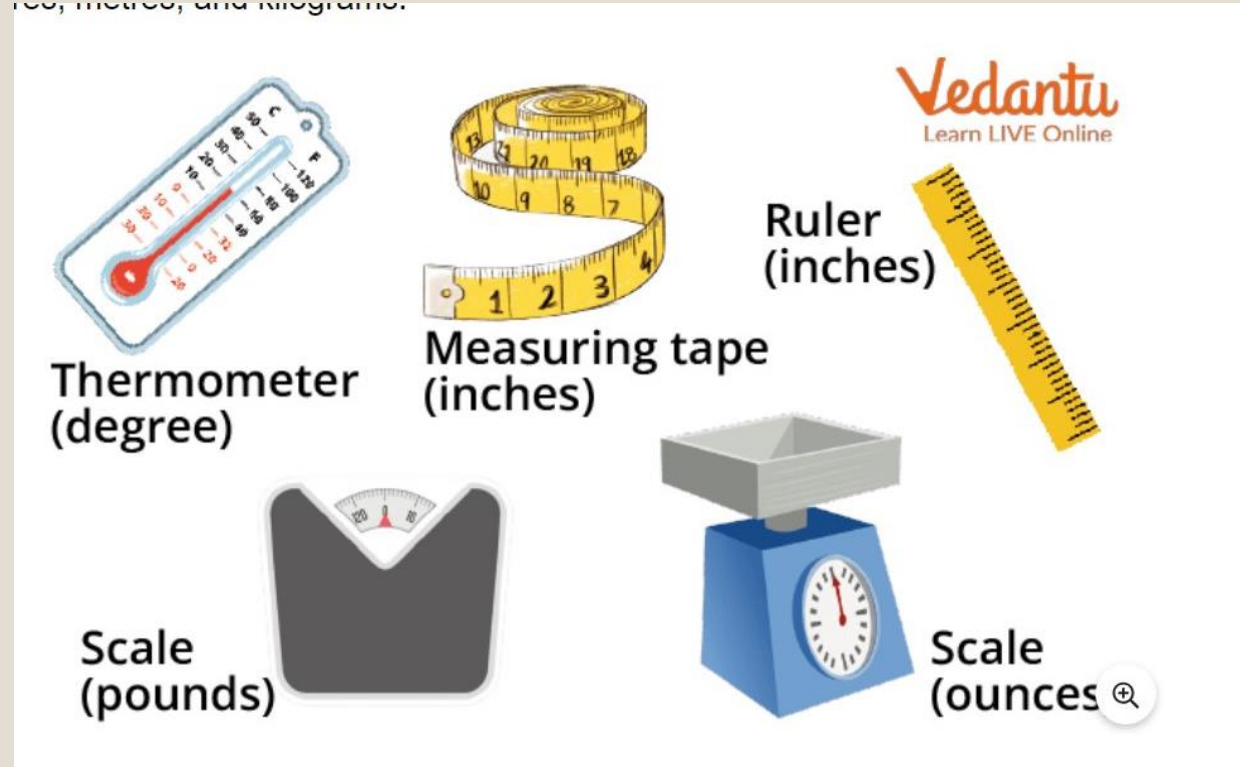
- Write down the comparatives that are used in the video for lengths

Widest, wider than
Highest, higher than
Tallest, taller than
Shortest, shorter than

How did you talk about objects' length?

- **How** long **is** this table? The table is 150 cm long.
- **How** wide **is** the table? The table is 80 cm wide.
- **How** high **is** the table? The table is 90 cm high.
- **How** tall **is** the boy? The boy is 125 cm tall.
- **How** far (away) **is** the table from the door? It is a meter away.

feet, metres, and kilograms.

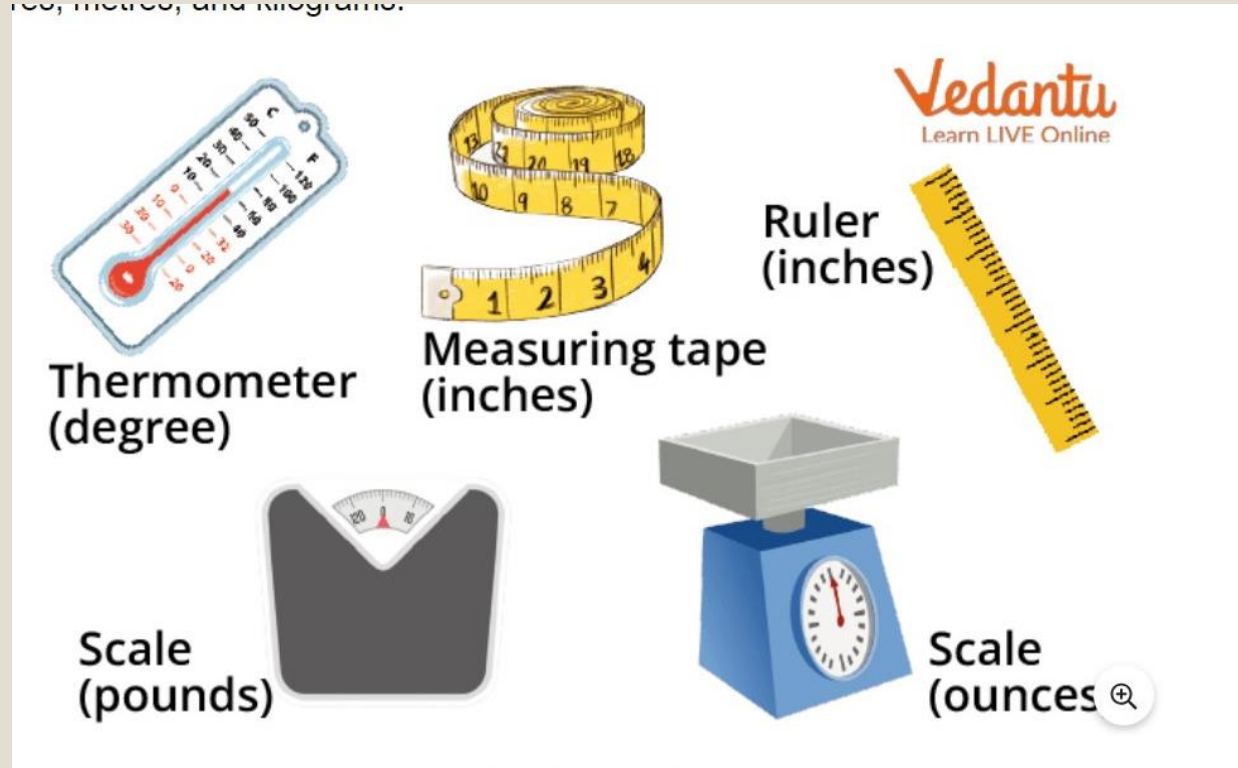


What kind of units are they?

Standard Unit

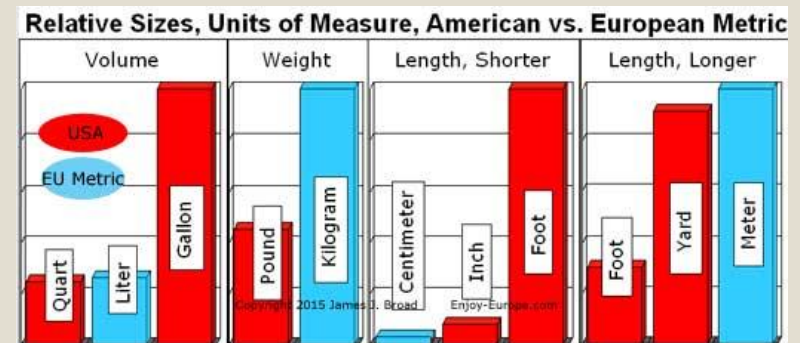
[Units of Measurement - Learn Definition, Tools and Summary \(vedantu.com\)](https://www.vedantu.com)

feet, meters, and kilograms.



Do we use inches in Spain, or ounces, pounds?

Reflection on cultural use of units



Session 2: map measurements and scales

- **Work in groups**

- Material: mobile phone or computer

1. Go to Google maps and take a path for a familiar trip you do every day (home to school, to university, to grandma home, etc.) by walking.
2. Does Google maps show you any alternative ways? Compare them in terms of length and chose the shortest one.
3. Draw the screen region on your notebook.



Session 2: map measurements and scales

Is it as long as it says in your mobile/computer screen?

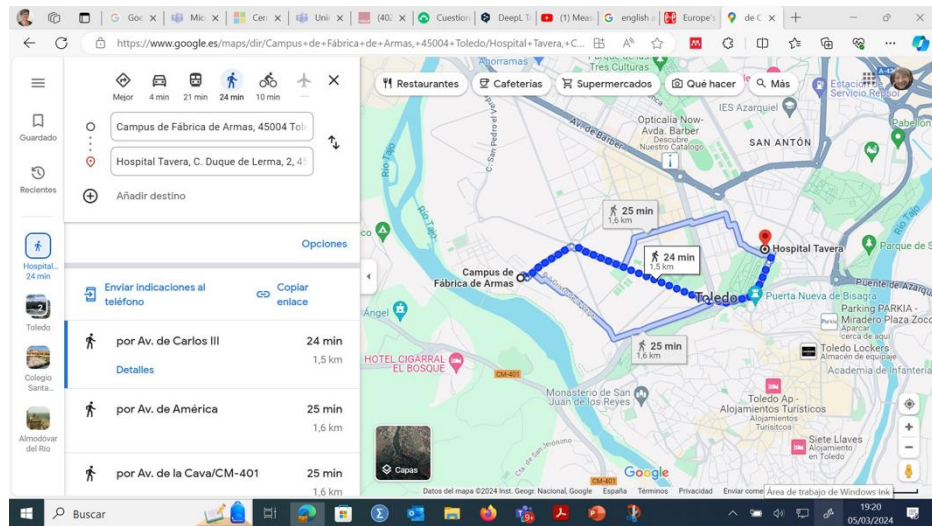
4. Measure it on the screen, getting the actual distance:

Write down the distance Google maps says for the path

5. Then, is Google maps showing real distances, or are they reduced by any coefficient?

- **Reflect on the use of maps, and the use of scales in drawings**

- [Scale: Geo Skills \(youtube.com\)](https://www.youtube.com/watch?v=...)



Standard units for length

- Where do you use kilometers for?
- Where do you use meters for?
- Where do you use centimeters for?
- What do we use scales for?

- Length measurements are used for
- We use comparatives such as
- To get measurements diverse units can be used, but in sharing the measurement or communicating it only units are reliable for everybody.
- Standard units are used for different distances or measurements: for small objects, meters for (give an example) and for distances in maps (between cities), and sometimes for paths in neighbourhoods.
- Focussing on standard units and their use for specific purposes, in maps are represented not real butdistances.



- **Length measurements are used for expressing dimensions of objects.**
- **We use comparatives such as wider, taller, longer, etc, followed by than to compare objects' length**
- **To get measurements diverse units can be used, but in sharing the measurement or communicating it only standard units are reliable for everybody.**
- **Standard units are used for different distances or measurements: centimeters for small objects, meters for lengths inside a room (for instance) and kilometers for distances in maps (between cities), and sometimes meters for paths in neighbourhoods.**
- **Focussing on standard units and their use for specific purposes, in maps are represented not real but scaled distances.**

