

Lesson Printables

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print what you need!



Lesson Information Sheet: 2

All Zones
Activity: 3
Answers: 4

Let's explore measurements

Why learn this?

Measurement has so many real life math applications. Knowing how to identify and work between a variety of different measurements helps students gain essential life skills that can be applied in a variety of scenarios.

What types of measurement should my student identify?

Length/distance

- In the metric system, the standard units of length and distance are millimeters, centimeters, meters and kilometers.

Mass

- In the metric system, the standard units of mass are grams, kilograms and metric tons. *Please note, we do not explicitly discuss metric tons in this lesson.*

Volume/Liquid Volume/Capacity

- Volume refers to the total 3D space an object occupies. Volume can be measured in cubic units such as cm^3 , m^3 , etc. *Please note, we do not explicitly discuss volume in this lesson. This will be covered in future lessons.*

- Liquid volume refers to the space a liquid occupies. In the metric system, this is measured in milliliters and liters.

- Capacity refers to the maximum amount a container can hold. You can measure the capacity of a cup and you can also measure the liquid volume within a cup.

→ The capacity of a cup refers to the storage potential of the cup while the liquid volume refers to the actual amount of liquid that is in the cup.

→ The capacity of a stadium refers to the amount of people who can safely fill the whole stadium.

→ The capacity of a car refers to how many people can fit (safely) in the car.

Time

- Time has many different units of measurement. These include: seconds, minutes, hours, days, weeks, months, years, etc.

Temperature

- Temperature has several different units of measurement. In the metric system, temperature is measured in degrees Celsius.

Let's warm up!

Starter Activity - Interest Earnings

Two animals want to open a bank account. They want to start by putting \$3,000 in the account. If the account earns 10% interest every year, and the animals do not put any more money into their account, how much interest will they earn after 3 years? (After each year, the interest goes into the account.)

To support, students could:

- Be asked guiding questions:

→ What does 10% mean? How could you write it as a fraction? Can you write the fraction in its simplest form?

→ How could you calculate $\frac{1}{10}$ of 10? (To review calculating fractions of amounts)

→ How could you calculate $\frac{1}{10}$ of 3,000? What does your answer represent? If it goes into the bank account, how much money do the animals have now?

To challenge, students could:

- Identify what will the animals earn after 10 years.

Let's do this!

Main Activity - Students are shown 2 pictures. What measurements can students connect to each picture? These could be obvious measurements or students can think more abstractly as modelled in the lesson. Encourage students to include what unit of measurement would be used to measure each of their ideas.

To support, students could:

- Be asked guiding questions.

→ Let's focus on length. What could you measure using a tape measure in this picture?

→ Let's focus on mass. What could you weigh in this picture?

→ Let's focus on liquid volume. What could you measure that connects to liquids in this picture?

→ Let's focus on time. What units of time could connect to this picture?

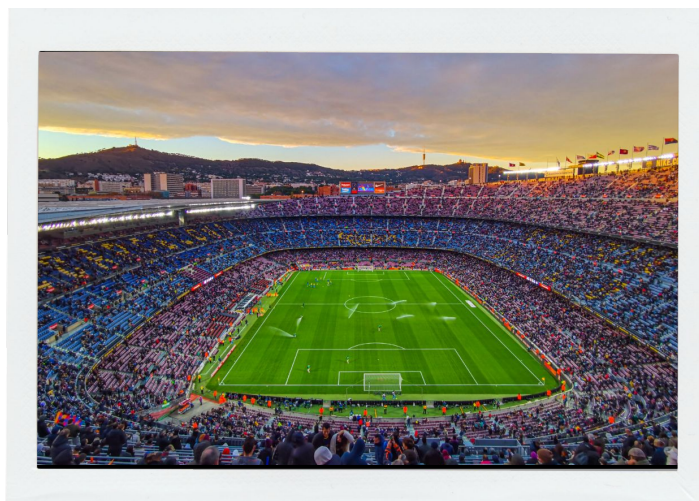
To challenge, students could:

- Find at least 8 measurements that connect to each picture.

- Be encouraged to include an estimation for each of their ideas.

All Zones

1. What measurements could connect to either picture?
→ Include what unit of measurement you would use.



Answers

Encourage students to come up with as many ideas as possible.
Below are some examples.

Supermarket

Mass of 1 tomato: grams
Mass of a box of tomatoes: kilograms
Height of the shopping cart: centimeters
Liquid volume in one of the juice cartons: milliliters/liters
Time it takes to stock the shelves: minutes/hours/days
Distance from your house to the supermarket: kilometers
Temperature in the fridges: Celsius
Height of the tallest stack of tomatoes you can make: centimeters
Distance you might travel inside the supermarket: meters
Time the supermarket is open: hours
Length of all the carts stacked together: meters

Sports Stadium

Time of game: minutes/hours
Length of the field: meters
Height of the goal: meters
Height of the tallest player: centimeters
Height of the grass: millimeters/centimeters
Capacity of the stadium: amount of people
Mass of the ball: grams
Mass of the goal: kilograms
Mass of one of the players: kilograms
Liquid used to water the field: liters
Temperature on the field: Celsius