DAY 1 – KPSI: MATTER AND FORCES

Write "YES" or "NO" in every box to evaluate your knowledge.

	 I don´t know	 I know a little	 I could explain it
Can you define the term "**matter**"?			
Can you describe the **general properties** of matter?			
Can you define the term "**force**"?			
Can you explain the **types of forces**?			
Can you describe how **forces can change an object movement**?			
Can you describe **how forces affect materials**?			
Can you classify **objects** depending on **how they change** when a force is applied to them?			
Can you explain the **properties of materials**?			

ACTIVITIES 1: MATTER

1. Watch the video "What is matter?" and complete the following questions.

1.1. What is matter?

Matter is everything around us that has _____ and _____.

1.2. What is mass?

It's how _____ something is.

1.3. What is volume?

It is the amount of _____ something occupies.

1.4. What are the most common states of matter?

They are _____, _____ and _____.

1.5. Why is the level of water inside the glass lower than the level of water outside in the experiment?

Because _____ has occupied the space inside the glass.

1.6. What happens when you tilt the glass aside?

You see bubbles of _____ rushing out and it is replaced by _____.

1.7. What Happens when the air-filled balloon is stuck to the meter stick?

The stick end with the air-filled balloon bend downwards because the air-filled balloon is _____ than the empty balloon.

1.8. Is air matter?

_____ because it has _____ and _____.

2. Complete the diagram by choosing the correct words.

MATTER

Matter is everything around us that has:

MASS

DEFINITION:

quantity of _____ in an object.

MEASURE:

we measure mass in _____, using _____ and _____.

VOLUME

DEFINITION:

_____ that an object ocuppies.

MEASURE:

we measure volume in _____, using _____ and _____.

DENSITY

DEFINITION:

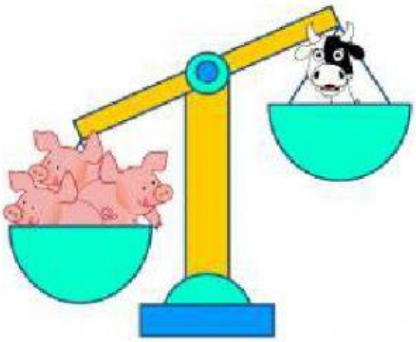
the _____ between the mass of an object and its volume.

- when water is "more dense" than an object, it _____.
- when the object is "more dense" than water, it _____.

3. Complete the sentences about mass **according to the images.**

3.1. An apple has _____ mass than a pineapple.

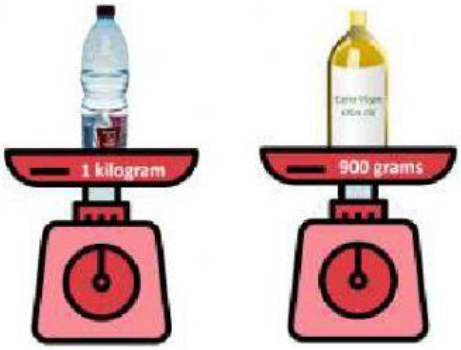
3.2. The pigs has _____ mass than the cow.



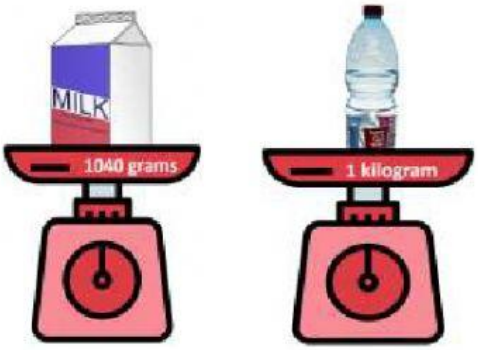
3.3. The vegetables has _____ mass than the meat.

3.4. The cars has _____ mass than a plane.

3.5. Water (1 ℓ) has _____ mass than olive oil (1 ℓ).

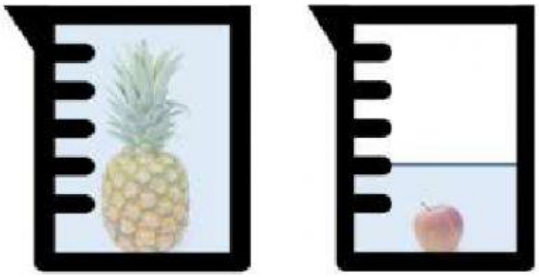


3.6. Water (1 ℓ) has _____ mass than milk (1 ℓ).

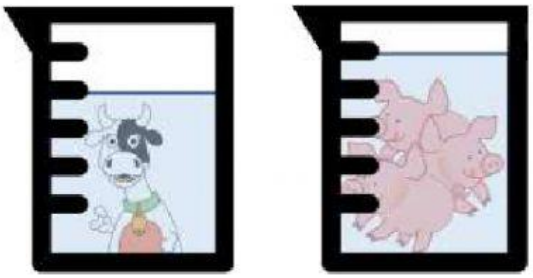


4. Complete the sentences about volume **according to the image.**

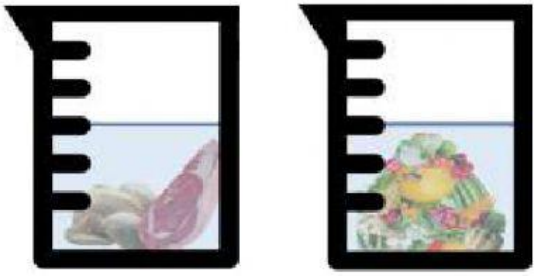
4.1. An apple has _____ volume than a pineapple.



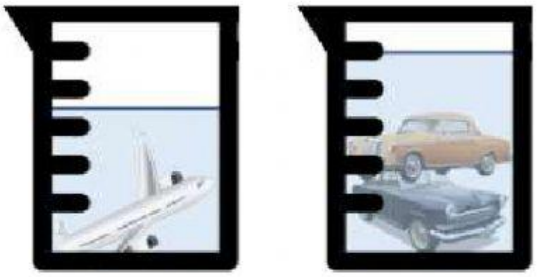
4.2. The pigs has _____ volume than the cow.



4.3. The vegetables has _____ volume than the meat.



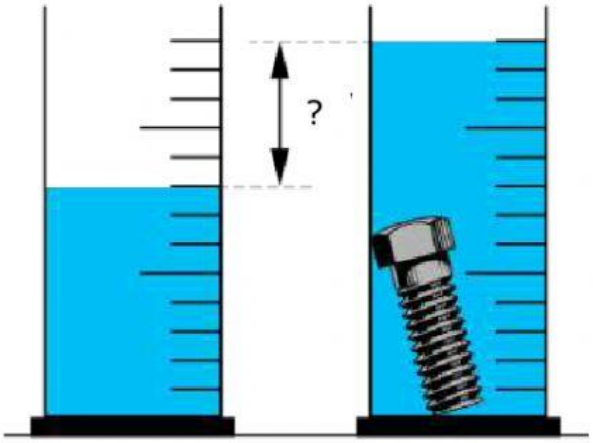
4.4. The cars has _____ volume than a plane.



4.5. Water (1 ℓ) has _____ volume than olive oil (1 ℓ).

4.6. Water (1 ℓ) has _____ volume than milk (1'5 ℓ).

5. Calculate the volume of this object (a screw).



Data:

The first cylinder marks 160 ml.

The second cylinder marks 260 ml.

Mathematical operation:

I have to do _____.

Solution:

The screw measure _____ ml.

6. The density of water is 1 kg/l. Hence, choose if the following materials will float or sink.

MATERIALS	DENSITY
Cork	0,25 kg/l
Iron	7,90 kg/l
Orange juice	1,25 kg/l
Olive oil	0,916 kg/l

Cork will _____.

Iron will _____.

Orange juice will _____.

Olive oil will _____.

7. Answer the following questions.

- Why does an **apple** float on water?
  Because it is _____ than water.
- Why does a **brick** sink?
  Because it is _____ than water.