

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 occupies.

MEASURE:
we measure volume
in _____, using
_____ and
_____.



DENSITY

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

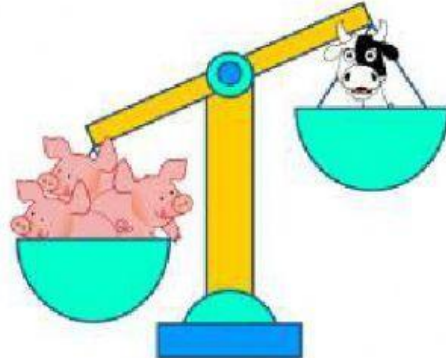
- when water is
"more dense" than
an object, it _____.
- when the object is
"more dense" than
water, it _____.

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.).

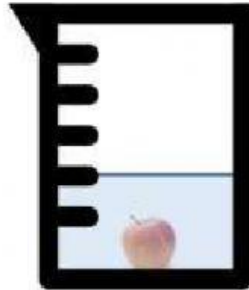
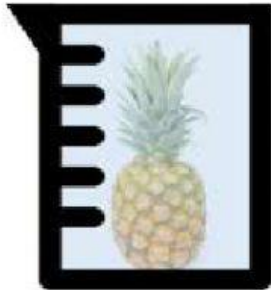


3.6. Water (1 l.) has _____
mass than milk (1 l.).



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.



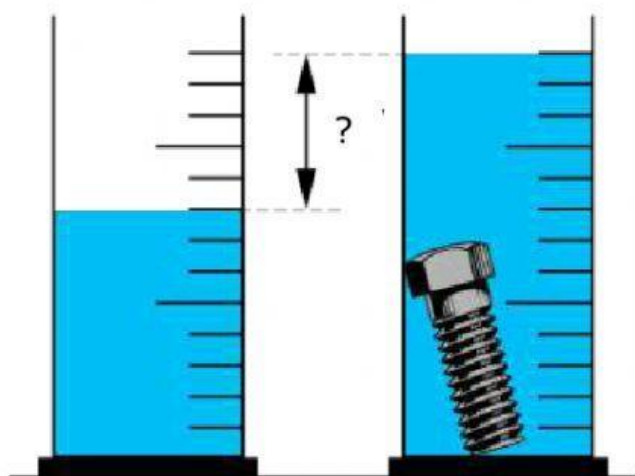
4.5. Water (1 l.) has _____
volume than olive oil (1 l.).



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.