INNER AND OUTER PLANETS: Can you label these planets in our solar system and put them in their correct groups?
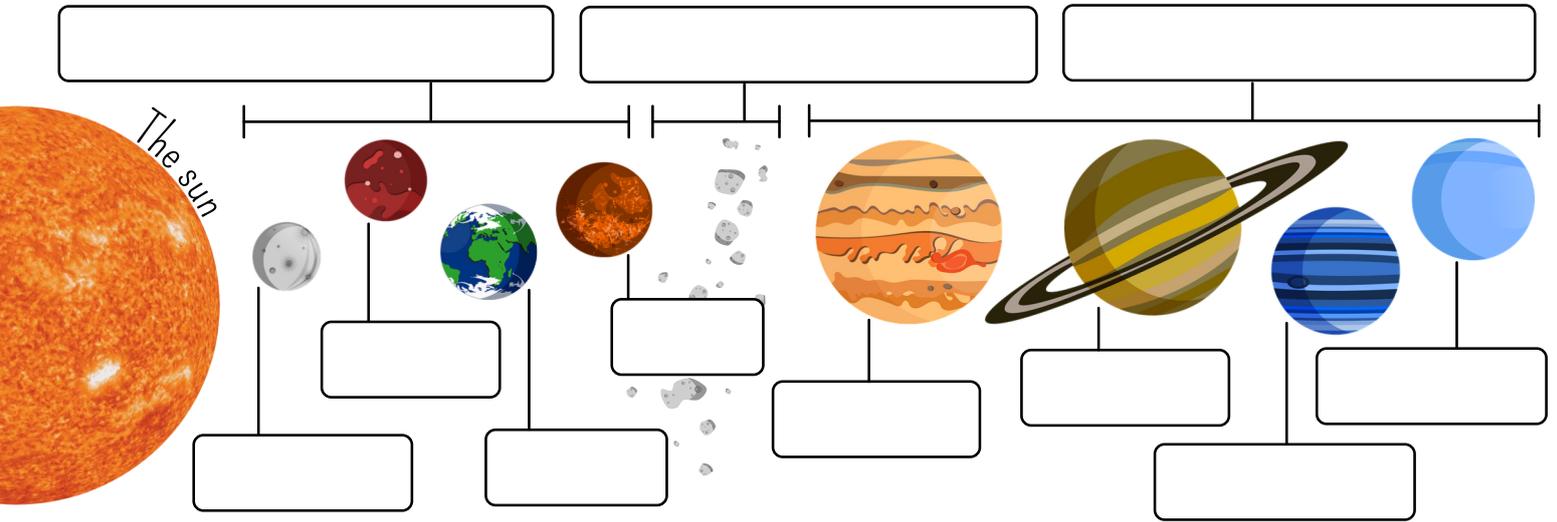
The sun

What is the name of the rock that forms from cooled lava flowing out of volcanoes?

_____

Is this an example of a sedimentary, igneous or metamorphic rock?

_____

Most rocky planets have impact craters on their surfaces. How are these formed?

_____

_____

FILL IN THE BLANKS! Complete the sentences below using words from the word bank

WORDBANK: two   moons   core
vary   Earth   three
Sun   less   gas   asteroid   rock

The Solar System can be looked at in _____ sections. The inner planets are mostly formed from _____ and the outer planets are mostly made of _____. Between the outer and inner parts lies the _____ belt. There are over _____ million asteroids that _____ in size.

The outer planets are _____ dense than the inner planets. The planet with the highest density is _____. This is because it has a compact _____.

Earth and the other planets in our solar system orbit the _____. Some planets are also orbited by smaller _____.

DENSITY EXPERIMENT

Density tells us how heavy an object is compared to the amount of space it takes up. To calculate density you need the formula

$$\text{Density} = \frac{\text{Mass}}{\text{Volume}}$$

Can you work out how dense items in your house are? Have a go below! When doing this activity make sure you get an adult to help you with this. Also when choosing your items to submerge, make sure they are not electric and will not be damaged by the water.

1. First you need to find the mass each item. To do this, weigh each item on a scale. Make sure your scale is set to zero before you start and that the measurement is in grams. If using a jug you will need to use bigger items like a tennis ball, but if using a measuring cylinder the items can be small.

2. Fill the measuring cylinder or jug with water. Fill it about 2/3 full of water.

3. Before you put your item in, check the volume of water in the cylinder or jug already and write down the value below. Look at the diagram on the right to see how to do this.

4. Drop your first item into the jug, if the item sinks, then calculating its volume is easy! Just read the new water volume on the measuring jug Then take this number (reading 2) and subtract your first value from it. There is an example in the table below.

5. If the item floats, push it down with the tip of your finger until its just under the water. While holding it here take reading 2 as described in step 4

6. Repeat this with all of your items!

7. Now we are going to calculate the densities!.To do this divide the mass of each item by the volume.

What you will need:

- A measuring cylinder (or if you do not have one a measuring jug with 100ml increments)

- Water

- Ruler

- 5 items of your choice - make sure they fit in the jug and are a similar size but different weights - eg a marble, rubber or small rock

- Scales

- Calculator

Example

Reading 1

500 ml

Reading 2

600 ml

20 g
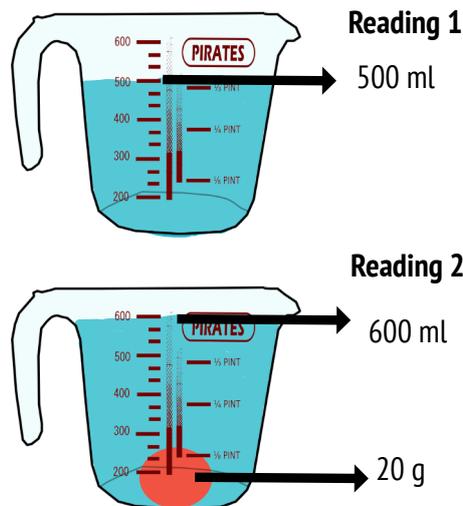
Item	Mass (G)	Volume (MI)	Density (CM^3)
Red Ball	20	100	0.4

Which item had the highest density?

_____

Which item had the highest volume?

_____

Which item surprised you and why?

_____