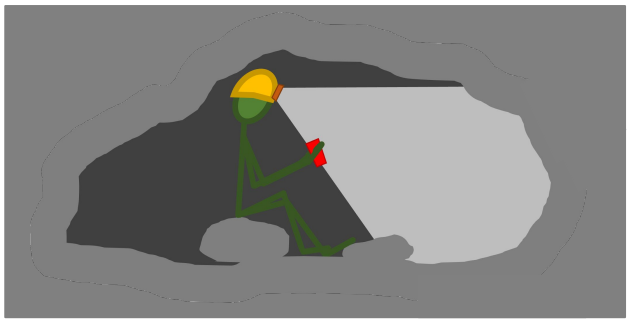
Name: _____

Worksheet

Gravity

Task A: Gravitational attraction

A person is exploring a cave. They are 100 metres under Earth's surface and surrounded by rock in all directions.



Aisha

Gravity pulls towards Earth's surface, which is upwards here.

Alex

Gravity will pull them towards every surface, so they will float.

Sam

Gravity pulls them downwards in the picture.

1) Which pupil is correct? Explain why they are correct.

2) Explain why the other two pupils are incorrect.

Task B: Gravity on the Moon and other planets

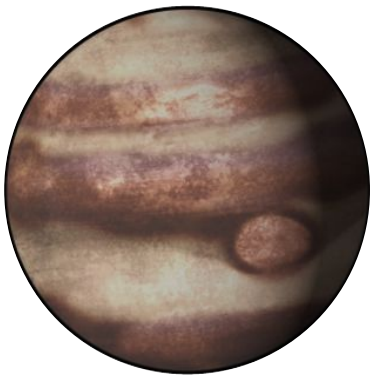
Identical objects are taken to the surface of four planets.

Venus:
(0.8 of Earth's mass)

Earth:

Mars:
(0.1 of Earth's mass)

Jupiter:
(300× Earth's mass)



1) Predict how you think the weight of the objects will compare on the different planets.

2) Explain why you think this.

Your teacher may have bottles that are as heavy as the object feels on each planet.

3) Pick up each bottle and compare the weight of the object on each planet. Record what you found out.

4) Was your prediction and explanation correct?
See if you can write down a better explanation.

Task C: Gravity in our solar system

Discuss whether each statement is correct or incorrect, then tick the box that shows what you think.

		I am **sure** this is **correct**	I **think** this is **correct**	I **think** this is **incorrect**	I am **sure** this is **incorrect**
a	There is no gravity in space.				
b	The Sun has no gravity because the Sun has no air.				
c	Saturn has stronger gravity than Earth does.				
d	The Sun's gravity stops the planets from escaping their orbits.				