Y5 Gravity

KS2 Y5 Science · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Why does an apple fall from a tree?

Step 1 · What holds it up at first?

The stalk — it supports the apple

Step 2 · What happens when the stalk breaks?

Nothing supports it any more

Step 3 · Which force acts on it?

Gravity pulls it towards the centre of the Earth

Answer: When nothing supports it, gravity pulls the apple down towards the Earth.

Check: Isaac Newton said a falling apple helped him think about gravity.

2. Now try one with the steps

What is the difference between mass and weight?

Step 1 · Mass

Step 2 · Weight

Step 3 · On the Moon

Answer:

3. Practice

Have a go at each one. There is space underneath to work it out.

1. What force pulls unsupported objects towards the Earth?

2. In which direction does gravity pull?

3. What is the unit of force, including weight?

4. What is mass measured in?

5. What instrument measures weight in newtons?

6. What does 'unsupported' mean?

7. On Earth, about how many newtons does 1 kg weigh?

8. A dog has a mass of 20 kg. About how many newtons does it weigh on Earth?

9. An astronaut has a mass of 70 kg on Earth. What is her mass on the Moon in kg?

10. A rock weighs 60 N on Earth. The Moon's gravity is about one sixth What does it weigh on the Moon in N?

11. A tennis ball and a football are dropped together from the same height. Which lands first?

12. On the Moon, a hammer and a feather are dropped together. Which lands first? Explain.

13. Name TWO scientists who helped develop ideas about gravity.

14. Why is it wrong to say 'my weight is 35 kg'?

4. Before you hand it in

Heavier things always fall faster.

Without air (on the Moon), a hammer and a feather land together.

Weight and mass are the same thing.

Your mass is the same on the Moon, but your weight is about one sixth.

There is no gravity in space.

Astronauts float because they are falling round the Earth, not because gravity is missing.

Gravity pulls things 'down' to the bottom of the world.

Gravity pulls towards the centre of the Earth.