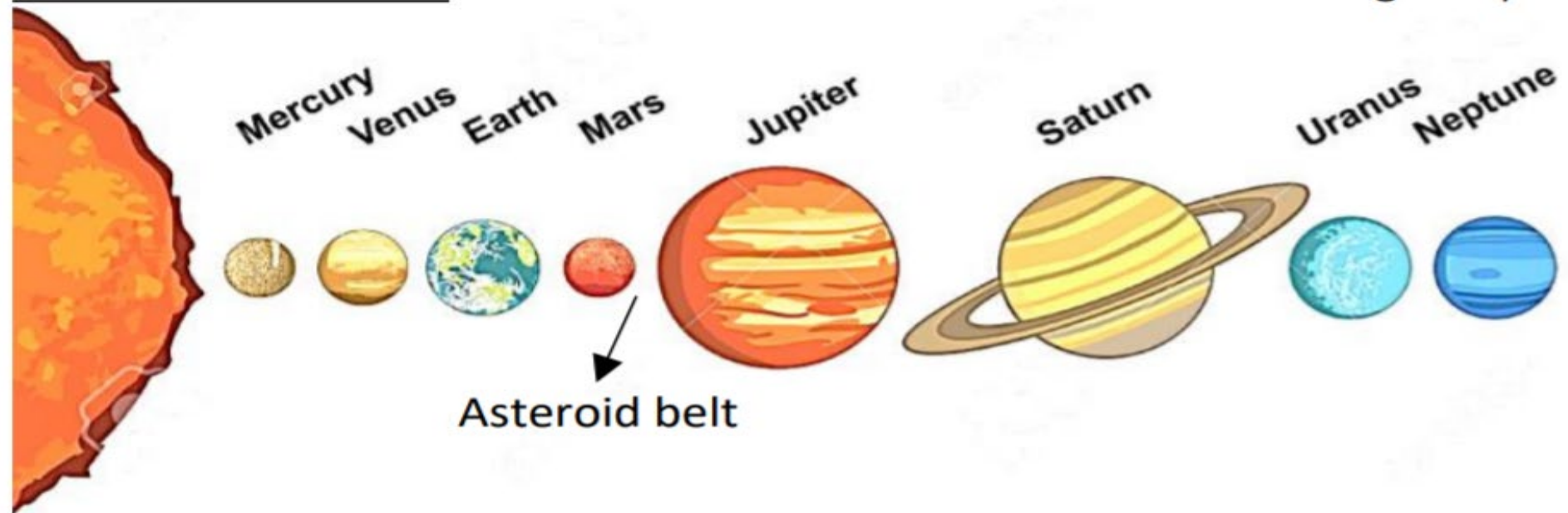




Your teacher will tell you which topic you should revise. Read and learn all the information in the topic, ready for a Quiz in lesson.

Topic 1: The Solar system

OUR SOLAR SYSTEM Planets orbit the Sun because of the Sun's gravity.



- Mercury, Venus, Mars, Jupiter and Saturn can be seen with the naked eye.
- The first four planets are called inner planets; they are made of rock. The conditions on these planets are very different.
- The four outer planets are called gas giants; made mainly of hydrogen and helium. They are very cold and much bigger than the inner planets.



Your teacher will tell you which topic you should revise. Read and learn all the information in the topic, ready for a Quiz in lesson.

### Topic 2: Mass, weight and gravity

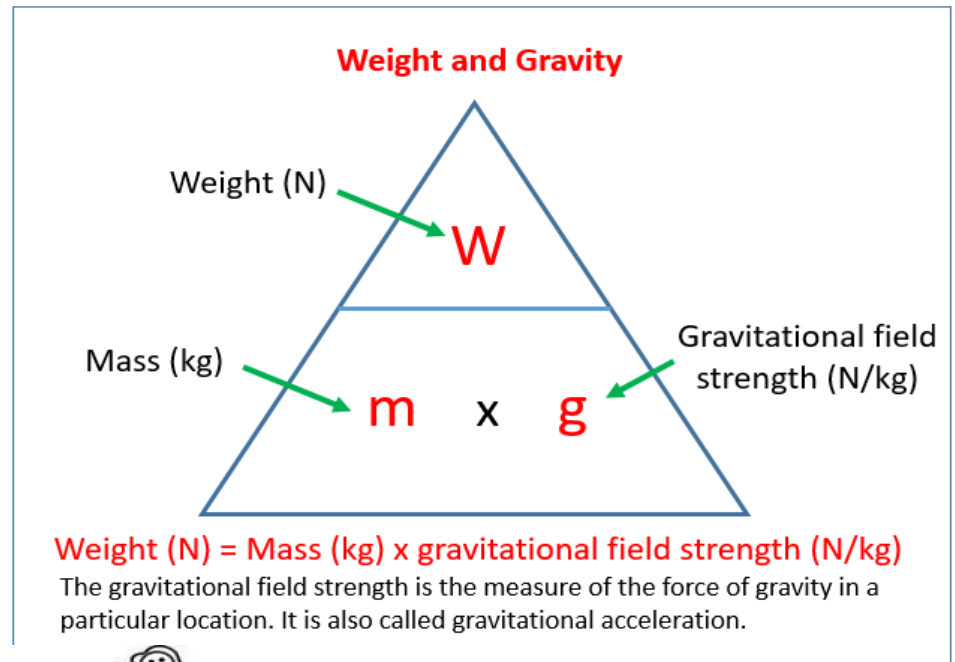
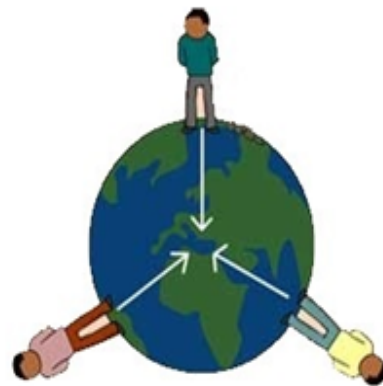
Gravity is a force that attracts objects towards each other. Gravity only becomes noticeable when there is a really massive object like a moon, planet or star. Gravity is what pulls us towards the ground.

#### Forces at a distance

- A field is a region where an object experiences a force. In a gravitational field, a mass experiences a force.
- Weight is a force and depends on the gravitational field strength.
- Mass is the amount of matter something is made up of.

$$\text{Weight (N)} = \text{Mass (kg)} \times \text{gravitational field strength (N/kg)}$$

The gravitational force pulls in the direction towards the centre of any object. So we are pulled towards the centre of the Earth.



My **WEIGHT** on Earth is around 560N



My **WEIGHT** on the moon is around 90N

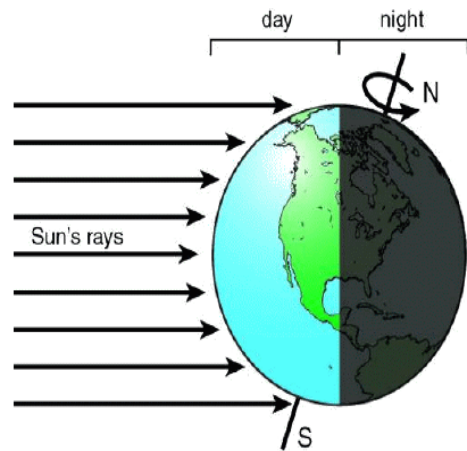


My **MASS** is always 56kg!!

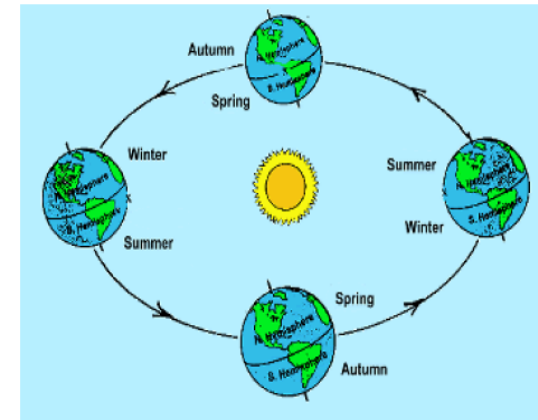


Your teacher will tell you which topic you should revise. Read and learn all the information in the topic, ready for a Quiz in lesson.

Topic 3: The Earth's motion



- The parts of the Earth facing the sun are lit up by it, causing day.
- The part of the Earth facing away from the sun are dark, night.
- The rotation of the Earth causes day and night. It rotates on its axis once every 23 hours and 56 minutes. It always rotates anti-clockwise, meaning that the sun always appears to rise in the East and set in the West.
- Because the Earth is tilted on its axis, days get longer and shorter. In July, the Northern hemisphere is tilted towards the sun, so the days are longer. Opposite in December.
- During March and September, the hemispheres are tilted about evenly, so day and night equal out.



- The tilt of the Earth's axis causes seasons.
- Scientists think that, long ago, an impact caused the Earth to tilt on its axis.
- During June, the Northern hemisphere is tilted towards the sun, meaning the sun's impact is more direct, the temperature is warmer and the day is longer. As the Southern hemisphere is also tilted away, the sun's impact is less dramatic, making it colder and darker for longer.
- The equinox is when day and night are the same length. There are two– one in September and one in March.



| Vocabulary  | Wider Research   | Apply   |
|---|--|---|
| <ol style="list-style-type: none"><li>1. Star</li><li>2. Red giant</li><li>3. Galaxy</li><li>4. Planet</li><li>5. Exoplanet</li><li>6. Axis of rotation</li><li>7. Season</li><li>8. Light year</li><li>9. Gravity</li><li>10. Mass</li><li>11. Weight</li><li>12. Gravitational field</li><li>13. Orbit</li><li>14. Mercury</li><li>15. Venus</li><li>16. Earth</li><li>17. Mars</li><li>18. Jupiter</li><li>19. Saturn</li><li>20. Uranus</li><li>21. Neptune</li><li>22. Pluto</li></ol> | <ul style="list-style-type: none"><li>• The planets<br/><a href="https://www.youtube.com/watch?v=pCoPykw8xug">https://www.youtube.com/watch?v=pCoPykw8xug</a></li><br/><li>• The galaxy<br/><a href="https://www.youtube.com/watch?v=GCTuirkcRwo">https://www.youtube.com/watch?v=GCTuirkcRwo</a></li><br/><li>• Gravity<br/><a href="https://www.youtube.com/watch?v=PEQzAbizMYs">https://www.youtube.com/watch?v=PEQzAbizMYs</a></li></ul> | <ol style="list-style-type: none"><li>1. Name the planets in order of distance from the Sun</li><br/><li>2. What unit do we use to measure mass</li><br/><li>3. What unit do we use to measure gravity</li><br/><li>4. What unit do we use to measure gravitational field strength</li><br/><li>5. What unit do we use to measure weight</li><br/><li>6. What causes day and night</li><br/><li>7. Why are summers hot and winters cold in Kent</li></ol> |