

Complete the table to show which forces are contact and non-contact.

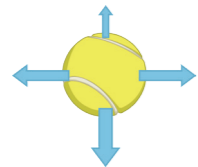
Force	Contact or Non-Contact
gravitational	
friction	
air resistance	
magnetic	

Name the piece of equipment that can be used to measure forces.

State the unit of force. _____

Define the term interaction pairs.

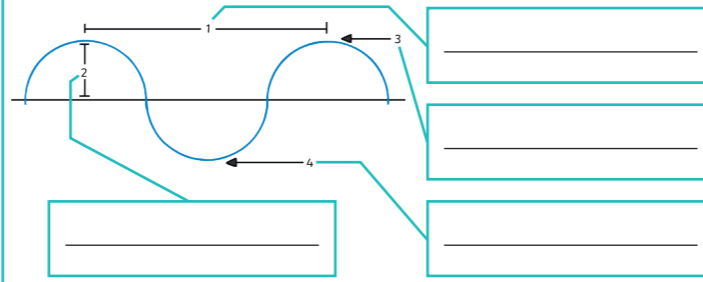
Explain Hooke's Law.



What two things do the arrows show?

What are balanced forces?

Using the keywords, label 1-4 on the wave below: amplitude, wavelength, peak, trough.



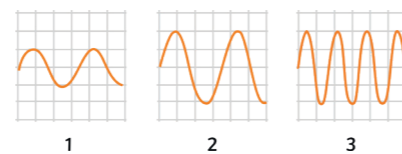
Name the two different types of waves.

- _____
- _____

How is sound made?

Explain why the speed of sound varies in solids, liquids and gases.

Using the diagrams below, make three comparisons of the sound produced.



Match the vocabulary with their definitions.

- | | |
|--------------|-------------------------------|
| luminous | Does not allow light through. |
| non-luminous | Allows light through. |
| translucent | Gives out light. |
| transparent | Allows some light through. |
| opaque | Reflects light. |

State the law of reflection.

angle of incidence = _____

Choose the correct phrase.

Reflection from a smooth surface is called **specular reflection/diffuse scattering**.

Reflection from a rough surface is called **specular reflection/diffuse scattering**.

In terms of colour, why do we see the mouse as white and the cat as black?



How long does it take... for the Earth to spin once on its axis?

for the Earth to orbit the Sun?

the Moon to orbit the Earth?

Define the following:

meteor: _____

meteorite: _____

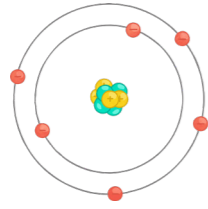
comet: _____

constellations: _____

There are two types of satellites. Name them and give an example of each.

Name the planets, in order, from the Sun:

Label the diagram of the atom shown below.



Complete the table below:

Particle	Charge
proton	
neutron	
electron	

Define the term current.

Name the equipment used to measure current and the unit of measurement.

Name the two different types of circuit.

Draw an example of each.

Cross out the wrong answer in the sentence below:
The potential difference across each component in a series circuit adds up to/is the same as the potential difference across the battery.

Calculate the resistance through a bulb with a current of 0.5A and when the voltage was 10V.

Give two uses of electromagnets.

- _____
- _____

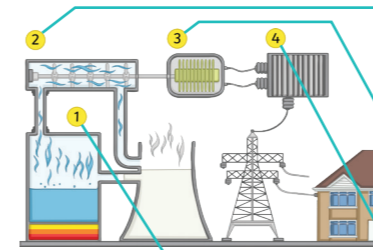
Name the five different energy stores and give an example for each.

Explain why the temperature of a sparkler is high and yet its thermal store is low.

Energy can be transferred by particles in three ways. Name them below:

- _____
- _____
- _____

Label the parts, 1-4, of the power station and explain how electricity is generated.



Name seven different types of renewable energy.

Convert the following

4300W = _____ kW

6.79kJ = _____ J

The cost of 1kWh is 15p.

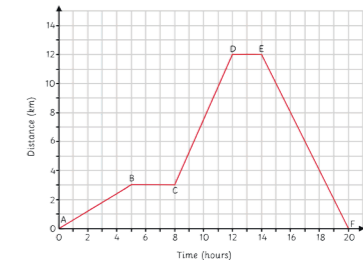
An iron has a power rating of 2.5kW and is used for 3 hours. What is the cost of ironing? _____

What is the equation to calculate speed?

If a cyclist travels 200m in 10 seconds, calculate the average speed. _____

Look at the graph below. Write the points at which the object is...

- travelling at its fastest; _____
- stationary; _____
- travelling slowly. _____



State two factors that will increase gas pressure.

- _____
- _____

What is the unit of moment?

A spanner is used to tighten a nut. A force of 30N is applied to the spanner. The length from the nut to the end of the spanner is 15cm. Calculate the moment using the equation below. Hint: remember to check the units!

$M = F \times d$

Complete the table to show which forces are contact and non-contact.

Force	Contact or Non-Contact
gravitational	non-contact
friction	contact
air resistance	contact
magnetic	non-contact

Name the piece of equipment that can be used to measure forces.

newton metre

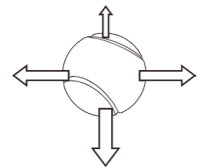
State the unit of force. newton (N)

Define the term interaction pairs.

Forces working in opposite directions.

Explain Hooke's Law.

If an elastic object (like a spring) is stretched, the extension is equal to the force.



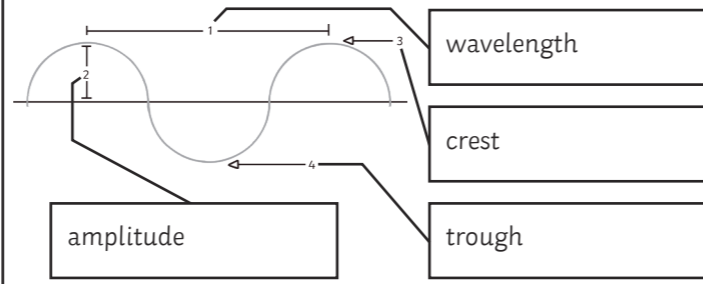
What two things do the arrows show?

Direction and size of force.

What are balanced forces?

Forces of the same size in opposite directions.

Using the keywords, label 1-4 on the wave below: amplitude, wavelength, peak, trough.



Name the two different types of waves.

- transverse
- longitudinal

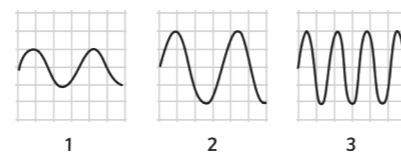
How is sound made?

The vibration of particles in a substance or object.

Explain why the speed of sound varies in solids, liquids and gases.

Due to the particle arrangement - sound travels fastest in solids because the particles are closely packed together.

Using the diagrams below, make three comparisons of the sound produced.



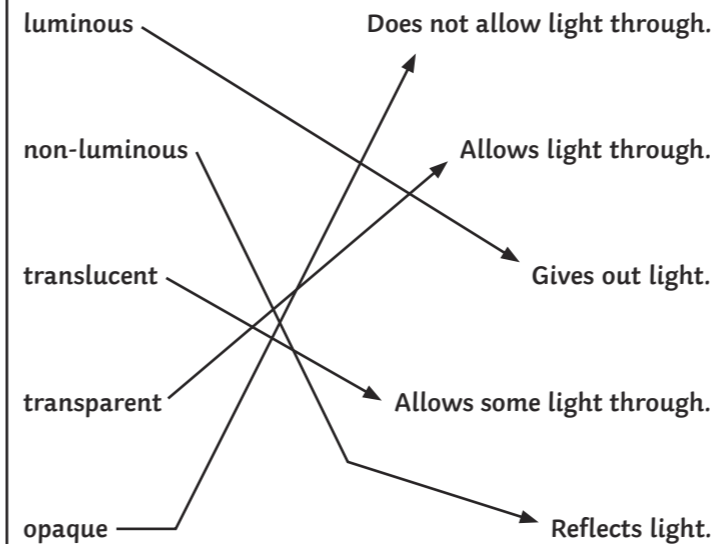
Diagrams 1 and 2 have the same frequency and will produce the same pitched sound.

Diagram 3 has a greater frequency and produces a higher pitched sound.

Diagram 2 and 3 have a greater amplitude and produce a loud sound.

Diagram 1 has a smaller amplitude and produces a quieter sound.

Match the vocabulary with their definitions.



State the law of reflection.

angle of incidence = angle of reflection

Choose the correct phrase.

Reflection from a smooth surface is called specular reflection/diffuse scattering.

Reflection from a rough surface is called specular reflection/diffuse scattering.

In terms of colour, why do we see the mouse as white and the cat as black?



White objects reflect all the colours of the spectrum, whereas black objects absorb all the colours.

How long does it take... for the earth to spin once on its axis?

24 hours

for the Earth to orbit the Sun?

365.25 days

the Moon to orbit the Earth?

27 days 7 hours

Define the following:

meteor: Bits of dust and rock that move through the sky.

meteorite: Any meteor that lands on Earth.

comet: Huge balls that contain lots of ice and gas and orbit the sun.

constellations: A collection of stars.

Explain the difference between a lunar eclipse and a solar eclipse.

A solar eclipse is where the Moon comes between the Sun and Earth. A lunar eclipse is where the Earth comes between the Sun and Moon.

There are two types of satellites. Name them and give an example of each

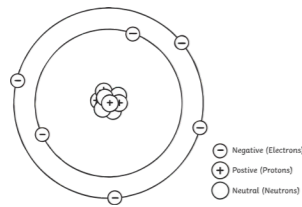
Artificial: space stations.

Natural: moon.

Name the planets, in order, from the Sun:

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.

Label the diagram of the atom shown below.



Complete the table below:

Particle	Charge
proton	+
neutron	0
electron	-

Define the term current.

The flow of electrons around a circuit per second.

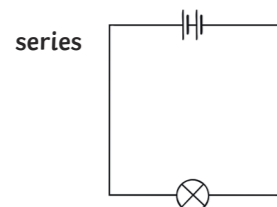
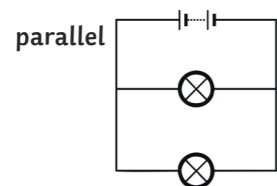
Name the equipment used to measure current and the unit of measurement.

ammeter
amps

Name the two different types of circuit.

parallel
series

Draw an example of each.



Cross out the wrong answer in the sentence below:
The potential difference across each component in a series circuit adds up to/ ~~is the same~~ as the potential difference across the battery.

Calculate the resistance through a bulb with a current of 0.5A and when the voltage was 10V.

20Ω

Give two uses of electromagnets.

1. maglev train
2. To move cars in a scrap yard.

Any other correct answers.

Name the five different energy stores and give an example for each.

chemical - batteries
thermal - fire
kinetic - anything moving
gravitational potential - at the top of a roller coaster
elastic - spring

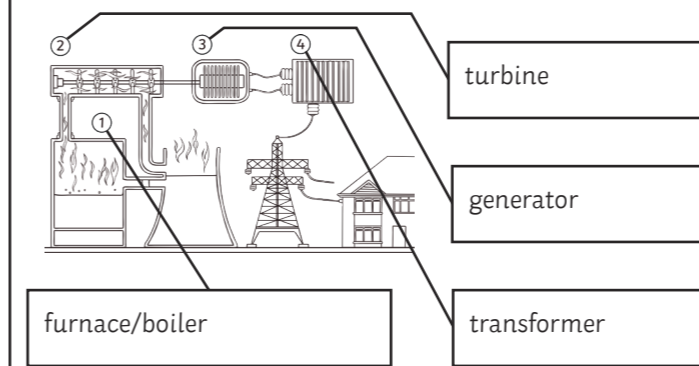
Explain why the temperature of a sparkler is high and yet its thermal store is low.

A sparkler's temperature is high because it burns very hot, but its energy store is low because it is so small.

Energy can be transferred by particles in three ways. Name them below:

1. conduction
2. convection
3. radiation

Label the parts, 1-4, of the power station and explain how electricity is generated.



Electricity is generated when water is heated and converted to steam. The steam turns a turbine, which drives a generator. This produces electricity which then transfers to the transformer. The transformer produces the correct voltage.

Name seven different types of renewable energy.

wind, solar, tidal, HEP, geothermal, biogas, waves.

Convert the following

$$4300W = 4.3 \text{ kW}$$

$$6.79kJ = 6790 \text{ J}$$

The cost of 1kWh is 15p.

An iron has a power rating of 2.5kW and is used for 3 hours. What is the cost of ironing? 112.5p

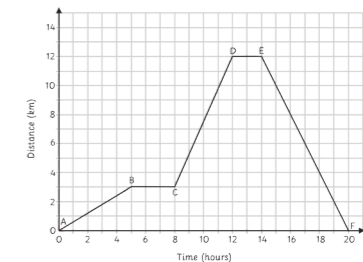
What is the equation to calculate speed?

$$\text{speed} = \frac{\text{distance}}{\text{time}}$$

If a cyclist travels 200m in 10 seconds, calculate the average speed. 20m/s

Look at the graph below. Write the points at which the object is...

1. travelling at its fastest; C-D
2. stationary; B-C and D-E
3. travelling slowly. A-B



State two factors that will increase gas pressure.

1. smaller volume
2. An increase in temperature.

What is the unit of moment?

newton-meters

A spanner is used to tighten a nut. A force of 30N is applied to the spanner. The length from the nut to the end of the spanner is 15cm. Calculate the moment using the equation below. Hint: remember to check the units!

$$M = F \times d$$

4.5Nm