Year 7 Science Assessment: Pitstop Lesson 1

Do now: complete the quiz	
1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Forces

Forces can either be pushes or pulls. Forces will always act in pairs. When the forces are in equilibrium, the opposite forces are balanced. When one force is bigger than another force, the forces are unbalance.

Arrows can be represented using arrows. The arrows show the forces magnitude (size) and direction.

Two Categories for Forces	
Contact Forces	***Non-Contact Forces***
• Tension • Friction • Air Resistance	• Magnetic • Electrostatic • Gravity

Unbalanced

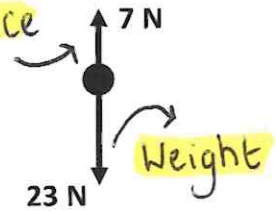
Resultant Force = 10 − 5 = 5N

Balanced

Resultant Force = 10 − 10 = 0N

Now you try: Air resistance

(For a falling object)



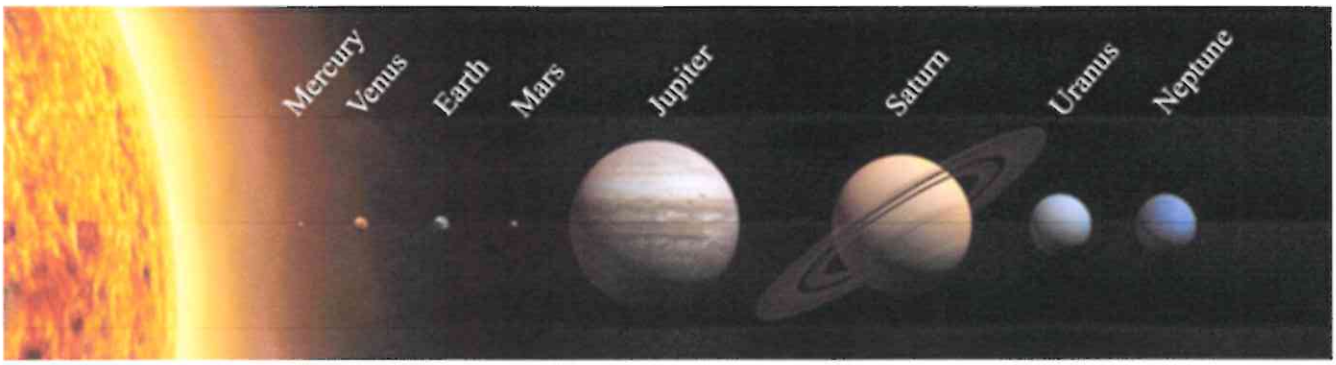
Resultant Force = 23 − 7 = 16N

What happens if forces are unbalanced?	
• Acceleration • Deceleration	• Changes direction

Checkpoint: *answer the questions on the board*
1.
2.
3.

Solar System

There is a mnemonic that can help you to remember the order of the planets: **M**y **V**ery **E**asy **M**ethod **J**ust **S**peeds **U**p **N**aming (**P**lanets).



Gravity keeps the planet in orbit around the Sun.

Rock Planets

- Mercury
- Venus
- Earth
- Mars

Gas Planets

- Jupiter
- Saturn
- Uranus
- Neptune

Match the keywords to their definitions	
Planet	A ball of hot gas that gives out light and heat.
Moon	A natural object that orbits a planet.
Asteroid	An object made of ice and dust that orbits the Sun.
Comet	A large round object that orbits a star.
Star	A small rocky object that orbits the Sun.

Checkpoint: ***answer the questions on the board***
1.
2.
3.
4.
5.

Year 7 Science Assessment: Pitstop Lesson 2

Do now: complete the quiz	
1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

Chemical Reactions vs Physical Changes

Physical changes happen when there is a change of state. For example, when ice melts into water. Physical changes are reversible.

E.g. Ice → Water → Ice

Chemical reactions happen when the atoms in reactants are rearranged to make new products. This is irreversible. For example:

Magnesium + Oxygen → Magnesium Oxide

Reactants Products

Types of Chemical Reaction

Combustion	Thermal Decomposition	Displacement
Burn a fuel in oxygen Reactants Fuel + Oxygen Products CO_2 + Water	Heat breaks down a compond Reactants Copper Carbonate Products Copper Oxide + CO_2	A more reactive metal swaps place with another Reactants Iron Oxide + Zinc Products (swapped) Zinc Oxide + Iron

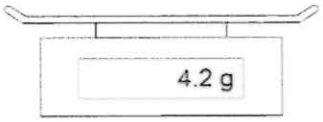
Checkpoint: *answer the questions on the board*
1.
2.
3.

Science Apparatus

Measuring Cylinder

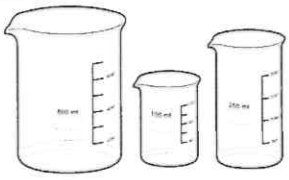
Measures accurate volumes of liquids / solutions.

Balance



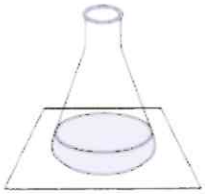
Measures the mass of a substance.

Beaker



Hold and mix liquids

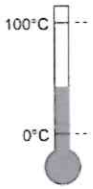
Conical Flask



Hold and mix liquids.

Less chance of spilling

Thermometer



Unit = °C

Measures temperature

Crucible

Allows you to heat solids e.g. metals

Checkpoint: *answer the questions on the board*
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5.

Year 7 Science Assessment: Pitstop Lesson 3

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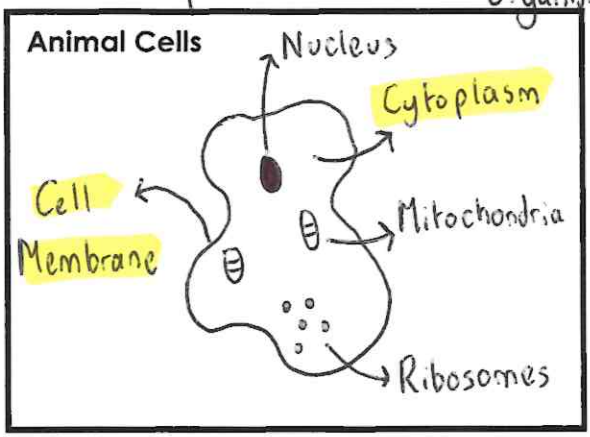
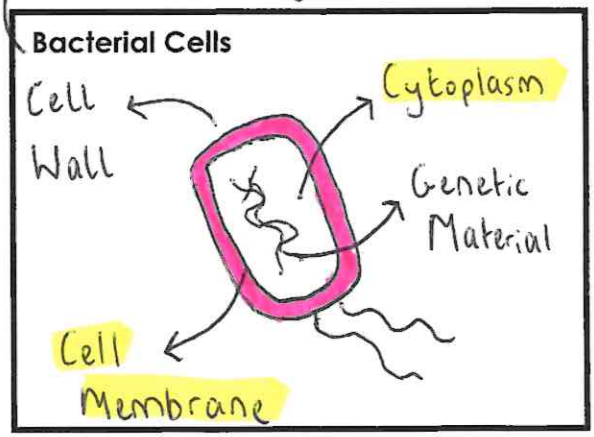
Cell Biology

Found in multicellular organisms

Unicellular organism





Compare the animal cell and the bacterial cell

Similarities: (what's the same)

① Cell membrane to let stuff enter and leave cell

② Cytoplasm - where reactions take place

Differences: (what is different?)

① Bacterial cells have a cell wall

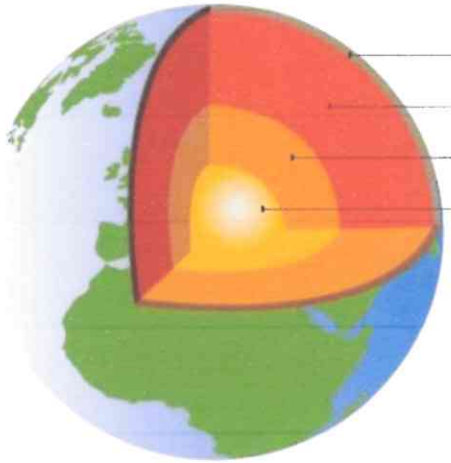
② In a bacterial cell, the genetic material is not in a nucleus

Checkpoint: *answer the questions on the board*

1.

2.

Layers of the Earth



Crust (where resources are found)

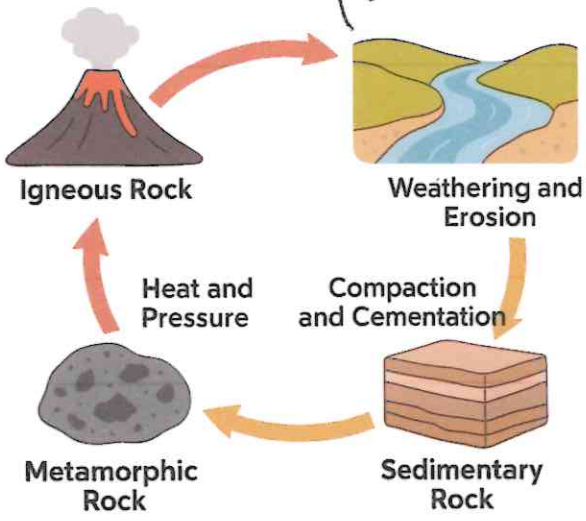
Mantle (molten rock)

Outer core (liquid)

Inner core (solid)

Types of Rock

Three Types of Rock	
Igneous Rock e.g. granite	Molten rock cools down to make solid
Metamorphic Rock e.g. marble	Heat and pressure compacts rock
Sedimentary Rock e.g. sandstone	Layers of small rocks compacted together



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