Unit 1: Topical Test 1A

Section A (20 Marks)

1.	1	2.	4	3.	3	4.	2	5.	2
6.	4	7.	3	8.	3	9.	4	10.	3

Section B (10 Marks)

11.

Thought Process:

Topic	:	Life Cycles
Key Concept(s)	:	Insects with a 3-stage life cycle goes through the egg, nymph and adult stages.
Key Words / Key Phrases	:	(a) 3 (b) Grasshopper / Cockroach / Cricket / Dragonfly
Process Skills	:	Observing, Communicating, Generating possibilities

(a) **3** stages. (1m)

(b) **Grasshopper / Cockroach / Cricket / Dragonfly** (1m)

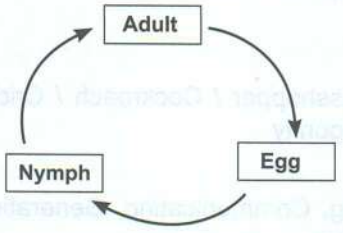
12.

Thought Process:

Topic	:	Life Cycles
Key Concept(s)	:	There are 3 stages in the life cycle of a grasshopper. The nymph has to moult several times to become bigger. Insects have 6 legs, a pair of feelers and 3 body parts.
Key Words / Key Phrases	:	(a) moult / shed skin (b) egg, nymph, adult (c) yes, 6 legs, 3 body parts, a pair of feelers
Process Skills	:	Inferring, Communicating

(a) The grasshopper **nymph moulted / shed its skin**. (1m)

(b) (1m)

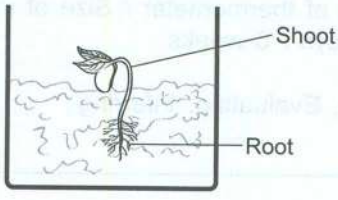


(c) Yes. A grasshopper has **6 legs, 3 body parts and a pair of feelers** just like any other insects. **(Any 2 of the characteristics)** (1m)

Thought Process:

Topic	:	Life Cycles
Key Concept(s)	:	The roots grow downwards to absorb water for the seedling. The shoot grows upwards towards the light.
Key Words / Key Phrases	:	(a) roots, shoots (b) roots grow downwards to absorb water, shoot grows upwards towards sunlight
Process Skills	:	Communicating, Analysing

(a)



(1m)

(b) The **roots grow downwards to absorb water** for the seedling. (1m)
The **shoot grows upwards towards sunlight**. (1m)

14.

Thought Process:

Topic	:	Life Cycles
Key Concept(s)	:	The seed leaf contains stored food for the seedling as the seedling does not have green leaves to make its own food.
Key Words / Key Phrases	:	(a) No, no leaves, cannot make food (b) Die, Part A is the seed leaves that contain stored food for the germinating seed
Process Skills	:	Observing, Inferring, Analysing, Predicting

(a) **No**. It **does not have leaves to make its own food**. (1m)

(b) It will **die**. **Part A is the seeds leaves that contain stored food for the germinating seed**. Without food, the seedling will not be able to survive. (1m)

Unit 1: Topical Test 1B

Section A (20 Marks)

1.	3	2.	2	3.	2	4.	3	5.	2
6.	3	7.	2	8.	4	9.	3	10.	4

Section B (10 Marks)

11.

Thought Process:

Topic : Life Cycles

Key Concept(s) : The hen sits on the eggs for 3 weeks or 21 days to keep it incubated at about 40°C.

Key Words / Key Phrases :
(a) Temperature in the incubator
(b) Type of egg / Type of hay / Type of thermometer / Size of incubator
(c) 21 days / 3 weeks

Process Skills : Observing, Evaluating, Inferring

(a) The **temperature in the incubator**. (1m)

(b) **Type of egg / Type of hay / Type of thermometer / Size of incubator** (Any 2) (1m)

(c) **21 days / 3 weeks** (1m)

12.

Thought Process:

Topic : Life Cycles

Key Concept(s) : Water, Oxygen and Warmth (W.O.W) are needed for a seed to germinate.

Key Words / Key Phrases :
(a) if light is needed for germination
(b) A, D

Process Skills : Observing, Comparing, Predicting, Formulating hypothesis

(a) To find out **if sunlight / light is needed for germination**. (1m)

(b) **Set-ups A and D**. (1m)

Topic : Life Cycles

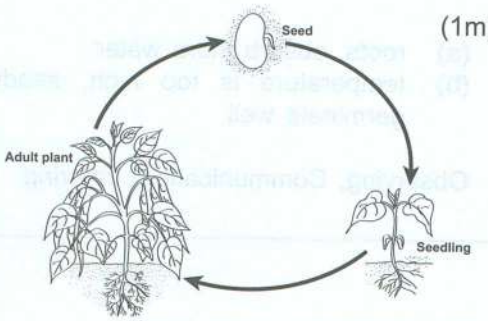
Key Concept(s) : A flowering plant that reproduces by seeds goes through a 3-stage life cycle. (Seed, Young plant, Adult plant)

The seed leaf contains stored food for the seedling as the seedling does not have green leaves to make its own food.

Key Words / Key Phrases :
(a) Seed, Young plant, Adult plant
(b) height of the seedling increases, mass of the seed leaves decreases

Process Skills : Communicating, Observing, Analysing

(a)



(1m)

(b) As the **height of the seedling increases**, the **mass of the seed leaves decreases**. (1m)

14.

Thought Process:

Topic : Life Cycles

Key Concept(s) : There are 4 stages in the life cycle of a butterfly. (Egg, Larva, Pupa, Adult)

Key Words / Key Phrases :
(a) B, butterfly has a 4-stage life cycle, a caterpillar does not resemble the adult butterfly
(b) decrease
(c) turned into pupae

Process Skills : Observing, Comparing, Inferring, Analysing,

(a) **B. Animal P is a butterfly** which **has a 4-stage life cycle** and its young, which is the **caterpillar, does not resembles the adult butterfly**. (1m)

(b) The number of caterpillars **decreased**. (1m)

(c) The caterpillars have **turned into pupae**. (1m)

Unit 1: Topical Test 1C

Section A (20 Marks)

1.	2	2.	4	3.	2	4.	3	5.	2
6.	1	7.	2	8.	1	9.	2	10.	3

Section B (10 Marks)

11.

Thought Process:

Topic : Life Cycles

Key Concept(s) : Water, Oxygen and Warmth (W.O.W) are needed for a seed to germinate.

When a seed germinates, the roots grow out first, followed by the shoots.

Key Words / Key Phrases :
(a) roots, absorb more water
(b) temperature is too high, seeds cannot germinate well

Process Skills : Observing, Communicating, Inferring

(a) **Roots** grew out first to **absorb water** for the germinating seed. (1m)

(b) Only 1 seed germinated at 65°C as the **temperature might be too high** for the seeds to germinate well. (1m)

12.

Thought Process:

Topic : Life Cycles

Key Concept(s) : The seed leaf contains stored food for the seedling as the seedling does not have green leaves to make its own food.

Key Words / Key Phrases :
(a) height of seedling increases, mass of seed leaves decreases
(b) developed leaves to make its own food

Process Skills : Observing, Communicating, Analysing, Inferring

(a) As the **height of the seedling increases**, the **mass of the seed leaves decreases**. (1m)

(b) The seedling has developed **green leaves to make its own food** to continue growing. (1m)

Thought Process:

Topic : Life Cycles

Key Concept(s) : The nymph or larva has to moult several times to become bigger

They larva and pupa breathe in atmospheric air through breathing tubes.

Key Words / Key Phrases : (a) Moulting
(b) Wrigglers breathe atmospheric air through breathing tubes, oil blocks the breathing tubes, wrigglers do not have air to survive

Process Skills : Observing, Inferring, Analysing

(a) **Moulting**. (1m)

(b) **Wrigglers breathe through breathing tubes** to **take in atmospheric air**. (1m) The layer of **oil blocked their breathing tubes, preventing them from taking in atmospheric air that they need to stay alive**. (1m)

14.

Thought Process:

Topic : Life Cycle

Key Concept(s) : The nymph is smaller in size and has no wings while the adult is bigger in size and has wings.

The nymph has to moult several times to become bigger.

Key Words / Key Phrases : (a) adult is bigger than nymph , adult has wings, nymph does not have wings
(b) Moulting

Process Skills : Observing, Comparing

(a) The **adult cockroach is bigger in size than the cockroach nymph**. (1m)
The **adult cockroach has wings** while the **cockroach nymph does not have wings**. (1m)

(b) **Moulting**. (1m)

Unit 2: Topical Test 2A

Section A (20 Marks)

1.	3	2.	4	3.	1	4.	2	5.	1
6.	3	7.	2	8.	2	9.	2	10.	1

Section B (10 Marks)

11.

Thought Process:

Topic : Matter

Key Concept(s) : Air occupies space.

Key Words / Key Phrases :
(a) Air occupies space in the flask, prevents water from entering the flask
(b) remove the stopper
(c) air occupies space

Process Skills : Observing, Comparing, Inferring, Analysing

(a) There is **air occupying the space in Flask Y, preventing the water from entering the flask.** (1m)

(b) She can **remove the stopper**. (1m)

(c) **Air occupies space**. (1m)

12.

Thought Process:

Topic : Matter

Key Concept(s) : A solid has a definite volume.

Key Words / Key Phrases :
(a) 40
(b) 200
(c) definite volume

Process Skills : Observing, Comparing, Inferring

(a) **40** cm^3 (1m)

(b) **200** cm^3 (1m)

(c) Plasticine is a solid and it has a **definite volume**. (1m)

Topic	:	Matter
Key Concept(s)	:	Air occupies space.
Key Words / Key Phrases	:	(a) bigger opening, shorter time taken for water to flow in (b) beaker in Set-up Z has a bigger opening, allow air in the beaker to escape faster, allow water to enter the beaker more quickly
Process Skills	:	Observing, Comparing, Analysing

(a) The **bigger the size of the opening at the side of the beaker**, the **shorter the time taken for the water to flow into the beaker**. (1m)

(b) The **beaker in Set-up Z has a bigger opening** at the side to **allow air in the beaker to escape faster** than in Set-up X and this **allows water to enter the beaker more quickly**. (1m)

14.

Thought Process:

Topic	:	Matter
Key Concept(s)	:	A liquid has no definite shape but it has a definite volume.
Key Words / Key Phrases	:	(a) 400 (b) no fixed shape, has fixed volume
Process Skills	:	Observing, Comparing, Inferring, Analysing

(a) **400 ml** (1m)

(b) Water, which is a liquid, has **no fixed shape** but it has a **fixed volume**. (1m)

Unit 2: Topical Test 2B

Section A (20 Marks)

1.	3	2.	4	3.	4	4.	1	5.	4
6.	2	7.	2	8.	4	9.	4	10.	3

Section B (10 Marks)

11.

Thought Process:

Topic : Matter

Key Concept(s) : A gas has no definite volume and can be compressed.

Key Words / Key Phrases :
(a) 2, volume of air remained constant, air has no fixed volume and can be compressed
(b) Water has a fixed volume and cannot be compressed, cannot allow air to enter the container

Process Skills : Observing, Communicating, Anaysing

(a) Graph **2**. The **volume of the air in the container remained constant** as the **air in the container has no fixed volume and can be compressed**. (2m)

(b) The **water** in the container **has a fixed volume** and **cannot be compressed** to allow air to enter the container. (1m)

12.

Thought Process:

Topic : Matter

Key Concept(s) : Air occupies space.

Key Words / Key Phrases :
(a) water level rose, air occupies space in the balloon, balloon took up more space, displaces the water, causes water level to rise, no fixed volume and can be compressed
(b) air occupies space in the bottle, prevents more air from entering

Process Skills : Observing, Predicting, Inferring, Analysing

(a) The **water level rose**. **Air occupied the space in the balloon**. The **inflated balloon took up more space in the basin** and **displaced the water**, causing the water level in the beaker to rise. (2m)

(b) There is **air occupying the space in the plastic bottle, preventing more air to enter** the balloon that was in the bottle. (1m)

Thought Process:

Topic : Matter

Key Concept(s) : A gas has no definite volume and can be compressed.

Key Words / Key Phrases : (a) Z
(b) air is a gas, gas does not have a fixed volume, can be compressed

Process Skills : Observing, Comparing, Inferring, Analysing

(a) Syringe **Z**. (1m)

(b) **Air** which is a **gas does not have a fixed volume** and **can be compressed**. (1m)

14.

Thought Process:

Topic : Matter

Key Concept(s) : Gas has no definite volume and can be compressed.

Mass is the amount of matter in an object

Key Words / Key Phrases : (a) tilt towards Container X
(b) air has mass, additional 100 cm^3 of air caused container X to be heavier.

Process Skills : Observing, Comparing, Predicting Analysing

(a) The balance will **tilt towards Container X**. (1m)

(b) **Air has mass**. Thus, the **additional 100 cm^3 of air** in Container X **causes Container X to be heavier than Container Y**. (1m)

Unit 2: Topical Test 2C

Section A (20 Marks)

1.	3	2.	2	3.	1	4.	2	5.	2
6.	2	7.	4	8.	3	9.	1	10.	1

Section B (10 Marks)

11.

Thought Process:

Topic : Matter

Key Concept(s) : A gas occupies space.
A gas can only be compressed to a certain extent.

Key Words / Key Phrases : (a) air occupies the space in the glass, air can be compressed to a certain extent, allow some water to enter the glass.
(b) water level rise, air is sucked out, water enters the glass to take the space of the air

Process Skills : Observing, Comparing, Inferring, Predicting, Analysing

(a) There is **air occupying the space in the glass** but **air can be compressed to a certain extent**, so a **small amount of water was able to enter the glass**. (2m)

(b) The **water level rose**. (1m) When **air is sucked out** from the glass, **water enters the glass** to **take the space of the air** that was sucked out, causing the water level in the glass to rise. (1m)

12.

Thought Process:

Topic : Matter

Key Concept(s) : Solids have a definite volume.

Key Words / Key Phrases : (a) 5
(b) 215

Process Skills : Observing, Anlasying

(a) **5** cm^3 (1m)

(b) **215** ml (1m)

Thought Process:

Topic	:	Matter
Key Concept(s)	:	Solids and gases occupy space. Solids have a definite volume. Gases do not have a definite volume and can be compressed.
Key Words / Key Phrases	:	(a) 300 (b) Wooden cube occupies 100 cm^3 of space in the bottle, air is compressed to occupy the remaining 300 cm^3 of space
Process Skills	:	Observing, Inferring, Analysing

(a) **300** cm^3 (1m)

(b) The **wooden cube occupied 100 cm^3 of space in the bottle**, thus the **air is compressed to occupy the remaining 300 cm^3 of space in the bottle**. (1m)

14.

Thought Process:

Topic	:	Matter
Key Concept(s)	:	Matter is anything that has mass and volume.
Key Words / Key Phrases	:	(a) decrease, air has mass (b) clothes take up lesser space
Process Skills	:	Observing, Comparing, Predicting, Inferring

(a) The mass **decreased**. **Air**, which **has mass** was sucked out of the bag, causing the mass of the bag of clothes to decrease. (1m)

(b) The **clothes will take up less space**. (1m)

Unit 3: Topical Test 3A

Section A (20 Marks)

1.	1	2.	4	3.	1	4.	4	5.	4
6.	3	7.	2	8.	4	9.	2	10.	2

Section B (10 Marks)

11.

Thought Process:

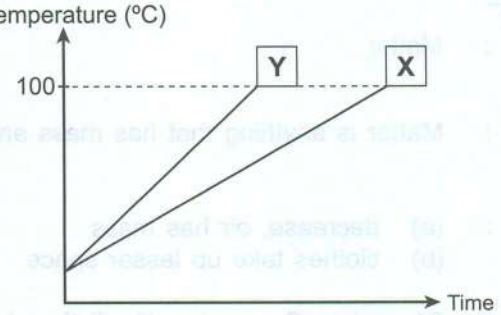
Topic : Heat

Key Concept(s) : Heat gain can cause temperature to increase.
Heat loss can cause temperature to decrease.

Key Words / Key Phrases :
(a) –
(b) X
(c) more water contains more heat, needs a longer time to reach room temperature

Process Skills : Observing, Communicating, Inferring

(a) Temperature (°C) (1m)



(b) Beaker **X**. (1m)

(c) **Beaker X contains more water so it contains more heat**, thus it **needs a longer time to reach room temperature**. (1m)

Thought Process:

Topic : Heat

Key Concept(s) : Heat always travels from a hotter region to a cooler region.

Key Words / Key Phrases : (a) –
(b) fried rice lost heat to the surrounding air, temperature of fried rice decreased

Process Skills : Observing, Inferring, Communicating

(a)

Object	Gains heat	Loses heat
Metal spoon	✓	
Surrounding air	✓	

(1m)

(b) The **fried rice lost heat to the surrounding air, causing the temperature of the fried rice to decrease**. (1m)

13.

Thought Process:

Topic : Heat

Key Concept(s) : Heat gain causes matter to expand.
Heat loss causes matter to contract.

Key Words / Key Phrases :
(a) allow concrete slabs to expand when they gain heat, pavement will not buckle
(b) allow the wires to lose heat and contract in the night, wires will not snap

Process Skills : Observing, Inferring

(a) It is to **allow the concrete slabs to expand when they gain heat** on a hot day so that the **pavement will not buckle**. (1m)

(b) It is to **allow the wires to lose heat and contract** in the cold night so that the **wires will not snap**. (1m)

14.

Thought Process:

Topic	:	Heat
Key Concept(s)	:	Heat gain causes matter to expand. Heat loss causes matter to contract.
Key Words / Key Phrases	:	(a) ink drop moved down the tube (b) air in the flask lost heat and contracted, caused ink drop to move down the glass tube
Process Skills	:	Observing, Predicting, Inferring

(a) The ink drop **moved down the glass tube**. (1m)

(b) The **air in the flask lost heat to the ice water and contracted**, causing the **ink drop** to **move down the glass tube**. (2m)

Unit 3: Topical Test 3B

Section A (20 marks)

1.	2	2.	4	3.	1	4.	2	5.	4
6.	1	7.	2	8.	3	9.	3	10.	2

Section B (10 Marks)

11.

Thought Process:

Topic : Heat

Key Concept(s) : Heat always travels from a hotter region to a cooler region.

Key Words / Key Phrases :
(a) cold
(b) metal spoon lost heat to the ice cream, causes the temperature of the spoon to decrease

Process Skills : Observing, Predicting, Inferring

(a) The handle of the spoon feels **cold**. (1m)

(b) The **metal spoon lost heat to the ice cream**, **causing its temperature to decrease** and **feel cold**. (1m)

12.

Thought Process:

Topic : Heat

Key Concept(s) : Heat always travels from a hotter region to a cooler region.

Good conductors allow heat to flow through them easily.

Good conductors of heat gain heat fast and lose heat fast.

Key Words / Key Phrases :
(a) Tissue paper
(b) The temperature of the water in the beaker was the lowest, heat travels through the tissue paper at the fastest rate
(c) the water reached room temperature

Process Skills : Communicating, Inferring, Analysing

(a) **Aluminium foil**. (1m)

(b) The **temperature of the water in the beaker wrapped with aluminium foil was the lowest after 10 minutes**. Thus, **heat travels through aluminium foil at the fastest rate**, so it is the best conductor of heat. (1m)

(c) The **water** in all the beakers **reached the room temperature** which is 27°C and remained constant. (1m)

13.

Thought Process:

Topic	:	Heat
Key Concept(s)	:	A thermometer is used to measure temperature.
Key Words / Key Phrases	:	(a) thermometer (b) 29
Process Skills	:	Observing, Using apparatus and equipments

(a) **Thermometer**. (1m)

(b) **29°C** (1m)

14.

Thought Process:

Topic	:	Heat
Key Concept(s)	:	Good conductors of heat allow heat to flow through them easily.
Key Words / Key Phrases	:	(a) Material A, more water was collected in Bowl A, ice block in Bowl melt more, heat flows through Material A more quickly (b) Set-up Y, more burners in Set-up Y, ice gains more heat and melts faster.
Process Skills	:	Observing, Inferring, Analysing

(a) **Material A. More water was collected in Bowl A** as the **ice block in it melted more**. This shows that **heat flows through Material A more quickly than Material B**, so Material A is a better conductor of heat. (2m)

(b) **Set-up Y. Set-up Y has more burners than Set-up X**. Thus, the **ice in Set-up Y gains more heat and melts more quickly**. (1m)

Section A (20 marks)

1.	3	2.	3	3.	4	4.	2	5.	1
6.	1	7.	4	8.	4	9.	3	10.	3

Section B (10 Marks)

11.

Thought Process:

Topic : Heat

Key Concept(s) : Good conductors of heat allow heat to flow through them easily.

Key Words / Key Phrases :
(a) B, C
(b) A, temperature of hot water decreased the least, heat escaped through the cup the slowest, poorest conductor of heat, cold water will gain heat from the surrounding at the slowest rate, keep the water cold the longest time

Process Skills : Observing, Inferring, Analysing

(a) **Cups B** and **C**. (1m)

(b) **Cup A**. The **temperature of the hot water in Cup A decreased the least as heat escapes through Cup A the slowest**. Thus, **Cup A is the poorest conductor of heat**. So the **cold water in it will gain heat from the surrounding at the slowest rate, keeping the water cold for the longest possible time**. (2m)

12.

Thought Process:

Topic : Heat

Key Concept(s) : Heat gain causes matter to expand.

Key Words / Key Phrases :
(a) Rubber stopper pop out
(b) air in the flask gained heat and expanded, pushed the rubber stopper out

Process Skills : Observing, Predicting, Inferring

(a) The **rubber stopper will pop out of the flask**. (1m)

(b) The **air** in the flask **gained heat** from the flame and **expanded**, **pushing the rubber stopper out of the flask**. (1m)

13.

Thought Process:

Topic : Heat

Key Concept(s) : Heat loss causes temperature to decrease.

Key Words / Key Phrases :
(a) decreased
(b) hot coffee lost heat to the tap water, cause temperature to decrease
(c) 28

Process Skills : Observing, Predicting, Inferring

(a) The temperature of the hot coffee **decreased**. (1m)

(b) The **hot coffee lost heat to the tap water**, causing its **temperature to decrease**. (1m)

(c) **28°C** (1m)

14.

Thought Process:

Topic : Heat

Key Concept(s) : Heat is a form of energy.

Temperature is a measurement of how hot or how cold an object is.

Heat always flows from a hotter region to a cooler region.

Heat loss causes temperature to decrease.

Key Words / Key Phrases :
(a) True
(b) False
(c) True
(d) False

Process Skills : Communicating, Evaluating

(a) **True** (½m)

(b) **False** (½m)

(c) **True** (½m)

(d) **False** (½m)

Section A (20 Marks)

1.	1	2.	2	3.	2	4.	3	5.	4
6.	3	7.	1	8.	1	9.	2	10.	2

Section B (10 Marks)

11.

Thought Process:

Topic : Light

Key Concept(s) : Most light can pass through transparent objects
Some light can pass through translucent objects
No light can pass through opaque objects.

Key Words / Key Phrases : (a) C
(b) A, C, B

Process Skills : Observing, Inferring, Analysing

(a) Card **C** (1m)

(b) **A, C, B** (1m)

12.

Thought Process:

Topic : Light

Key Concept(s) : No light can pass through opaque objects.

Key Words / Key Phrases : (a) Y
(b) Shadow at Y is the shortest, shadows at 12pm are the shortest
(c) Yes, canopy of umbrella is made of a black opaque material, block light and cast shadow

Process Skills : Observing, Communicating, Inferring, Analysing

(a) **Y**. (1m)

(b) The **shadow at Y is the shortest** and **shadows at 12 pm are the shortest**. (1m)

(c) **Yes**. The canopy of the **umbrella is made of a black opaque material** which will **block the light** and cast a shadow on the pavement. (1m)

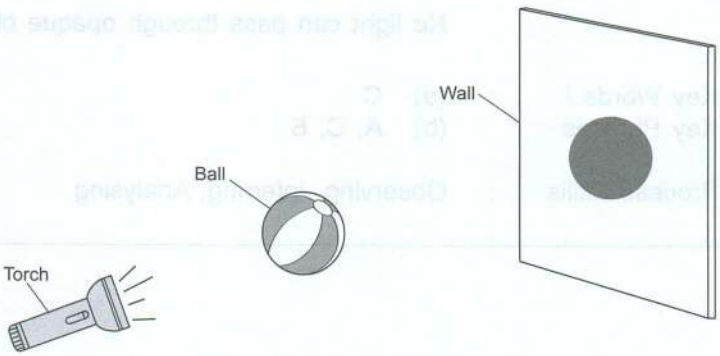
13.

Thought Process:

Topic	:	Light
Key Concept(s)	:	Shadows are formed when light is blocked by an object.
Key Words / Key Phrases	:	(a) ball blocked light (b) –
Process Skills	:	Observing, Communicating, Inferring

(a) The **ball blocked the light from reaching the wall**, causing its shadow to be cast on the wall. (1m)

(b) (1m)



14.

Thought Process:

Topic	:	Light
Key Concept(s)	:	Shadows are formed when light is blocked by an object.
Key Words / Key Phrases	:	(a) if the type of cloth affects the amount of light that passes through it (b) P, light detected by the light sensor was the least, allows the least amount of light to pass through it, block out most of the light from the room
Process Skills	:	Observing, Analysing, Formulating hypothesis

(a) To find out **if the type of cloth affects the amount of light that passes through it**. (1m)

(b) Cloth **P**. The amount of light detected by the **light sensor was the least**, so Cloth P **allows the least amount of light to pass through it**. Thus, Cloth P **can block out most of the light from the room**. (2m)

1. 4	2. 2	3. 2	4. 3	5. 2
6. 1	7. 4	8. 1	9. 2	10. 2

Section B (10 Marks)

11.

Thought Process:

Topic : Light

Key Concept(s) : We see things when they reflect light.

Key Words / Key Phrases :
(a) No light for the pebble to reflect
(b) Light is needed to see things
(c) Light can be reflected

Process Skills : Observing, Inferring

(a) There is **no light in the box**, so the **pebble cannot reflect any light** into Dex's eyes. (1m)

(b) **Light is needed for us to see things**. (1m)

(c) **Light can be reflected**. (1m)

12.

Thought Process:

Topic : Light

Key Concept(s) : Light travels in a straight line.

Key Words / Key Phrases :
(a) Light travels in a straight line, blocked by Card Y, holes on the cards were not aligned
(b) cardboard / wood

Process Skills : Observing, Inferring, Generating possibilities

(a) **Light travels in a straight line** and **light from the candle flame was blocked by Card Y** as the **holes on the cards were not aligned**. (1m)

(b) **Cardboard / Wood** (Any opaque material) (1m)

13.

Thought Process:

Topic	:	Light
Key Concept(s)	:	Most light can pass through transparent objects No light can pass through opaque objects. A shadow is smaller when; • the object is further away from the light source. • the light source is further way from the object. • the screen is nearer to the object.
Key Words / Key Phrases	:	(a) light can pass through glass, object can reflect the light into the eyes (b) object nearer to screen, object away from torch, torch away from object
Process Skills	:	Observing, Inferring, Analysing, Generating possibilities

(a) Set-up **B**. The **light from the torch can pass through the clear glass** and the **object will reflect the light into her eyes**, allowing her to see the object. (2m)

(b) She can **move the object nearer to the screen**. / She can **move the torch further away from the object**./She can **move the object further away from the torch**.(1m)

14.

Thought Process:

Topic	:	Light
Key Concept(s)	:	No light can pass through opaque objects. Some light can pass through translucent objects Most light can pass through transparent objects.
Key Words / Key Phrases	:	(a) 320 (b) milk is opaque, apple juice is translucent, more light can pass through apple juice than milk
Process Skills	:	Observing, Communicating, Inferring, Analysing

(a) **320** (1m)

(b) **Milk is opaque** while **apple juice is translucent**. Thus the **apple juice will allow more light to pass through it than milk**. (1m)

Unit 4: Topical Test 4C **Section A (20 marks)**

1.	3	2.	4	3.	3	4.	3	5.	4
6.	2	7.	3	8.	3	9.	2	10.	2

Section B (10 Marks)

11.

Thought Process:

Topic : Light

Key Concept(s) : No light can pass through opaque objects.

Key Words / Key Phrases : (a) Light travels in straight lines
Light can be blocked by opaque objects
(b) put the cans closer to each other

Process Skills : Observing, Inferring, Generating possibilities

(a) **Light travels in straight lines.** (½m)
Light can be blocked by opaque objects. (½m)

(b) **Put the cans closer to each other.** (1m)

12.

Thought Process:

Topic : Light

Key Concept(s) : Most light can pass through transparent objects

Some light can pass through translucent objects

No light can pass through opaque objects.

Key Words / Key Phrases : (a) Z, most light can pass through the water, plants can carry out maximum photosynthesis

(b) reliable

Process Skills : Observing, Analysing, Inferring, Evaluating

(a) Pond **Z**. **Most light can pass through the water sample** from Pond Z to reach the submerged water plants. Thus, the **water plants can carry out maximum photosynthesis** to grow well. (2m)

(b) It is to ensure that the results are **reliable**. (1m)

13.

Thought Process:

Topic	:	Light
Key Concept(s)	:	Light travels in a straight line. Shadows are formed when light is blocked by an object. A shadow is bigger and less sharp when the object is nearer to the light source.
Key Words / Key Phrases	:	(a) light travels in a straight line, light can be blocked (b) bigger, less sharp
Process Skills	:	Observing, Inferring, Predicting, Communicating

(a) Light travels in a straight line. (½m) Light can be blocked. (½m)

(b) The shadow will become bigger and less sharp. (1m)

(c)  (1m)

Thought Process:

Topic	:	Light
Key Concept(s)	:	Most light can pass through transparent objects Some light can pass through translucent objects No light can pass through opaque objects.
Key Words / Key Phrases	:	(a) allows, does not allow, not possible to tell, allows
Process Skills	:	Observing, Analysing, Inferring

Sheet A: **Allows light to pass through** (½m)

Sheet B: **Does not allow light to pass through** (½m)

Sheet C: **Not possible to tell** (½m)

Sheet D: **Allows light to pass through** (½m)