

GRADE 8

NATURAL SCIENCES

NOVEMBER 2018

TIME: 1½ HOURS

MARKS: 70

MEMORANDUM

SECTION A

QUESTION 1.1

1.1.1 A✓

1.1.2 C✓

1.1.3 D✓

1.1.4 B✓

1.1.5 B✓

1.1.6 B✓

1.1.7 A✓

1.1.8 C✓

1.1.9 D✓

1.1.10 C✓

[10]

QUESTION 1.2

1.2.1 B✓

1.2.2 I✓

1.2.3 D✓

1.2.4 F✓

1.2.5 G✓

[5]

TOTAL SECTION A: 15

SECTION B**QUESTION 2**

- 2.1 A discharge can cause a spark which in turn can cause an explosion of petrol fumes. ✓ (1)
- 2.2.1 How does the type of cloth/fabric/material✓ influence the number of pieces of paper that can be picked up by a charged balloon. ✓ (2)
- 2.2.2 Size/weight of the pieces of paper. ✓
OR
Number of times the balloon is rubbed against the cloth. ✓
OR
Same size and type of balloon. ✓ (1)
- 2.2.3 Silk. ✓
When the balloon is rubbed against silk, it picks up the largest number of pieces of paper. This means that the electrostatic build up on silk is the greatest. When silk discharges a big spark can be created which makes the possibility of a petrol explosion bigger.✓ (2)

[6]**QUESTION 3**

- 3.1.1 Electrolysis is the process through which an electric current✓ causes a chemical reaction.✓
OR
Electrolysis is the process through which an electric current✓ is used to decompose a compound into elements/simpler substances. ✓
OR
Electrolysis is the process through which electrical energy✓ is converted to chemical energy. ✓ (2)
- 3.1.2 Gas bubbles will form at the one electrode.✓
A reddish-brown copper layer will form around the other electrode.✓ (2)
- 3.2.1 The iron filings will be attracted/cling to the electromagnet/nail.✓
The nail becomes magnetised because the current carrying wire has a magnetic field around it. ✓ (2)
- 3.2.2 Use a stronger battery/bigger current. ✓
OR
Increase the number of turns of wire around the nail. ✓ (1)

[7]

QUESTION 4

4.1.1 Source of energy. ✓ (1)

4.1.2  ✓ (1)

4.2 The brightness of the bulb will decrease **OR** the bulb will glow dimmer. ✓
If a resistor is added in series, total resistance increases ✓ and the current decreases. ✓ (3)

4.3.1 Bulbs all have the same brightness. ✓ (1)

4.3.2 Circuit C ✓ (1)

4.3.3 Most resistors in parallel, ✓ least total resistance. ✓ (2)
[9]

QUESTION 5

5.1.1 Dispersion ✓ of white light. (1)

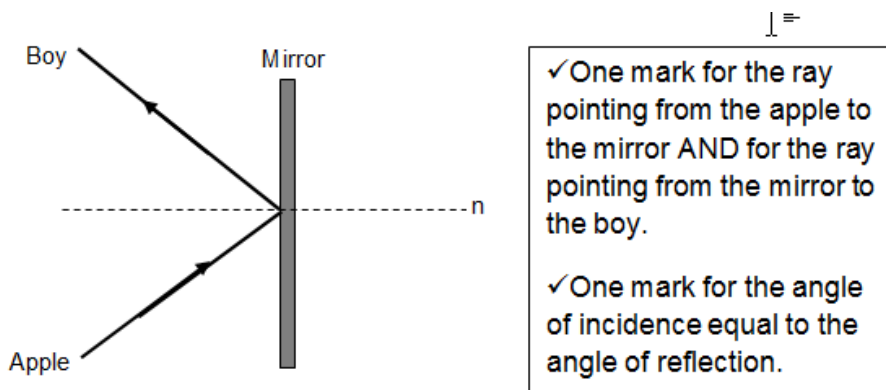
5.1.2 Colour 1 = Green ✓
Colour 2 = Violet ✓ (2)

5.2.1 The page and the dot will be blue **OR** the whole page will be blue ✓ (1)

5.2.2 The paper will be red. ✓
The dot will be black. ✓ (2)

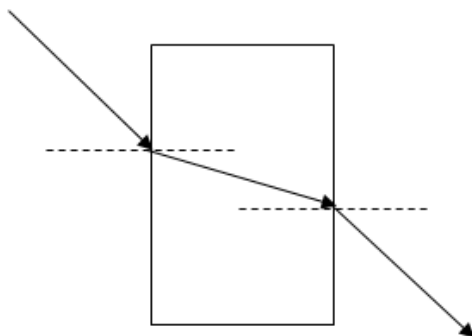
5.3.1 The angle of incidence is equal to the angle of reflection. ✓ (1)

5.3.2



(2)

5.4



✓One mark for refraction towards the normal when the ray of light enters the glass.

✓One mark for refraction away from the normal when the ray of light exits the glass.

(2)

[11]**QUESTION 6**

6.1 E - Jupiter✓

F - Saturn✓

G - Uranus✓

H - Neptune✓

(4)

6.2 Gravity **OR** gravitational force✓

(1)

6.3 Asteroids are relative small rocky bodies✓ which orbits the Sun.✓

(2)

6.4. Outer planets consist mostly of gas.✓

The inner planets are composed primarily out of rocky material.✓

(2)

6.5 Temperature: Earth's distance from the Sun provides the ideal temperature range✓ to support life.

Water occurs in all three phases✓ (solid, liquid, gas) which is essential for most life processes on Earth.

Sunlight provides energy in the food chain.✓

The atmosphere contains oxygen needed for respiration.✓

(4)

- 6.6 A Galaxy is much bigger than a Solar system.
A Galaxy contains many stars, while a solar system contains only one star.
A galaxy is made up of millions of solar systems.
(Any TWO for 2 marks ✓✓) (2)
- 6.7.1 A light year is the distance✓ that light travels in one year.✓ (2)
- 6.7.2 $13 \times 10 = 130$ ✓ trillion kilometers✓ (2)
- 6.8 Unpolluted atmosphere.✓
Very little (or minimum) light pollution from large cities.✓
Large number of cloudless days throughout the year.✓ (3)
[22]
- TOTAL SECTION B: 55**
GRAND TOTAL: 70