



GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

**GAUTENG DEPARTMENT OF EDUCATION
PROVINCIAL EXAMINATION
NOVEMBER 2018
GRADE 6**

**NATURAL SCIENCES AND
TECHNOLOGY**

MARKING GUIDELINES

7 pages

GAUTENG DEPARTMENT OF EDUCATION

PROVINCIAL EXAMINATION

NATURAL SCIENCES AND TECHNOLOGY

MARKING GUIDELINES

SECTION A**QUESTION 1**

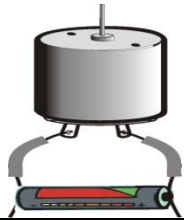

1.1	B	(1)
1.2	C	(1)
1.3	C	(1)
1.4	B	(1)
1.5	A	(1)
1.6	A	(1)
1.7	A	(1)
1.8	D	(1)
1.9	C	(1)
1.10	A	(1)
		(10)

QUESTION 2

2.1	E	(1)
2.2	G	(1)
2.3	A	(1)
2.4	B	(1)
2.5	C	(1)
		(5)

QUESTION 3

3.1

Appliance / Electric circuit	Source of energy	Input energy	Useful output energy
	3.1.1 Cell (1)	3.1.2 Electrical energy (1)	3.1.3 Mechanical / Kinetic energy (1)
	3.1.4 Mains electricity (1)	3.1.5 Electrical energy (1)	3.1.6 Light energy (1)

(6)

3.2

Terminology	Meaning / Explanation
3.2.1 Gravity	Force that pulls on other objects (1)
3.2.2 Orbit	An orbit is the path one object in space takes around another. (1)
3.2.3 Optical telescope	Telescope that gathers light / used by our eyes (1)
3.2.4 Astronaut	Someone travelling in space in a spacecraft (1)

(4)

[25]

SECTION B
QUESTION 4

4.1

Questions	Circuit A	Circuit B
Is the switch Closed or Open?	4.1.1 Open switch (1)	4.1.2 Closed switch (1)
Will the bulb/s LIGHT-UP in the circuit? (Yes / No)	4.1.3 No (1)	4.1.4 Yes (1)
Complete or Incomplete circuit?	4.1.5 Incomplete (1)	4.1.6 Complete (1)

(6)

4.2

	Source of energy
Hydro-electric power	4.2.1 Water (1)
Solar energy	4.2.2 Sun (1)

(2)

4.3

4.3.1 Rotation	The turning movement of an object around its axis (1)
4.3.2 Revolution	Revolution is the movement of one object around the center of another object. (1)

(2)

4.4 If an asteroid hit / crashed into the Moon it would form a **crater** (hole caused by something that hit it very fast and hard).

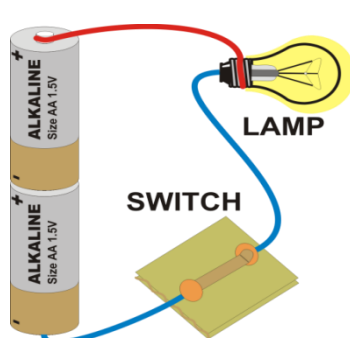
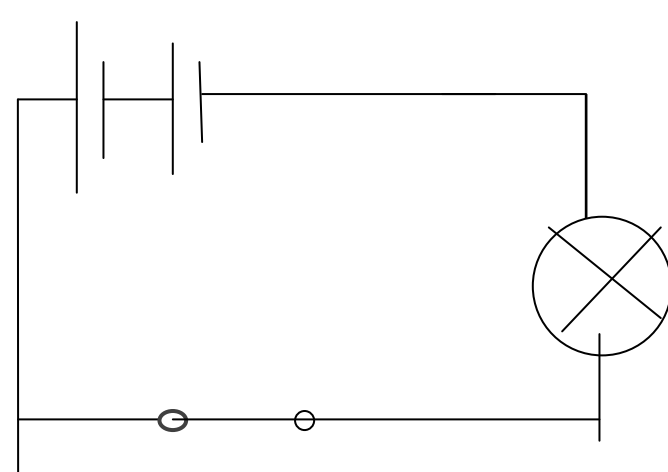
(1)

4.5 Manufacturing sequence when making a **rover**

Steps not in the right order	Steps in the right order (USE LETTERS ONLY)
A. Cutting and Shaping	Step 1: C
B. Decorating and reinforcement	Step 2: A
C. Measuring and Marking	Step 3: D
D. Joining parts together (Wheels, Axles and chassis)	Step 4: B

(4)

4.6 Redraw the circuit using circuit diagrams.

Electric circuit	Circuit diagram
	

Allocation of marks	Marks
Battery	1
Bulb	1
Switch closed	1 (no mark for open switch)
Total	3

(18)

SECTION C
QUESTION 5

5.1

Suggest reasons why the Mars rover has the following specifications	Purpose
5.1.1 Camera	To film and take photographs of the Moon's surface (1)
5.1.2 Compass	To find direction by the position of the sun (1)
5.1.3 Antennae	Sending information back to earth and receiving radio or television signals (1)

(3)

5.2 Moons do not give out their own heat and light, but can be seen from earth. The light from the sun shines onto the moon's surface, the moon reflects light from the sun. (1)

5.3 5.3.1 12.5 hours (1)

5.3.2 Neptune (-225 °C) (1)

5.3.3 Neptune is far away from the sun (1)

[7]

[50]

NATURAL SCIENCE AND TECHNOLOGY
ASSESSMENT FRAMEWORK
 GRADE 6
 NOVEMBER 2018

STRANDS	
NATURAL SCIENCES	ENERGY AND CHANGE PLANET EARTH AND BEYOND
TECHNOLOGY	SYSTEMS AND CONTROL

DURATION: 1hour-30 minutes

SECTION A	MARKS
QUESTION 1: MULTIPLE-CHOICE	10
QUESTION 2: MATCHING ITEMS	5
QUESTION 3: IDENTIFYING FORMS OF ENERGY, DEFINING CONCEPTS	10
TOTAL	25
SECTION B	
QUESTION 4: COMPARING THINGS (8), EXPLANATION (1), DIFFERENTIATE (2), REARRANGING (4), DRAWING (3)	18
SECTION C	
QUESTION 5: ANALYSING (3), SUGGEST A REASON (4)	7
TOTAL	50