

NATURAL SCIENCES - MEMORANDUM
NOVEMBER 2019
GRADE 7

Order of questions

Lower Order Questions	Middle Order Questions	Higher Order Questions
40% = 23 Marks	45% = 27 Marks	15% = 10 Marks
<u>Questions</u> Sec A Q 1 (5) Sec A Q 2 (7) Sec A Q 3 (7) Sec B Q 5.1 (1) Sec B Q 5.4 (2) Sec B Q 5.6 (1)	<u>Questions</u> Sec B Q 1.1 (3) Sec B Q 2.1 (1) Sec B Q 3 (Except 3.7) (11) Sec B Q 4 (5) Sec B Q 5.2 (2) Sec B Q 5.3 (3) Sec B Q 5.5 (2)	<u>Questions</u> Sec B Q 1.2 (6) Sec B Q 2.2 (2) Sec B Q 3.7 (2)

Section A

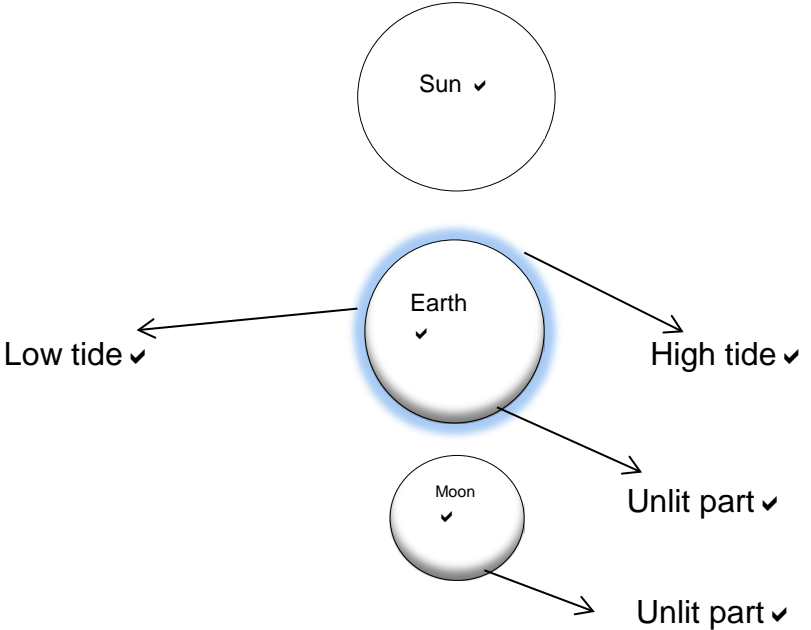
Question 1	Answer	Marks
1.1	C ✓	1
1.2	B ✓	1
1.3	C ✓	1
1.4	B ✓	1
1.5	D ✓	1
Question 2		
2.1	True ✓	1
2.2	False ✓ By painting it white to reflect heat / or black absorbs heat ✓	2
2.3	True ✓	1
2.4	False ✓ Chromatography – separating substances with different colours ✓ / dyes / colour pigmentation OR distillation – different boiling points.(any correct one)	2
2.5	True ✓	1
Question 3		
1	F ✓	1
2	E ✓	1
3	A ✓	1
4	H ✓	1
5	I ✓	1
6	D ✓	1
7	J ✓	1

Section B		
Question 1		
1.1 A	Convection ✓	1
B	Conduction ✓	1
C	Radiation ✓	1
1.2.1	The transfer of heat ✓ through an object or from one object to another. ✓	2
1.2.2	The transfer of heat ✓ from one place to another by the movement of liquid or gas particles. ✓	2
1.2.3	A type / method of heat transfer ✓ that carries heat energy across empty space. ✓	2
Question 2		
2.1	No ✓	1
2.2	Silver shiny surfaces reflect heat ✓ while dull black colours / surfaces absorb heat ✓ OR black container will be a higher temperature / silver a lower temperature. ✓	2
Question 3		
3.1	100% - 39% = 71% ✓	2
3.2	39% ✓	1
3.3	39% - 36% = 3%	2
3.4	3 units ✓	1
3.5.1	Any reasonable energy conservation method eg. use geyser blanket to prevent heat loss ✓	1
3.5.2	Only heat up the amount of water you need. Use energy – saving bulbs etc. ✓ (any acceptable answer)	1
3.6	White / silver / shiny / bright colour ✓	1
3.7	These colours reflect ✓ heat thereby keeping the house cool. ✓	2
3.8	$\frac{200}{250} \times \frac{100}{1} = 80\%$ ✓	2
Question 4		
4.1	Uses water and carbon dioxide ✓ chlorophyll absorbs sunlight ✓ and produces sugar and oxygen ✓	3
4.2	They store it in roots, stems and leaves. ✓	1
4.3	By eating plants ✓	1
Question 5		
5.1	Sundial, moon position, stick and sun, stone hedge (any relevant answer) ✓	1
5.2	It is because of the tilting of the axis line ✓ and movement of the Earth ✓	2

5.3
5.4
5.5

Position of the Earth should be between the Sun and Moon in a straight line.

7



5.6

Spring tide

1