

UMZINYATHI DISTRICT
NATURAL SCIENCES - MEMORANDUM GRADE 7
NOVEMBER 2022

Order of questions

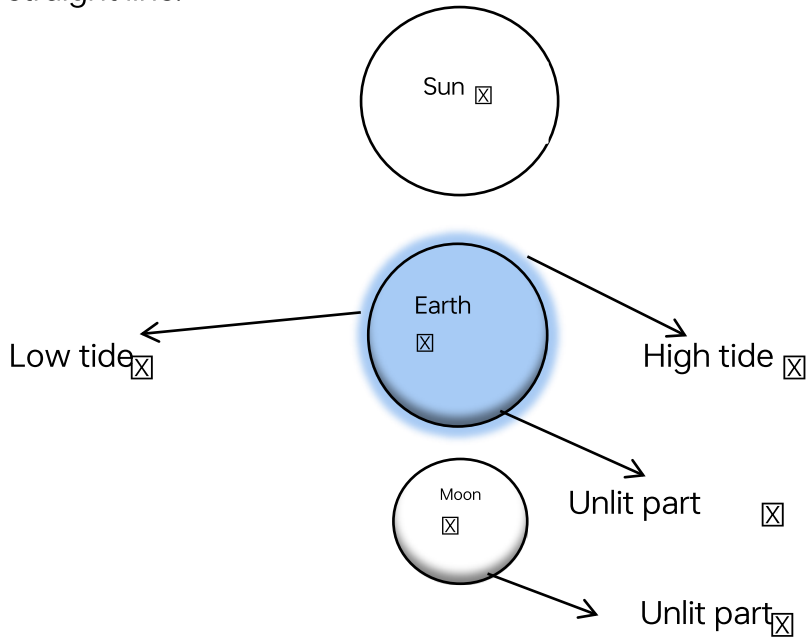
Lower Order Questions	Middle Order Questions	Higher Order Questions
40% = 23 Marks	45% = 27 Marks	15% = 10 Marks
<u>Questions</u> Sec A Q 1 (5) Sec A Q 2 (7) Sec A Q 3 (7) Sec B Q 5.1 (1) Sec B Q 5.4 (2) Sec B Q 5.6 (1)	<u>Questions</u> Sec B Q 1.1 (3) Sec B Q 2.1 (1) Sec B Q 3 (Except 3.7) (11) Sec 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
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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.  The diagram illustrates a spring tide configuration. At the top is a circle labeled 'Sun ☒'. In the center is a blue circle labeled 'Earth ☒'. At the bottom is a circle labeled 'Moon ☒'. All three are aligned vertically. From the Earth, an arrow points left to 'Low tide ☒' and an arrow points right to 'High tide ☒'. From the Moon, two arrows point right to 'Unlit part ☒' and 'Unlit part ☒'.	7
5.6	Spring tide	1