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**2021 Term 4**

**Year 7 Science**

**Earth and Space**



Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Teacher:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Total Marks 37 Marks

**Section One: Multiple Choice (14 marks)**

1. How long does the moon take to orbit around the earth?
2. about one year
3. about one day
4. about 28 days
5. 52 weeks
6. As you move away from a planet, its gravitational force field:
7. gets stronger.
8. always stays the same.
9. weakens.
10. is zero.
11. A solar eclipse is when:
12. the moon travels around Earth in an orbit shaped like an oval.
13. the moon’s shadow appears on the Earth.
14. Earth blocks sunlight from reaching the Moon.
15. you only see part of the Moon because of its angle to the Sun.
16. Which of the following has a gravitational force field around it?
17. the Sun
18. the Earth
19. the person sitting next to you
20. All of the above
21. The 23.5° tilt of the earth is responsible for giving us:  
    * 1. The atmosphere
      2. headaches
      3. The four seasons
      4. Gravity
22. If a brick has a mass of 1 kg on Earth, it will have:
23. A mass of 1 kg on the Moon
24. A weight of 19.6 N on the Earth
25. A mass of only 0.3 kg on the Moon
26. A weight of 9.8 N on the Moon
27. State what phase the moon must be in for a solar eclipse to occur.
28. Crescent
29. New
30. First Quarter
31. Full
32. State why the seasons occur at opposite times of the year in the northern and southern hemispheres.
33. Because the North and South pole point towards the Sun at the same time.
34. Because the Earth is at different distances from the Sun at different times of the year.
35. Because the Earth is not a perfect sphere.
36. Because the Earth’s axis of rotation is tilted.
37. Night and Day on Earth are caused by:
    1. the Earth spinning around, once, on its axis
    2. the Moon completing a single orbit around the Earth
    3. the tilt of the Earth on its axis as it orbits the Sun
    4. the Earth completing a single orbit around the Sun
38. State when spring tides occur:
    1. When the Sun and moon are at right angles
    2. When the Sun and moon are on opposite sides
    3. When the Sun and moon are in line
    4. When the Sun and moon are at left angles
39. What type of high tides do **neap tides** result in?  
    1. Deeper high tides
    2. Shallower high tides
    3. The same high tides
    4. None of the above
40. Which is the best definition for **tides**?
    1. The gravitational attraction between Earth and the Moon
    2. The different depths of the ocean, caused by different levels of the ocean floor
    3. Waves moving backwards and forwards on the beach.
    4. The alternating rise and fall of water in the oceans

1. State whether the arrow in the diagram below is pointing to the part of Earth experiencing a high tide or a low tide.

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* 1. High Tide
  2. Low Tide

1. Which statement below best explains why low tides occur on the sides of the Earth that are at right angles to the Moon?  
   1. Because the Earth is spinning really fast on its axis.
   2. Because the Earth’s gravity is weaker on those sides.
   3. Because the moons gravity pulls the water towards itself and away from these sides.
   4. Because the moon has a weak gravitational pull on that side.

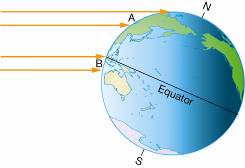
**Section 2: Short Answer (23 marks)**

1. How many days are there in a leap year? \_\_\_\_\_\_366 (1)\_\_\_\_ (1 mark)

Explain why the leap year occurs. (2 marks)

1. Because the earth revolves around the Earth in 365.25 days. (1)
2. Every 4 years the extra quarter makes up a full extra day. (1)
3. When discussing the universe, a year 7 student claimed that he weighed the same on both Earth and the Moon.

**State** whether he was correct, (1 mark) and **justify** your answer. (3 marks)

1. Incorrect - **1**
2. The mass of the students stays the same - **1**
3. but his weight on the moon and earth are different - **1**
4. This is due to the different force of gravity on the Earth and Moon - **1**
5. **Explain** the terms *rotate* and *revolve* using the Earth as an example. (4 marks)
6. The Earth rotates on its axis (1)
7. This means it spins around an imaginary line through the centre of the Earth (1)
8. The Earth revolves around the Sun (1)
9. This means that the earth follows an orbit/Path around the Sun (1)
10. In the diagram below are two regions labelled A and B.
11. 
12. **Identify** which region (A or B) would have the hottest climate. (1 mark)

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**B** would experience the hottest climate

1. **Justify** your answer in part a). (2 marks)

**B** Sunlight strikes the Earth’s surface in Region B more directly and on less of an angle than in Region A. (1)

This concentrates the light and heat across a smaller area. (1) This makes Region B hotter than Region A.

1. **List 2** factors that affect the number of stars able to be seen in the night sky (2 marks)

a) Phase/Brightness of the moon

b) Cloud cover/ ambient light/air pollution)

1. Explain how different moon phases are created.  (3 marks)
2. Moon phases are created by the Moon orbiting around the Earth (1) as the Earth orbits around the Sun.
3. One half of the Moon is always illuminated by the Sun. (1)
4. As the Moon moves around the Earth, we see different amounts of light and shade, depending on the Moon's position. (1)
5. This creates different phases, which are the illuminated part of the Moon that we can see
6. Write the correct name of the following moon phases next to each diagram. The names have been supplied for you. (4 marks)

Waxing crescent Last quarter Waning Gibbous Full Moon

First Quarter Waxing Gibbous New Moon Waning Crescent

|  |  |  |  |
| --- | --- | --- | --- |
| **Diagram** | **Name of Phase** | **Diagram** | **Name of Phase** |
|  | New Moon |  | Full Moon |
|  | Waxing Crescent | Icon  Description automatically generated | Waning Gibbous |
| Icon  Description automatically generated | First Quarter |  | Last Quarter |
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**END OF QUIZ**