

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

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

Year 7 Science Exam,

Semester 2 2015

***Time allowed for this paper***

55 minutes

***Materials required/recommended for this paper***

**To be provided by the supervisor**

This Question/Answer Paper

### Separate Multiple Choice Answer Sheet

## To be provided by the candidate

## Standard Items: Pens, pencils, eraser or correction fluid and ruler.

***Important note to candidates***

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

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| --- | --- | --- | --- |
| **Section** | **Suggested working time** | **Number of Questions** | **Marks Possible** |
| 1. Multiple Choice | 25 minutes | 20 | 20 |
| 1. Short Answer | 30 minutes | 5 | 20 |
|  |  |  | 40 |

**MULTIPLE CHOICE GRID**

**ANSWER ALL MULITPLE CHOICE QUESTIONS ON HERE**

1 A B C D 11 A B C D

2 A B C D 12 A B C D

3 A B C D 13 A B C D

4 A B C D 14 A B C D

5 A B C D 15 A B C D

6 A B C D 16 A B C D

7 A B C D 17 A B C D

8 A B C D 18 A B C D

9 A B C D 19 A B C D

10 A B C D 20 A B C D

**Section One: Multiple Choice (20 marks)**

**Please circle the correct answer on the multiple choice grid provided.**

|  |  |
| --- | --- |
|  | 1. The nearest star to Earth is:   **A** Proxima Centauri.  **B** Alpha Centauri.  **C** Southern Cross.  **D** the Sun. |
|  | 1. Stars cannot be seen in the day because:   **A** they are turned off.  **B** they are too dull to be seen against the intense light from the Sun.  **C** they do not exist in that part of the sky seen during the day.  **D** they are blue in colour and so cannot be seen against the blue sky. |
|  | 1. Which of the following is a dwarf planet?   **A** Pluto  **B** Earth  **C** Jupiter  **D** the Moon |
|  | 1. Which of the following has a gravitational force field around it?   **A** The Sun’s light  **B** The Earth’s magnetic field  **C** The person’s soul sitting next to you  **D** Everything with mass has a gravitational force field. |
|  | 1. As you move away from Earth, its gravitational force field:   **A** gets stronger.  **B** weakens.  **C** always stays the same.  **D** is zero. |
|  | 1. The diagram below shows the orientation of the Earth, Sun and Moon when a spring tide occurs. 2. PS7_PR_9_01T 3. The phase of the moon during the spring tide shown above is:   **A** New moon  **B** First quarter  **C** Full moon  **D** Last quarter |
|  | 1. The type of tide for the place on Earth closest to the moon shown in the diagram below is:   **A** Low tide.  **B** Spring tide.  **C** Neap tide.  **D** Leap tide.  **PS7_PR_9_02T** |
|  | 1. A lunar eclipse is when:   **A** the Moon travels around Earth in an orbit shaped like an oval.  **B** Earth blocks sunlight from reaching the Moon.  **C** the Moon blocks sunlight from reaching the Sun.  **D** you only see part of the Moon because of its angle to the Sun. |
|  | 1. Earth’s axis is tilted at an angle of 23.5°. Imagine it didn’t tilt. Which of the following statements would then be true?   **A** Earth would have the same seasons as it does now.  **B** Earth’s seasons would be longer than they are now.  **C** Earth would not have any seasons at all.  **D** The length of the day would change. |
|  | 1. Which of the following statements about small solar system bodies is true?   **A** Most asteroids are located in a belt between Mars and Jupiter.  **B** Meteors partly burn up as they enter Earth’s atmosphere, the rest striking the surface and leaving craters behind.  **C** Comets are also known as ‘shooting stars’.  **D** Solar winds blow comets towards Earth. |
|  | 1. The dwarf planets Pluto and Ceres have diameters of 2300 km and 980 km respectively. If a model of the universe is constructed in which Pluto is represented by a ball of diameter 10 mm, then the model of Ceres would have a diameter of approximately:   **A** 4 mm  **B** 23 mm  **C** 98 mm  **D** 40 mm |
|  | 1. The diagram below shows a model that was constructed to demonstrate the effect of the Earth’s tilted axis. A torch is used to represent the Sun.   PS7_PR_9_04T  In this position, Australia is experiencing:  **A** night.  **B** day.  **C** winter.  **D** Not enough information to decide. |
|  | 1. In the model in question 12, what time of day is it in Perth, Western Australia?   **A** Midday  **B** After sunset  **C** Midnight  **D** Early morning |
|  | 1. In the model in question 12, what season is it in Australia when it is in this position?   **A** Autumn  **B** Summer  **C** Winter  **D** It is not possible to determine the season from this model. |
|  | 1. Leap years have 1 day added to them. The following key can be used to calculate if any year will or will not be a leap year.   Is the year divisible by 400? Yes? The year is a leap year.  If not, is the year divisible by 100? Yes? The year is a normal year.  If not, is the year divisible by 4? Yes? The year is a leap year.  Use this information to calculate which of the following years was a leap year.  **A** 1500  **B** 1700  **C** 1600  **D** 1800 |
|  | 1. The years below were all important years in Australia’s history. Which year was *not* a leap year?   **A** 1788: First Fleet arrives in Sydney  **B** 1901: Federation of Australia  **C** 1968: Aborigines are allowed to vote  **D** 2000: Sydney Olympics |
|  | 1. The Moon takes 27.3 days to rotate once on its own axis. It also takes 27.3 days to revolve once around Earth on its orbit. Because of this:   **A** on Earth we only ever see one side of the Moon, regardless of where it is in its orbit.  **B** we see a full Moon every 27.3 days.  **C** we only see the Moon once every 27.3 days.  **D** the Moon disappears from view once every 27.3 days. |
|  | 1. Mnemonics are ways of helping you remember something difficult. They are often used to remember the order of the planets from the Sun. Which of the following mnemonics correctly describes this order?   **A** My Vinyl Egg Makes John’s Seem Under Nourished  **B** Nigel’s Under Slime Juice! Michael Existed Very Majestically  **C** Just Sitting Under Neath, Maggie Viewed Every Magpie  **D** Very Many Extra Mice Niggled Some Jelly Up |
|  | 1. The distance from Earth to the Moon is 400 000 km. The distance from Sydney to Cairns is 2000 km. This means that a trip from Earth to the Moon and back is equivalent to:   **A** 200 trips from Sydney to Cairns and back.  **B** 400 trips from Sydney to Cairns and back.  **C** 100 trips from Sydney to Cairns and back.  **D** 2000 trips Sydney to Cairns and back. |
|  | 1. The distance from the Sun to Earth is 150 million kilometres or 150 000 000 km. This distance is also known as the Astronomical Unit (AU). This means that 1 AU = 150 000 000 km.   The distance from the Sun to Mars is 230 million kilometres. When Earth and Mars are closest to each other, approximately how far is it between them?  **A** 0.5 AU  **B** 150 million kilometres  **C** 2 AU  **D** 80 kilometres |

**Section Two: Short Answer (20 marks)**

**Write your answers in the spaces provided**

1. **Contrast** *planets* and *stars* by describing two differences between them. (2 marks)

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1. **A) Define** the term orbit. (1 mark)

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**B) Identify** three astronomical objects that orbit and state what each of them orbits (6 marks)

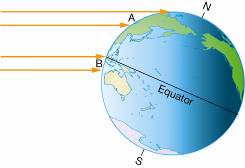
|  |  |
| --- | --- |
| **Object** | **What it orbits** |
| **1.** |  |
| **2.** |  |
| **3.** |  |

**C) Describe** the difference between *natural* and *artificial* satellites. (2 marks)

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1. **State** how long it takes the Earth to: (2 marks)
2. Rotate once on its own axis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Travel once around the Sun \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4** In the diagram below, there are two regions labelled A and B, (3 marks)



1. **Identify** which region would have the hottest climate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **Justify** you choice

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **A) State** the materials that comets are generally made of. (1 mark)

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**B)** When viewed from the Earth, comets are described as having three main characteristics. What are they? (3 marks)

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**END OF EXAMINATION**