a



**Science**

**Cohort** Secondary

**Country** Afghanistan

**Language** English/Dari



**Note:** This is an assessment used in classrooms for the Schools2030 programme. It is being shared to demonstrate the approaches to assessment that Schools2030 is developing.

For those interested in using or adapting this tool, further information including teacher guides, psychometric analysis, and other supplementary materials are available on request.



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| **BIOLOGICAL SCIENCE** | |
| ITEM 1 | Use this diagram of a green plant and your knowledge of science. Choose the correct answers to the two following questions:    **1.** Which part of the plant is directly involved in sexual reproduction?   |  |  |  | | --- | --- | --- | | **1.** | A |  | | **2.** | B |  | | **3.** | C |  | | **4.** | D |  | |
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|  | **2.** In which part of the plant does most photosynthesis occur?   |  |  |  | | --- | --- | --- | | **1.** | A |  | | **2.** | B |  | | **3.** | C |  | | **4.** | D |  | |

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| ITEM 2 | What are two differences between human and animal cells?  Difference 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Difference 2:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| **PHYSICAL SCIENCE** | |
| ITEM 3 | If we place a piece of sand and a piece of wood on water, what will happen?   |  |  |  | | --- | --- | --- | | **A.** | Both will sink |  | | **B.** | Sand will sink and wood will float |  | | **C.** | Both will float |  |   Why do you think so?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| **CHEMICAL SCIENCE** | |
| ITEM 4 | Look at the picture of three jars containing each different material on your sheet below.   |  |  |  | | --- | --- | --- | | https://i.pinimg.com/736x/74/a4/50/74a4506dfa10785f800b5e02ffdd692f.jpg | https://i.pinimg.com/736x/74/a4/50/74a4506dfa10785f800b5e02ffdd692f.jpg | https://i.pinimg.com/736x/74/a4/50/74a4506dfa10785f800b5e02ffdd692f.jpg | | **A** | **B** | **C** |   **1.** Choose the correct jar corresponding to the following elements?   |  |  |  | | --- | --- | --- | | **A.** | Gas |  | | **B.** | Solid |  | | **C.** | Liquid |  |   Why do you think so?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| ITEM 5 | **1.** Write the correct words in the blank space of the sentence.  Pure substances are made of either \_\_\_\_\_\_\_\_\_\_\_or \_\_\_\_\_\_\_\_\_.  **2.** What are the three types of subatomic particles?   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
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| **GENERAL SCIENCE** | |

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| ITEM 6 | State if the following statements are true or false.   |  |  |  | | --- | --- | --- | |  |  | **True or False** | | **A.** | Chemical elements are made of atoms. |  | | **B.** | The distance between particles in solid objects is more than the distance between particles in gas. |  | | **C.** | Opposite poles of magnets repel each other. |  | | **D.** | Climate change negatively affects our life on earth. |  | |
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| **BIOLOGICAL SCIENCE** | |
| ITEM 7 | Choose the correct answer below. A molecule that contains genetic information and is present in all living cells is:   |  |  |  | | --- | --- | --- | | **A.** | Pedigree |  | | **B.** | DNA |  | | **C.** | Nucleus |  | | **D.** | Heredity |  | |
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| **CHEMICAL SCIENCE** | |
| ITEM 8 | |  |  |  | | --- | --- | --- | | **A.** | can always be reversed |  | | **B.** | will never change state |  | | **C.** | can never be reversed |  | | **D.** | cannot be reversed easily |  |   A chemical change: |
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| **BIOLOGICAL SCIENCE** | |
| ITEM 9 | Which body system is shown in the diagram below?  Respiratory System   |  |  |  | | --- | --- | --- | | **A.** | Nervous |  | | **B.** | Endocrine |  | | **C.** | Circulatory |  | | **D.** | Respiratory |  | |
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| **EARTH AND SPACE** | |
| ITEM 10 | Day and night are caused by:   |  |  |  | | --- | --- | --- | | **A.** | The tilt of Earth's axis |  | | **B.** | Earth's revolution around the Sun |  | | **C.** | Eclipses |  | | **D.** | Earth's rotation on its axis |  | |
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| **CHEMICAL SCIENCE** | |
| ITEM 11 | Look at the diagram below.    What does the diagram show?   |  |  |  | | --- | --- | --- | | **A.** | An Atom |  | | **B.** | A Molecule |  | | **C.** | A Nucleus |  | | **D.** | A proton |  | |
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| ITEM 12 | Choose the correct ending to the sentence.  An ion of the element Carbon has a different number of:   |  |  |  | | --- | --- | --- | | **A.** | Protons |  | | **B.** | Electrons |  | | **C.** | Neutrons |  | | **D.** | All of the above |  | |
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| **KNOWLEDGE APPLICATION** | |
| ITEM 13 | Choose the correct explanation for the sentence below.   |  |  |  | | --- | --- | --- | | **A.** | reflects sunlight |  | | **B.** | absorbs light from Earth |  | | **C.** | produces its own light |  | | **D.** | transmits sunlight |  |   The Moon’s surface is visible to an observer on Earth because the Moon: |
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| **EARTH AND SPACE** | |
| ITEM 14 | On which date does Afghanistan usually experience the longest period of daylight?   |  |  |  | | --- | --- | --- | | **A.** | Jawza 31 |  | | **B.** | Sartan 15 |  | | **C.** | Haml 01 |  | | **D.** | Qaws 30 |  | |
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| **PHYSICAL SCIENCE** | |
| ITEM 15 | Look at this diagram. It shows what occurs when a ray of light strikes and enters a pond.  Refraction of light — Science Learning Hub  Which property of light is illustrated when the ray enters the pond?   |  |  |  | | --- | --- | --- | | **A.** | Refraction |  | | **B.** | Absorption |  | | **C.** | Reflection |  | | **D.** | Emission |  | |
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| **EARTH AND SPACE** | |
| ITEM 16 | Look at this diagram showing Earth at four locations in its orbit around the Sun.  Which motion do the arrows in the diagram represent?  https://sciencesource2.pearsoncanada.ca/images/quiz_earthrotation.jpg   |  |  |  | | --- | --- | --- | | **A.** | Earth’s rotation |  | | **B.** | Earth’s revolution |  | | **C.** | The Sun’s rotation |  | | **D.** | The Sun’s revolution |  | |
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