

# Answers: Sun

Marking guidance - Value reasoning as well as the selected answer

## 1 to 4 | Identify

1. G2 V star.
2. Accept a correct location or orbital relationship.
3. Rotation:  $\approx 25$  days at the equator; orbital period:  $\approx 230$  million years around the Milky Way.
4. Temperature:  $\approx 5,500$  °C at the surface; also accept a correct environmental feature.

## 5 and 6 | Read and compare

5. Each figure needs its unit and measured quantity.
6. The explanation should preserve the meaning of this comparison: About 109 Earths placed side by side would span its diameter.

## Teaching point

A rounded figure is still a useful estimate. The size of a drawing does not prove that its proportions are correct. A comparison must state its reference.

# Answers: check and explain

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## 7. B. Its equator rotates faster than its poles

The Sun is plasma: its different latitudes do not all rotate at the same speed.

## 8. A. The photosphere

The photosphere is the layer from which most visible sunlight comes.

## 9. B. Parker Solar Probe

Parker Solar Probe passes through the corona to study the solar wind and plasma.

## 10. C. Hydrogen

The Sun consists mainly of hydrogen, followed by helium.

## 11 to 13 | Quantities and models

- 11. Accept two units from the table correctly linked to their quantities.
- 12. Bodies can be enlarged or distances compressed for readability, but this must be stated.
- 13. Accept accurate similarities and differences supported by a fact sheet or scientific source.

# Answers: investigate and write

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## 14 | Observation or fact

Accept an accurate sentence describing a checkable characteristic or figure. Do not accept an opinion presented as a fact.

## 15 | Scientific question

The question should be investigable through observations, measurements, comparisons or a mission. Reward precise, testable wording.

## Mini-mission | Suggested marks out of 10

Description of the environment: 0-2.

Three correctly used scientific terms: 0-2.

Clear exploration objective: 0-2.

Plausible mission and coherent account: 0-2.

Between 5 and 7 clear sentences: 0-2.

## Adaptation

Accept spoken explanations when appropriate. For further challenge, require data and distinguish observation, interpretation and conclusion.

## Sources and limitations

NASA Science: <https://science.nasa.gov/sun/facts/>

Online fact sheet: <https://systeme-solaire-3d.fr/en/soleil>

Values are rounded. The artistic view changes sizes and distances for readability. Check dated information before reusing it.