

Periodicity Multiple Choice Questions

You may use a periodic table to help you answer these questions.

Tick **one** box.

1. What is the correct classification of the element mercury (Hg)?
 - A. s-block ☐
 - B. p-block ☐
 - C. d-block ☐
 - D. f-block ☐

2. Which of the following is an f-block element?
 - A. aluminium ☐
 - B. calcium ☐
 - C. copper ☐
 - D. neodymium ☐

3. What is periodicity?
 - A. the change in a physical property as you go down a group of elements in the periodic table ☐
 - B. the decreasing trend in a physical property across a row of elements in the periodic table ☐
 - C. the increasing trend in a physical property across a row of elements in the periodic table ☐
 - D. the pattern in a physical property across a row of elements in the periodic table, which repeats in the next row ☐

4. Which of the following elements has the largest atomic radius?
 - A. chlorine ☐
 - B. phosphorus ☐
 - C. silicon ☐
 - D. sodium ☐

5. Which of the following elements has the highest first ionisation energy?
 - A. argon ☐
 - B. chlorine ☐
 - C. silicon ☐
 - D. sodium ☐

6. Which of the following elements has the lowest first ionisation energy?

- A. aluminium ☐
- B. magnesium ☐
- C. phosphorus ☐
- D. silicon ☐

7. Which of the following elements has the highest melting point?

- A. argon ☐
- B. chlorine ☐
- C. silicon ☐
- D. sodium ☐

8. Which of the following elements has the lowest melting point?

- A. argon ☐
- B. chlorine ☐
- C. phosphorus ☐
- D. sulfur ☐

9. Which statement is true about atomic radius across a period?

- A. Atomic radius decreases across a period because the amount of shielding increases. ☐
- B. Atomic radius decreases across a period because the atoms have more protons. ☐
- C. Atomic radius increases across a period because the atoms have more electrons. ☐
- D. Atomic radius stays the same across a period because there is a similar amount of shielding. ☐

10. Which of the following statements is correct?

- A. Aluminium has a higher melting point than sodium because aluminium can form Al^{3+} ions. ☐
- B. Argon has the lowest melting point of all period 3 elements because it forms weak covalent bonds. ☐
- C. Sodium has a higher melting point than magnesium because sodium has a larger atomic radius. ☐
- D. The melting point of phosphorus is higher than the melting point of sulfur because phosphorus has stronger London forces between its molecules. ☐