

Revision of KS4 The Periodic Table for KS5 Chemistry - Worksheet

- On the copy of the periodic table (next page) label the following:
 - metals and non metals
 - groups (with numbers)
 - periods (with numbers)
 - transition elements
- How are elements in the periodic table ordered?
- Find two examples where the mass number does not increase.
- How many electrons does Magnesium have in its highest energy level?
- How many electrons does Oxygen have in its highest energy level?
- What do elements in the same group have in common?
- What happens to reactivity in group 1 as you go down the group?
- What happens to reactivity in group 7 as you go down the group?
- Name 1 similarity and 1 difference between group 1&2 metals and the transition elements.
- Write a word and symbol equation to show how sodium reacts with water.
- If identical pieces of lithium and potassium were dropped into a bowl of water at the same time describe how their reactions would differ.
- Complete the table with ticks to show which reaction will happen.

	Fluorine	Chlorine	Bromine	Iodine
Sodium fluoride	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sodium chloride	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sodium bromide	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Sodium iodide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Extension Question

Research the appearance and state of group 7 elements, use this knowledge to predict observation for the reaction in question 12.



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Revision of KS4 The Periodic Table for KS5 Chemistry - Worksheet (Answers)

1. On the copy of the periodic table (next page) label the following: [see video](#)
 - a. metals and non metals
 - b. groups (with numbers)
 - c. periods (with numbers)
 - d. transition elements
2. How are elements in the periodic table ordered?

[In order of increasing atomic number](#)

3. Find two examples where the mass number does not increase.

[Ar/K Te/I](#)

4. How many electrons does Magnesium have in its highest energy level?

[12](#)

5. How many electrons does Oxygen have in its highest energy level?

[8](#)

6. What do elements in the same group have in common?

[Similar chemical properties / same number of electrons in their highest energy level](#)

7. What happens to reactivity in group 1 as you go down the group?

[Reactivity increases](#)

8. What happens to reactivity in group 7 as you go down the group?

[Reactivity decreases](#)

9. Name 1 similarity and 1 difference between group 1&2 metals and the transition elements.

[similarities - they are all metals / they all conduct electricity](#)

[difference - group 1/2 white/colourless compounds / only 1 oxidation state](#)

[transition metals form coloured compounds / variable oxidation states](#)

10. Write a word and symbol equation to show how sodium reacts with water.

[sodium + water → sodium hydroxide + hydrogen](#)

[Na\(s\) + H₂O \(l\) → NaOH \(aq\) + H₂\(g\)](#)



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11. If identical pieces of lithium and potassium were dropped into a bowl of water at the same time describe how their reactions would differ.

potassium would react more violently and much faster. Both would react with the water to produce hydrogen gas

12. Complete the table with ticks to show which reaction will happen.

	Fluorine	Chlorine	Bromine	Iodine
Sodium fluoride		x	x	x
Sodium chloride	✓		x	x
Sodium bromide	✓	✓		x
Sodium iodide	✓	✓	✓	

Extension Question

Research the appearance and state of group 7 elements, use this knowledge to predict observation for the reaction in question 12.

Sodium chloride + Fluorine → sodium fluoride + chlorine

Observations: Fluorine is pale yellow and chlorine pale green, both salts are colourless. It would be very difficult to see the change in this reaction.

Sodium bromide + Fluorine → sodium fluoride + bromine

Observations: Pale yellow to orange solution (bromine)

Sodium iodide + fluorine → sodium fluoride + iodine

Observations: Pale yellow to orange/ brown solution with a black precipitate (bits of solid iodine).

Sodium bromide + chlorine → sodium chloride + bromine

Observations: Pale green to orange solution (bromine)

Sodium iodide + chlorine → sodium chloride + iodine

Observations: Pale green to orange/ brown solution with a black precipitate (bits of solid iodine).

Sodium iodide + bromine → sodium bromide + iodine

Observations: Orange solution to orange/ brown solution with a black precipitate (bits of solid iodine).



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