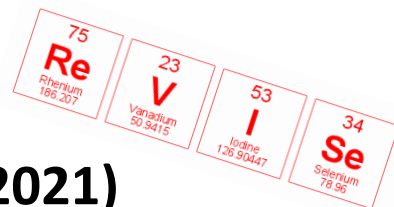




Year 10 Chemistry

Revision Checklist (November 2021)



Your Year 10 Chemistry examination will be 50 minutes long and will cover the Y10 topics:

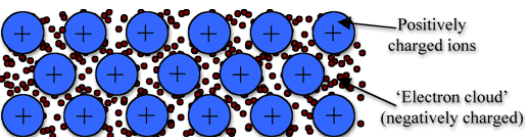
1. Metals and Reactivity (booklet 1)
2. Periodic table (booklet 2) including managing information (pie charts and bar graphs) – ONLY PART OF THIS TOPIC IS BEING ASSESSED.

Bring the following with you to the examination:

- 2 pens
- Pencil, rubber and sharpener
- 30 cm ruler
- Calculator may be used

Note: You are **not** permitted to take the Data Leaflet/Periodic Table into this examination.

1. Metals and Reactivity

Learning Outcome/Objective	Notes to help with learning/revision
1. Show the position of metals in the Periodic Table	Metals – left hand side of the 'staircase line', but remember that hydrogen is NOT a metal
2. Recall five physical properties of metals and explain how its physical properties relate to its structure.	See page 2 for the properties and page 3 for the structure of a metal. Explanation examples: <ul style="list-style-type: none"> • High melting point (solid at room temperature) – strong metallic bond needs large amount of energy to break bond because there is a strong attraction between positive metal ions and 'sea of electrons' • Density – metals have a high density because the metal atoms are packed closely together and have a lot of mass (are heavy)
	
3. Set up an electrical circuit correctly to prove that a metal conducts electricity	See page 3
4. Burn magnesium safely, describe what is seen when calcium and magnesium are burned in air and write word equations for these reactions	See page 4 - remember the general idea that: $\text{metal} + \text{oxygen} \rightarrow \text{metal oxide}$ e.g. $\text{calcium} + \text{oxygen} \rightarrow \text{calcium oxide}$ What do you see while the reaction occurs? What colour and state (solid, liquid, gas) is the product in each reaction?
5. Explain that the difference in reactivity between metals can be studied using their reactions with water and dilute acids	See page 5 – 7 and look at the next learning outcomes (5 – 9) in detail. What do you see when the metal is cut? What do you observe when the metal is placed in water?
6. Recall observations and write word equations for the reactions of sodium, potassium and calcium with water	See pages 5 – 7 and remember the general equation is: $\text{reactive metal} + \text{water} \rightarrow \text{metal hydroxide} + \text{hydrogen}$ e.g. $\text{calcium} + \text{water} \rightarrow \text{calcium hydroxide} + \text{hydrogen}$
7. Explain the meaning of the term 'exothermic'	Exothermic = gives out heat
8. Recall the products of the reactions between hydrochloric acid and the metals magnesium, zinc, aluminium, copper and iron.	See pages 6 – 7 and remember the general equation is: <ul style="list-style-type: none"> • $\text{reactive metal} + \text{hydrochloric acid} \rightarrow \text{metal chloride} + \text{hydrogen}$ e.g. $\text{zinc} + \text{hydrochloric acid} \rightarrow \text{zinc chloride} + \text{hydrogen}$ Note: Copper is unreactive and therefore doesn't react with dilute acid
9. Write word equations for these metals with hydrochloric acid, sulfuric acid and nitric acid	See page 7 and remember the general equations: <ul style="list-style-type: none"> • $\text{reactive metal} + \text{hydrochloric acid} \rightarrow \text{metal chloride} + \text{hydrogen}$ • $\text{reactive metal} + \text{sulfuric acid} \rightarrow \text{metal sulfate} + \text{hydrogen}$ • $\text{reactive metal} + \text{nitric acid} \rightarrow \text{metal nitrate} + \text{hydrogen}$
10. Recall the order of metals in the reactivity series	See page 7 (You may have learned a mnemonic to help you)

Learning Outcome/Objective	Notes to help with learning/revision
11. Describe chemical reactions to show which chemicals are needed for iron to rust	See page 8
12. Recall the word equation for rusting	See page 8
13. Suggest reasons why it is important to control rusting	Iron becomes weakened and is less fit for the intended purpose – there may be safety considerations Metal objects have to be replaced – financial cost
14. List four methods of preventing rusting and explain how they work	See page 9
15. Recall that a more reactive metal will replace a less reactive metal from a solution of its compound	This learning outcome is about displacement reactions See page 11
16. Place metals in order of reactivity by studying displacement reactions, carrying out the reactions safely.	See pages 12 - 13
17. Predict the products of displacement reactions	A more reactive metal displaces a less reactive metal from its salt (compound) e.g. magnesium + copper sulfate → magnesium sulfate + copper the magnesium has displaced the copper from copper sulfate
18. Write word equations for displacement reactions	See page 12
19. Recall the names of three unreactive metals and explain what they are used for	See page 15
20. List one advantage and one disadvantage of using energy saving light bulbs	See pages 14 – 15 and your summary diagram on page 15



2. Periodic Table



Learning Outcome/Objective	Notes to help with learning/revision
1. Explain briefly the work of Dmitri Mendeleev in developing the periodic table	See the summary at the bottom of page 2
2. Sort periodic table data given and note exceptions to any patterns.	See page 2. You may have carried out the card sort activity in class and noticed the exceptions re iodine and tellurium, for example.
3. Label the main areas of the periodic table to include metals, non-metals, alkali metals, halogens, transition metals, noble gases	See page 3 and your coloured version of the GCSE Data Leaflet/Periodic Table. Can you recall the two elements which are liquid at room temperature?
4. Locate an element by using the terms period and group	See page 3. Example of this type of exercise is in parts (i) and (j)
5. Know the symbols for common elements in the periodic table	See page 4. Learn these! Remember if an element has a two letter symbol the first letter is upper case and the second letter is lower case, e.g. "NA", "nA", "na" are all wrong – it should be "Na".
6. Define the term 'element'	See page 4
7. State observations when alkali metals react with water	See page 5. This learning outcome overlaps with learning outcome 5 in the Metals & Reactivity topic (above). Fizzing, metal turns into a small ball, moving, on the surface. (Solution at end will be alkaline – if universal indicator present, colour change from green → purple)
8. Recall the colours and states of the halogens.....	NOT BEING ASSESSED IN THIS EXAMINATION
9. Describe simple trends in the properties of the alkali metals	See page 6. It the general trends that are important – don't try to learn off figures and detail.
10. Recognise similarities in alkali metals' properties	See page 6. All react with water; all produce an alkaline solution; all reactive. Some of the alkali metals float in water.
11. Predict the properties of some elements based on data within the periodic table's group	e.g. see page 6, question 5
18. Construct and interpret graphs including pie charts, bar charts, scatter graphs and line graphs	See pages 9 & 10. Only pie charts and bar graphs are being assessed in this examination
20. Describe the relationship or trend between two sets of data from a table or a graph	See questions on tables and graphs in your booklet.

