Week 6: Acids and Metals

Lesson 3: Revision Lesson

Complete Starter (in back of class jotter)

Revision Starter

1) Give a possible pH for lemon juice
2) Is oven cleaner an acid or alkali?
3) What happens to the pH of sodium hydroxide as it is diluted?
4) If calcium carbonate and nitric acid react together, what products are made?
5) What type of reaction is Q4 classed as?
6) What is produced when calcium reacts with oxygen?

Learning Outcomes

By the end of this lesson you should be able to:

- Explain the pH scale and identify acids and alkalis
- Describe dilution and neutralisation
- Write word equations of reactions between acids, metals, water and oxygen

Success Criteria

You will have been successful in this lesson if you:

1. Read through the Acids and Metals notes and Learning Outcomes in your booklet
2. Watch the video links provided
3. Complete questions provided
4. Complete Microsoft Form Revision Quiz

If you have any questions about the content of this lesson, you should ask your **class teacher either through your class MS team or via email**.

We have now reached the end of the Acids and Metals topic so you should now make sure you access all of the resources already made for you to help further your own independent revision.

What to do

Complete tasks 1-6 – This involves **watching selected videos**, using **selected websites** to support your revision, reading and revising using your **Pupil Notes, answering questions** in your class jotter and **completing the Microsoft Form on Revision** of this topic.

Task 1: Watch video resources available

Videos below:

Dilution and the pH scale

Neutralisation and the pH scale

Everyday Neutralisations

Naming Salts

Acid Rain

Homework 21 solutions

Homework 22 solutions

Homework 23 solutions

Homework 25 solutions

Metals and Water

Metals and Acid

Metals and Oxygen

Metal Reactions word equations

If these links don't work for you when you open this pdf on Teams, open it instead via the school website - that should be more reliable.

Task 2: Use the following websites to develop your understanding

Utilise the following websites:

BBC Bitesize – Acids and Bases

- Read through pages 1-7 of the revision guide and try the test
- The test will automatically give you feedback on your learning

Evans2chemweb

- Username: snhs
- Password: giffnock
- Choose any teacher icon
    - Choose Revision tab at top of page
        - Intermediate 1
            - Unit 1 – Acids and Alkalis
                - You can then work through the notes and the four activities on this page
                - These activities will be marked automatically and also allow you to use simulated experiments
            - Unit 2 – Metals
                - You can work through the notes and activity on “Reactions of metals”

StudyRocket

- Read through the notes on this webpage on Reactivity Series, Metal Reactions with Water, Acid and Oxygen and Testing for Hydrogen

Note: You do not need to understand the section on Displacement

Task 3: Using your Pupil Notes to evaluate your progress

- Read through the "Learning Outcomes" section of Acids and Metals unit (pages 35 and 36 in your Pupil Notes)
- Use these to self-evaluate your progress so far by considering your understanding of each concept in the unit.
- Consider traffic light system for each LO
    - Red – find the concept difficult to understand,
    - Amber – find the concept okay but have some difficulties
    - Green – fully understand the concept
- Write R (Red), A (Amber), G (Green) beside each LO
- You should then focus your revision on the areas you rated as Red or Amber using:
    - The Pupil Notes that focus on that topic
    - The Self Check Questions that have been made available to use
    - The Homework feedback you have received from your teacher on those topics

Task 4: Questions to try

Try the following questions to further your revision. Answers to these will be posted on Wednesday including a video of a teacher talking through the correct answers. This should give you detailed explanation on how to progress in your revision.

1) One solution has a pH of 2 and another has a pH of 5, which is more acidic?

2) One solution has a pH of 12 and another has a pH of 9, which is more alkaline?

3) Copy and complete the following sentences

   a) When an acidic solution is diluted with water, the pH falls/ rises and the acidity increases/ decreases.

   b) When a solution of an alkali is diluted with water, the pH falls/ rises and the alkalinity increases/ decreases.

4) Name two common lab acids

5) Name two common lab alkalis

6) During neutralisation between acids and alkalis water is formed, what is the other product formed?

7) What gas is produced when a metal carbonate reacts with an acid?

8) Name the salt produced when sodium hydroxide and sulphuric acid react together

9) Which acidic gas is produced when sulphur impurities in fossil fuels combine with oxygen in the air?

10) Which acidic gas is produced by the parking of air in a car's petrol engine?

Task 5: Complete the following Microsoft Form

You will get automatic feedback on this that should help you in your revision

Acids and Metals Revision Form

https://forms.office.com/Pages/ResponsePage.aspx?id=oyzTzM4Wj0KVQTctawUZKeSVSAJoJ4FKoNm9KbBanehURE9QM09XUlQ1SklCMUUySkQ5M0taVzdBQy4u

Task 6: Correct today's revision starter

Starter answers

1) pH less than 7 such as 2 or 3
2) Oven cleaner is an alkali
3) The pH of sodium hydroxide decreases towards 7 as it is diluted
4) Calcium nitrate, carbon dioxide and water would be produced
5) The reaction in Q4 is a neutralisation reaction
6) Calcium oxide is produced when calcium reacts with oxygen