Year 8 Formal Exam - Revision Guidance

Circulation	Year 8 Students
Title	Y8 Formal Exams - Revision Guidance
Purpose	To provide revision information for Y8 Formal Exams

You will sit one paper for your formal exams taking place in April and you will be assessed on the topics that you have learnt since September. Below you can find the learning objectives from each topic to help you revise. I would suggest using them as a check list and ticking them off once you're confident you can do it.

If you have any questions, please ask your science teacher for some help.

Good luck,
Mr Sach

Biological processes

- Describe the process of photosynthesis
- Give the word equation for photosynthesis
- Describe how to test a leaf for the presence of starch
- Describe the main adaptations of a leaf
- Describe the role of stomata
- Describe how water is transported through a plant
- Describe the function of specialised plant cells involved in the transport of substances.
- Describe how a plant uses minerals for healthy growth
- Describe the symptoms of plant mineral deficiencies
- Explain why farmers use fertilisers
- Describe the process of aerobic respiration
- Give the word equation for aerobic respiration
- Describe how the reactants and products of respiration are transported to and from cells
- Write the word equation for the process of anaerobic respiration
- Compare the processes of aerobic and anaerobic respiration

The Periodic Table

- Explain the principles of the period table models proposed by Dalton, Newland and Mendeleev.
- Explain the property Mendeleev used to order the elements, and what we currently use.
- Describe properties of metals and non metals
- Explain how an element's properties are linked to their uses
- Define chemical properties
- Describe chemical properties of metals and non-metals
- Give the group and period number of an element on the periodic table
- Describe trends in data
- Use data to predict properties of elements
- Describe the chemical and physical properties of group 1
- Describe the chemical and physical properties of group 7
- Describe the chemical and physical properties of group 0

Sound

- Describe the features of a wave
- Describe how sound is produced and travels
- Explain how sound moves through different materials
- Explain why sounds are quieter at a distance

- Describe the link between loudness and amplitude
- Describe the link between frequency and pitch
- Describe how the ear detects sound
- Explain how echoes are used to find distance
- Calculate distance of echoes
- Describe how ultrasounds work

Health and Lifestyle

- Define a balanced diet
- Name the food tests and give their positive results
- Describe health issued caused by an unhealthy diet
- Give the definition of a deficiency
- Compare the energy requirements of different people
- Describe the process of digestion
- Describe the functions of the structures in the digestive system
- Describe the role of bacteria in the digestive system
- Define enzyme
- Define drug
- Describe the difference between recreational and medicinal drugs
- Describe the effects of alcohol on the body
- Describe some health problems caused by alcohol consumption
- Describe some effects of alcohol consumption on conception and pregnancy
- Describe the effects of components of tobacco smoke
- Describe some health problems caused by smoking
- Describe some effects of smoking on pregnancy

Acids and Alkalis

- Describe some features of chemical reactions
- Deduce whether a change is a physical change or a chemical reaction.
- Compare chemical reactions to physical changes.
- Name some common properties of acids and alkalis
- Describe the differences between concentrated and dilute solutions of acids.
- State the colours of indicators in acids, alkalis and neutral solutions.
- Use the pH scale to measure acidity and alkalinity.
- Compare the use of a variety of indicators
- State the pH range for acidic solutions
- Use models to show the difference between a strong acid and a weak acid.
- Evaluate models for strong and weak acids.
- State what happens during a neutralisation reaction
- Match the type of salt that will form from type of acid used.
- Describe the steps involved in making a salt in a neutralisation reaction.
- Predict the names of salts formed from acids and metals reacting and write word equations to represent the reactions

Speed

- Calculate average speed
- Describe the difference between average speed and instantaneous speed
- Interpret distance-time graphs

- Calculate speed using a distance-time graph
- Describe how volume and temperature affect gas pressure
- Give the definition of atmospheric pressure
  Describe how atmospheric pressure changes with height
- Introduce the concept of density
- Explain why some everyday objects float and some sink
- Describe how liquids exert a pressure in all directions
- Describe how liquid pressure changes with depth
- Give the definition of pressure, and give the direction that it acts in
  Calculate pressure
  Describe situations where high and low pressures are useful

Inheritance

- Define variation in a population
- Describe the difference between inherited and environmental variation
- Describe the difference between continuous and discontinuous variation
- Define DNA
- Define chromosome
- Define Gene
- Describe how characteristics are inherited
- Describe how the model of DNA was developed
- Describe the structure of DNA
- Describe the role of the fossil record as evidence of evolution
- Describe the process of natural selection
- Describe how new species evolve through natural selection
- Define extinction
- Describe factors that lead to extinction
- Describe steps humans can take to preserve endangered species

- The paper will last 50 minutes

The papers will contain a variety of question types including:

- multiple choice
- short answer questions
- longer answer questions
- practical skills questions.
- You must answer all questions in the paper.

You will need a black pen, pencil, ruler and calculator for the exam.

Further detail and revision materials can be found here:
Past Papers: https://cognitoedu.org/
Revision:

1. https://cognitoedu.org/
2. KS3 - England - BBC Bitesize