Biology – Paper 1

Separate Science

QR Revision workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

57 revision videos x 5 minutes long = 4 hours 45 minutes revision :)

Contents

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Cell Biology

Video 1.1: Eukaryotes and Prokaryotes

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.2: Sizes of Cells

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.3: Order of Magnitude

Notes_____

Diagrams:

Video 1.4: Animal Cells

Notes_____

Diagrams:

Video 1.5: Plant Cells

Notes_____

Diagrams:

Video 1.6: Animal Cell Specialisation

Notes_____

Diagrams:

Video 1.7: Plant Cell Specialisation

Notes_____

Diagrams:

Video 1.8: Microscopy

Notes_____

Diagrams:

Video 1.9: Bacterial Division (Triple)

Notes_____

Diagrams:

Video 1.10: Cell Division by Mitosis

Notes_____

Diagrams:

Video 1.11: Stem Cells

Notes_____

Diagrams:

Video 1.12: Diffusion

Notes_____

Diagrams:

Video 1.13: Surface Area to Volume Ratio

Notes_____

Diagrams:

Video 1.14: Osmosis

Notes_____

Diagrams:

Video 1.15: Active Transport

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

2 Organisation

Video 2.1: The Digestive System

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.2: Digestive Enzymes

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.3: Effect of Temperature and pH on Enzymes

Notes_____

Diagrams:

Video 2.4: Absorption in the Small Intestine

Notes_____

Diagrams:

Video 2.5: The Heart and Circulation

Notes_____

Diagrams:

Video 2.6: Arteries, Veins and Capillaries

Notes_____

Diagrams:

Video 2.7: The Blood

Notes_____

Diagrams:

Video 2.8: Cardiovascular Diseases

Notes_____

Diagrams:

Video 2.9: Gas Exchange in the Lungs

Notes_____

Diagrams:

Video 2.10: Cancer

Notes_____

Diagrams:

Video 2.11: Communicable and Non-Communicable Diseases

Notes_____

Diagrams:

Video 2.12: Correlating Risk Factors

Notes_____

Diagrams:

Video 2.13: Lifestyle and Disease

Notes_____

Diagrams:

Video 2.14: Plant Tissues

Notes_____

Diagrams:

Video 2.15: Transpiration

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

3 Infection and Response

Video 3.1: Communicable and Non-Communicable Disease

Notes_____

Diagrams:

Video 3.2: Pathogens

Notes_____

Diagrams:

Video 3.3: Measles and HIV

Notes_____

Diagrams:

Video 3.4: Salmonella and Gonorrhoea

Notes_____

Diagrams:

Video 3.5: Malaria

Notes_____

Diagrams:

Video 3.6: Non-Specific Defence Systems

Notes_____

Diagrams:

Video 3.7: The Immune System

Notes_____

Diagrams:

Video 3.8: Infectious Diseases in Plants

Notes_____

Diagrams:

Video 3.9: Vaccination

Notes_____

Diagrams:

Video 3.10: Antibiotics

Notes_____

Diagrams:

Video 3.11: Testing Medicines

Notes_____

Diagrams:

Video 3.12: Monoclonal Antibodies (Triple)

Notes_____

Diagrams:

Video 3.13: Uses of Monoclonal Antibodies (Triple)

Notes_____

Diagrams:

Video 3.14: Plant Diseases 2 (Triple)

Notes_____

Diagrams:

Video 3.15: Plant Defence Responses (Triple)

Notes_____

Diagrams:

4 Bioenergetics

Video 4.1: Photosynthesis

Notes_____

Diagrams:

Video 4.2: Uses of Glucose from Photosynthesis

Notes_____

Diagrams:

Video 4.3: Limiting Factors

Notes_____

Diagrams:

Video 4.4: Respiration

Notes_____

Diagrams:

Video 4.5: Exercise

Notes_____

Diagrams:

Video 4.6: Metabolism

Notes_____

Diagrams:

5 Required Practicals

Video 5.1: Required Practical 1: Microscopes

Notes_____

Diagrams:

Video 5.2: Required Practical 2: Culturing Microorganisms (Triple)

Notes_____

Diagrams:

Video 5.3: Required Practical 3: Effects of Osmosis on Plant Tissue

Notes_____

Diagrams:

Video 5.4: Required Practical 4: Food Tests

Notes_____

Diagrams:

Video 5.5: Required Practical 5: Effect of pH on Amylase

Notes_____

Diagrams:

Video 5.6: Required Practical 6: Photosynthesis

Notes_____

Diagrams:

Biology – Paper 2

Separate Science

QR Revision Workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

65 revision videos x 5 minutes long = 5 hours 25 minutes revision :)

Content

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Homeostatsis

Video 1.1: Homeostasis

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.2: The Nervous System

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.3: The Brain (Triple)

Notes_____

Diagrams:

Video 1.4: The Eye (Triple)

Notes_____

Diagrams:

Video 1.5: How the Eye Focuses (Triple)

Notes_____

Diagrams:

Video 1.6: Thermoregulation (Triple)

Notes_____

Diagrams:

Video 1.7: The Endocrine System

Notes_____

Diagrams:

Video 1.8: Control of Blood Glucose Concentration

Notes_____

Diagrams:

Video 1.9: The Kidneys (Triple)

Notes_____

Diagrams:

Video 1.10: Maintaining the Body's Water Balance (Triple)

Notes_____

Diagrams:

Video 1.11: The Menstrual Cycle

Notes_____

Diagrams:

Video 1.12: Contraception

Notes_____

Diagrams:

Video 1.13: Hormones to Treat Infertility

Notes_____

Diagrams:

Video 1.14: Negative Feedback

Notes_____

Diagrams:

Video 1.15: Plant Hormones (Triple)

Notes_____

Diagrams:

Video 1.16: Uses of Plant Hormones (Triple)

Notes_____

Diagrams:

2 Inheritance

Video 2.1: Sexual and Asexual Reproduction

Notes_____

Diagrams:

Video 2.2: Meiosis and Fertilisation

Notes_____

Diagrams:

Video 2.3: Advantages and Disadvantages of Sexual and Asexual Reproduction (Triple)

Notes_____

Diagrams:

Video 2.4: DNA and the Genome

Notes_____

Diagrams:

Video 2.5: DNA Structure (Triple)

Notes_____

Diagrams:

Video 2.6: Protein Synthesis (Triple)

Notes_____

Diagrams:

Video 2.7: Mutations (Triple)

Notes_____

Diagrams:

Video 2.8: Alleles

Notes_____

Diagrams:

Video 2.9: Cystic Fibrosis

Notes_____

Diagrams:

Video 2.10: Polydactyly

Notes_____

Diagrams:

Video 2.11: Family Trees

Notes_____

Diagrams:

Video 2.12: Inheritance of Sex

Notes_____

Diagrams:

3 Variation and Evolution

Video 3.1: Variation

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.2: Evolution by Natural Selection

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.3: Selective Breeding

Notes_____

Diagrams:

Video 3.4: Genetic Engineering

Notes_____

Diagrams:

Video 3.5: Cloning Plants (Triple)

Notes_____

Diagrams:

Video 3.6: Cloning Animals (Triple)

Notes_____

Diagrams:

Video 3.7: Darwin and Natural Selection (Triple)

Notes_____

Diagrams:

Video 3.8: Speciation (Triple)

Notes_____

Diagrams:

Video 3.9: Mendel and Genetics (Triple)

Notes_____

Diagrams:

Video 3.10: Evidence for Evolution: Fossils

Notes_____

Diagrams:

Video 3.11: Evidence for Evolution: Resistant Bacteria

Notes_____

Diagrams:

Video 3.12: Classification

Notes_____

Diagrams:

4 Ecology

Video 4.1: Competition and Interdependence

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.2: Biotic and Abiotic Factors

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.3: Adaptations

Notes_____

Diagrams:

Video 4.4: Food Chains and Predator-Prey Cycles

Notes_____

Diagrams:

Video 4.5: Sampling Organisms

Notes_____

Diagrams:

Video 4.6: Mean, Median and Mode

Notes_____

Diagrams:

Video 4.7: The Carbon Cycle

Notes_____

Diagrams:

Video 4.8: The Water Cycle

Notes_____

Diagrams:

Video 4.9: Decomposition (Triple)

Notes_____

Diagrams:

Video 4.10: Environmental Change (Triple)

Notes_____

Diagrams:

Video 4.11: Biodiversity

Notes_____

Diagrams:

Video 4.12: Waste Management

Notes_____

Diagrams:

Video 4.13: Land Use

Notes_____

Diagrams:

Video 4.14: Global Warming

Notes_____

Diagrams:

Video 4.15: Maintaining Biodiversity

Notes_____

Diagrams:

Video 4.16: Trophic Levels (Triple)

Notes_____

Diagrams:

Video 4.17: Pyramids of Biomass (Triple)

Notes_____

Diagrams:

Video 4.18: Food Security (Triple)

Notes_____

Diagrams:

Video 4.19: Modern Farming Methods (Triple)

Notes_____

Diagrams:

Video 4.20: Sustainable Fisheries (Triple)

Notes_____

Diagrams:

Video 4.21: Role of Biotechnology (Triple)

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

5 Required Practical

Video 5.1: Required Practical 7: Reaction Time

Notes_____

Diagrams:

Video 5.2: Required Practical 8: Plant Responses (Triple)

Notes_____

Diagrams:

Video 5.3: Required Practical 9: Sampling Organisms

Notes

Diagrams:

Video 5.4: Required Practical 10: Decay (Triple)

Notes

Diagrams:

Chemistry – Paper 1

Separate Science

QR Revision workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

82 revision videos x 5 minutes long = 6 hours 50 minutes revision :)

Content

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Atomic Structure and the periodic Table

Video 1.1: Elements, Compounds and Mixtures

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.2: Interpreting a Chemical Formula

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.3: Filtration and Crystallisation

Notes_____

Diagrams:

Video 1.4: Simple Distillation

Notes_____

Diagrams:

Video 1.5: Fractional Distillation

Notes_____

Diagrams:

Video 1.6: Paper Chromatography

Notes_____

Diagrams:

Video 1.7: Alpha-Scattering Experiment

Notes_____

Diagrams:

Video 1.8: The Nuclear Model

Notes_____

Diagrams:

Video 1.9: Atomic Number and Mass Number

Notes_____

Diagrams:

Video 1.10: Relative Atomic Mass

Notes_____

Diagrams:

Video 1.11: Electron Energy Levels

Notes_____

Diagrams:

Video 1.12: Development of the Periodic Table

Notes_____

Diagrams:

Video 1.13: Group 0

Notes_____

Diagrams:

Video 1.14: Metals

Notes_____

Diagrams:

Video 1.15: Group 1 Part 1

Notes_____

Diagrams:

Video 1.16: Group 1 Part 2

Notes_____

Diagrams:

Video 1.17: Group 7 Part 1

Notes_____

Diagrams:

Video 1.18: Group 7 Part 2

Notes_____

Diagrams:

Video 1.19: Group 7 Part 3

Notes_____

Diagrams:

Video 1.20: Transition Elements (Triple)

Notes_____

Diagrams:

2 Structure and Bonding

Video 2.1: The Three States of Matter

Notes_____

Diagrams:

Video 2.2: Ionic Bonding 1

Notes_____

Diagrams:

Video 2.3: Ionic Bonding 2

Notes_____

Diagrams:

Video 2.4: Properties of Ionic Compounds

Notes_____

Diagrams:

Video 2.5: Covalent Bonding 1

Notes_____

Diagrams:

Video 2.6: Covalent Bonding 2

Notes_____

Diagrams:

Video 2.7: Covalent Bonding 3

Notes_____

Diagrams:

Video 2.8: Properties of Small Covalent Molecules

Notes_____

Diagrams:

Video 2.9: Diamond and Silicon Dioxide

Notes_____

Diagrams:

Video 2.10: Graphite

Notes_____

Diagrams:

Video 2.11: Graphene and Fullerenes

Notes_____

Diagrams:

Video 2.12: Bonding in Polymers

Notes_____

Diagrams:

Video 2.13: Metals and Alloys

Notes_____

Diagrams:

Video 2.14: Nanoparticles (Triple)

Notes_____

Diagrams:

Video 2.15: Limitations of Bonding Diagrams

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

3 Quantitative Chemistry

Video 3.1: Conservation of Mass

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.2: Charges on Ions

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.3: Formula of Ionic Compounds

Notes_____

Diagrams:

Video 3.4: Balancing Chemical Equations

Notes_____

Diagrams:

Video 3.5: Relative Formula Mass

Notes_____

Diagrams:

Video 3.6: Calculating Percentage by Mass

Notes_____

Diagrams:

Video 3.7: Calculating Moles of an Element

Notes_____

Diagrams:

Video 3.8: Calculating Moles of a Compound

Notes_____

Diagrams:

Video 3.9: Calculating Mass of a Number of Moles

Notes_____

Diagrams:

Video 3.10: Using Moles to Balance Equations

Notes_____

Diagrams:

Video 3.11: Avogadro's Constant 1

Notes_____

Diagrams:

Video 3.12: Avogadro's Constant 2

Notes_____

Diagrams:

Video 3.13: Reacting Masses 1

Notes_____

Diagrams:

Video 3.14: Reacting Masses 2

Notes_____

Diagrams:

Video 3.15: Limiting Reactant

Notes_____

Diagrams:

Video 3.16: Concentration of Solutions

Notes_____

Diagrams:

Video 3.17: Calculating Percentage Yield 1 (Triple)

Notes_____

Diagrams:

Video 3.18: Calculating Percentage Yield 2 (Triple)

Notes_____

Diagrams:

Video 3.19: Atom Economy (Triple)

Notes_____

Diagrams:

Video 3.20: Using Concentration of Solutions 1 (Triple)

Notes_____

Diagrams:

Video 3.21: Using Concentration of Solutions 2 (Triple)

Notes_____

Diagrams:

Video 3.22: Using Gas Volumes 1 (Triple)

Notes_____

Diagrams:

Video 3.23: Using Gas Volumes 2 (Triple)

Notes_____

Diagrams:

4 Chemical Changes

Video 4.1: Reaction of Metals with Oxygen

Notes_____

Diagrams:

Video 4.2: The Reactivity Series

Notes_____

Diagrams:

Video 4.3: Extraction of Metals

Notes_____

Diagrams:

Video 4.4: Oxidation and Reduction in terms of Electrons

Notes_____

Diagrams:

Video 4.5: Acids and Alkalis

Notes_____

Diagrams:

Video 4.6: Acids Reacting with Metals 1

Notes_____

Diagrams:

Video 4.7: Acids Reacting with Metals 2

Notes_____

Diagrams:

Video 4.8: Three Reactions of Acids

Notes_____

Diagrams:

Video 4.9: Strong and Weak Acids

Notes_____

Diagrams:

Video 4.10: Titration Calculations 1 (Triple)

Notes_____

Diagrams:

Video 4.11: Titration Calculations 2 (Triple)

Notes_____

Diagrams:

Video 4.12: Introducing Electrolysis

Notes_____

Diagrams:

Video 4.13: Electrolysis of Aluminium Oxide

Notes_____

Diagrams:

Video 4.14: Electrolysis of Aqueous Solutions 1

Notes_____

Diagrams:

Video 4.15: Electrolysis of Aqueous Solutions 2

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

5 Energy Changes

Video 5.1: Exothermic and Endothermic Reactions

Notes_____

Diagrams:

Video 5.2: Bond Energy Calculations 1

Notes_____

Diagrams:

Video 5.3: Bond Energy Calculations 2

Notes_____

Diagrams:

Video 5.4: Cells and Batteries (Triple)

Notes_____

Diagrams:

Video 5.5: Fuel Cells (Triple)

Notes_____

Diagrams:

6 Required Practicals

Video 6.1: Required Practical 1: Making Soluble Salts

Notes_____

Diagrams:

Video 6.2: Required Practical 2: Carrying out a Titration (Triple)

Notes_____

Diagrams:

Video 6.3: Required Practical 3: Electrolysis

Notes_____

Diagrams:

Video 6.4: Required Practical 4: Temperature Changes

Notes_____

Diagrams:

Chemistry – Paper 2

Separate Science

QR Revision workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

53 revision videos x 5 minutes long = 4 hours 25 minutes revision :)

Content

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Rates of Reaction

Video 1.1: Mean Rate of Reaction

Notes_____

Diagrams:

Video 1.2: Using Tangents to Determine Rate

Notes_____

Diagrams:

Video 1.3: Effect of Concentration on Rate

Notes_____

Diagrams:

Video 1.4: Effect of Surface Area on Rate

Notes_____

Diagrams:

Video 1.5: Effect of Temperature on Rate

Notes_____

Diagrams:

Video 1.6: Catalysts

Notes_____

Diagrams:

Video 1.7: Reversible Reactions

Notes_____

Diagrams:

Video 1.8: Concentration and Reversible Reactions

Notes_____

Diagrams:

Video 1.9: Temperature and Reversible Reactions

Notes_____

Diagrams:

Video 1.10: Pressure and Reversible Reactions

Notes_____

Diagrams:

2 Organic Chemistry

Video 2.1: Crude Oil and Hydrocarbons

Notes_____

Diagrams:

Video 2.2: Properties of Hydrocarbons

Notes_____

Diagrams:

Video 2.3: Combustion of Hydrocarbons

Notes_____

Diagrams:

Video 2.4: Fractional Distillation of Crude Oil

Notes_____

Diagrams:

Video 2.5: Cracking

Notes_____

Diagrams:

Video 2.6: Alkenes (Triple)

Notes_____

Diagrams:

Video 2.7: Reactions of Alkenes 1 (Triple)

Notes_____

Diagrams:

Video 2.8: Reactions of Alkenes 2 (Triple)

Notes_____

Diagrams:

Video 2.9: Alcohols (Triple)

Notes_____

Diagrams:

Video 2.10: Reactions of Alcohols (Triple)

Notes_____

Diagrams:

Video 2.11: Carboxylic Acids (Triple)

Notes_____

Diagrams:

Video 2.12: Addition Polymers (Triple)

Notes_____

Diagrams:

Video 2.13: Condensation Polymers (Triple)

Notes_____

Diagrams:

Video 2.14: Amino Acids (Triple)

Notes_____

Diagrams:

Video 2.15: DNA (Triple)

Notes_____

Diagrams:

3 Chemical Analysis

Video 3.1: Purity and Formulations

Notes_____

Diagrams:

Video 3.2: Chromatography

Notes_____

Diagrams:

Video 3.3: Testing for Gases

Notes_____

Diagrams:

Video 3.4: Flame tests (Triple)

Notes_____

Diagrams:

Video 3.5: Metal Hydroxide Precipitates (Triple)

Notes_____

Diagrams:

Video 3.6: Identifying Non-Metal Ions (Triple)

Notes_____

Diagrams:

4 Chemistry of the Atmosphere

Video 4.1: The Atmosphere

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.2: Fossil Fuels

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.3: The Greenhouse Effect

Notes_____

Diagrams:

Video 4.4: Climate Change

Notes_____

Diagrams:

Video 4.5: Carbon Footprint

Notes_____

Diagrams:

Video 4.6: Pollutants from Fuels

Notes_____

Diagrams:

5 Using Resources

Video 5.1: Using the Earth's Resources

Notes_____

Diagrams:

Video 5.2: Potable Water

Notes_____

Diagrams:

Video 5.3: Waste Water Treatment

Notes_____

Diagrams:

Video 5.4: Alternative Methods of Extracting Metals

Notes_____

Diagrams:

Video 5.5: Life-Cycle Assessment

Notes_____

Diagrams:

Video 5.6: Recycling

Notes_____

Diagrams:

Video 5.7: Corrosion (Triple)

Notes_____

Diagrams:

Video 5.8: Alloys (Triple)

Notes_____

Diagrams:

Video 5.9: Ceramics and Composites (Triple)

Notes_____

Diagrams:

Video 5.10: Thermosoftening and Thermosetting Polymers (Triple)

Notes_____

Diagrams:

Video 5.11: The Haber Process (Triple)

Notes_____

Diagrams:

Video 5.12: NPK Fertilisers (Triple)

Notes_____

Diagrams:

6 Required Practicals

Video 6.1: Required Practical 5: Rates of Reaction

Notes_____

Diagrams:

Video 6.2: Required Practical 6: Chromatography

Notes_____

Diagrams:

Video 6.3: Required Practical 7: Identifying Ions (Triple)

Notes_____

Diagrams:

Video 6.4: Required Practical 8: Water

Notes_____

Diagrams:

Physics – Paper 1

Separate Science

QR Revision workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

60 revision videos x 5 minutes long = 5 hours revision :)

Content

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Energy

Video 1.1: Kinetic Energy

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.2: Elastic Potential Energy

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 1.3: Gravitational Potential Energy

Notes_____

Diagrams:

Video 1.4: Specific Heat Capacity

Notes_____

Diagrams:

Video 1.5: Energy Transfers: Pendulum

Notes_____

Diagrams:

Video 1.6: Energy Transfers: Bungee Jumper

Notes_____

Diagrams:

Video 1.7: Work Done by a Force

Notes_____

Diagrams:

Video 1.8: Calculating Power

Notes_____

Diagrams:

Video 1.9: Efficiency

Notes_____

Diagrams:

Video 1.10: Cooling of Buildings

Notes_____

Diagrams:

Video 1.11: Energy from Fossil Fuels

Notes_____

Diagrams:

Video 1.12: Nuclear Power

Notes_____

Diagrams:

Video 1.13: The UK Energy Mix

Notes_____

Diagrams:

Video 1.14: Renewable Sources of Energy

Notes_____

Diagrams:

2 Electricity

Video 2.1: Current in Series Circuits

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.2: Current in Parallel Circuits

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.3: Potential Difference in Series Circuits

Notes_____

Diagrams:

Video 2.4: Potential Difference in Parallel Circuits

Notes_____

Diagrams:

Video 2.5: Potential Difference from Batteries

Notes_____

Diagrams:

Video 2.6: Charge in Circuits

Notes_____

Diagrams:

Video 2.7: Calculating Energy Transfer by Components

Notes_____

Diagrams:

Video 2.8: Resistance

Notes_____

Diagrams:

Video 2.9: Resistors

Notes_____

Diagrams:

Video 2.10: Resistance of a Filament Lamp

Notes_____

Diagrams:

Video 2.11: Diodes and LEDs

Notes_____

Diagrams:

Video 2.12: Resistors in Series and Parallel

Notes_____

Diagrams:

Video 2.13: Light-Dependent Resistors

Notes_____

Diagrams:

Video 2.14: Thermistors

Notes_____

Diagrams:

Video 2.15: Energy Transfer by Appliances

Notes_____

Diagrams:

Video 2.16: Calculating Energy Transferred by Appliances

Notes_____

Diagrams:

Video 2.17: Power of Components

Notes_____

Diagrams:

Video 2.18: DC and AC Supply

Notes_____

Diagrams:

Video 2.19: Mains Electricity

Notes_____

Diagrams:

Video 2.20: The National Grid

Notes_____

Diagrams:

Video 2.21: Static Electricity (Triple)

Notes_____

Diagrams:

Video 2.22: Electric Fields (Triple)

Notes_____

Diagrams:

3 Particle Model of Matter

Video 3.1: Density

Notes_____

Diagrams:

Video 3.2: Internal Energy

Notes_____

Diagrams:

Video 3.3: Specific Heat Capacity

Notes_____

Diagrams:

Video 3.4: Heating and Cooling Graphs

Notes_____

Diagrams:

Video 3.5: Specific Latent Heat

Notes_____

Diagrams:

Video 3.6: Particle Motion in Gases

Notes_____

Diagrams:

Video 3.7: Pressure in Gases (Triple)

Notes_____

Diagrams:

Video 3.8: Work Done on a Gas (Triple)

Notes_____

Diagrams:

4 Atomic Structure and Radioactivity

Video 4.1: Atomic Structure

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.2: Atomic and Mass Numbers

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.3: Alpha-Scattering and the Nuclear Model

Notes_____

Diagrams:

Video 4.4: Radioactivity

Notes_____

Diagrams:

Video 4.5: Properties of Alpha, Beta and Gamma Radiation

Notes_____

Diagrams:

Video 4.6: Nuclear Equations

Notes_____

Diagrams:

Video 4.7: Half-Life

Notes_____

Diagrams:

Video 4.8: Irradiation and Contamination

Notes_____

Diagrams:

Video 4.9: Background Radiation (Triple)

Notes_____

Diagrams:

Video 4.10: Nuclear Radiation in Medicine (Triple)

Notes_____

Diagrams:

Video 4.11: Nuclear Fission and Nuclear Fusion (Triple)

Notes_____

Diagrams:

5 Required Practicals

Video 5.1: Required Practical 1: Specific Heat Capacity

Notes_____

Diagrams:

Video 5.2: Required Practical 2: Thermal Insulators (Triple)

Notes_____

Diagrams:

Video 5.3: Required Practical 3: Resistance

Notes_____

Diagrams:

Video 5.4: Required Practical 4: Current / PD Characteristics

Notes_____

Diagrams:

Video 5.5: Required Practical 5: Density

Notes_____

Diagrams:

Physics – Paper 2

Separate Science

QR Revision workbook

Science exam dates:

Paper 1

Biology: 10/05/24

Chemistry: 17/05/24

Physics: 22/05/24

Paper 2

Biology: 07/06/24

Chemistry: 11/06/24

Physics: 14/06/24

65 revision videos x 5 minutes long = 5 hours 25 minutes revision :)

Content

WE REMEMBER:

10% of what we **read**

20% of what we **hear**

30% of what we **see**

70% of what we **discuss** with others

80% of what we personally **experience**

95% of what we **teach** others

- Edgar Dale

By watching these revision videos and writing notes you will take in at least 50% first time!

1 Forces

Video 1.1: Scalar and Vector Quantities

Notes_____

Diagrams:

Video 1.2: Contact and Non-Contact Forces

Notes_____

Diagrams:

Video 1.3: Gravity and Weight

Notes_____

Diagrams:

Video 1.4: Resultant Forces

Notes_____

Diagrams:

Video 1.5: Vector Diagrams

Notes_____

Diagrams:

Video 1.6: Resolving Forces

Notes_____

Diagrams:

Video 1.7: Work Done and Energy Transfer

Notes_____

Diagrams:

Video 1.8: Forces and Elasticity

Notes_____

Diagrams:

Video 1.9: Moments (Triple)

Notes_____

Diagrams:

Video 1.10: Balanced Moments (Triple)

Notes_____

Diagrams:

Video 1.11: Levers and Gears (Triple)

Notes_____

Diagrams:

Video 1.12: Pressure in Fluids (Triple)

Notes_____

Diagrams:

Video 1.13: Floating or Sinking (Triple)

Notes_____

Diagrams:

Video 1.14: Speed

Notes_____

Diagrams:

Video 1.15: Velocity

Notes_____

Diagrams:

Video 1.16: Distance-Time Graphs

Notes_____

Diagrams:

Video 1.17: Acceleration

Notes_____

Diagrams:

Video 1.18: Acceleration 2

Notes_____

Diagrams:

Video 1.19: Newton's First Law of Motion

Notes_____

Diagrams:

Video 1.20: Newton's Second Law of Motion

Notes_____

Diagrams:

Video 1.21: Newton's Third Law of Motion

Notes_____

Diagrams:

Video 1.22: Forces Acting on a Skydiver (Triple)

Notes_____

Diagrams:

Video 1.23: Vehicle Stopping Distance

Notes_____

Diagrams:

Video 1.24: Force and Braking

Notes_____

Diagrams:

Video 1.25: Momentum

Notes_____

Diagrams:

Video 1.26: Conservation of Momentum (Triple)

Notes_____

Diagrams:

Video 1.27: Change in Momentum (Triple)

Notes_____

Diagrams:

2 Waves

Video 2.1: Transverse and Longitudinal Waves

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.2: Properties of Waves

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 2.3: The Wave Equation

Notes_____

Diagrams:

Video 2.4: Reflection of Waves (Triple)

Notes_____

Diagrams:

Video 2.5: Sound Waves (Triple)

Notes_____

Diagrams:

Video 2.6: Ultrasound (Triple)

Notes_____

Diagrams:

Video 2.7: Seismic Waves (Triple)

Notes_____

Diagrams:

Video 2.8: Electromagnetic Waves

Notes_____

Diagrams:

Video 2.9: Refraction of Waves

Notes_____

Diagrams:

Video 2.10: Properties of Waves 2

Notes_____

Diagrams:

Video 2.11: Uses of EM Waves

Notes_____

Diagrams:

Video 2.12: Convex Lenses (Triple)

Notes_____

Diagrams:

Video 2.13: Magnifying Glasses (Triple)

Notes_____

Diagrams:

Video 2.14: Concave Lenses (Triple)

Notes_____

Diagrams:

Video 2.15: Visible Light (Triple)

Notes_____

Diagrams:

Video 2.16: Black Body Radiation (Triple)

Notes_____

Diagrams:

3 Magnetism

Video 3.1: Permanent and Induced Magnets

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.2: Magnetic Fields

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 3.3: Electromagnets

Notes_____

Diagrams:

Video 3.4: Electromagnetic Devices (Triple)

Notes_____

Diagrams:

Video 3.5: The Motor Effect

Notes_____

Diagrams:

Video 3.6: The Electric Motor

Notes_____

Diagrams:

Video 3.7: Loudspeakers and Headphones (Triple)

Notes_____

Diagrams:

Video 3.8: The Generator Effect (Triple)

Notes_____

Diagrams:

Video 3.9: The Alternator and Dynamo (Triple)

Notes_____

Diagrams:

Video 3.10: The Microphone (Triple)

Notes_____

Diagrams:

Video 3.11: Transformers (Triple)

Notes_____

Diagrams:

Video 3.12: Transformer Calculations (Triple)

Notes_____

Diagrams:

4 Space (Separate Only)

Video 4.1: The Solar System (Triple)

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.2: Lifecycle of Stars (Triple)

Notes_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Diagrams:

Video 4.3: Orbital Motion (Triple)

Notes_____

Diagrams:

Video 4.4: Red-Shift (Triple)

Notes_____

Diagrams:

5 Required Practicals

Video 5.1: Required Practical 6: Stretching a Spring

Notes_____

Diagrams:

Video 5.2: Required Practical 7: Acceleration

Notes_____

Diagrams:

Video 5.3: Required Practical 8: Ripple Tank

Notes_____

Diagrams:

Video 5.4: Required Practical 8: Waves in a Solid

Notes_____

Diagrams:

Video 5.5: Required Practical 9: Reflection and Refraction (Triple)

Notes_____

Diagrams:

Video 5.6: Required Practical 10: Infrared

Notes_____

Diagrams: