

# **Biology – Paper 1**

## **Combined 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

**51 revision videos x 5 minutes long = 4 hours 15 minutes revision :)**

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### **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!**







**Video 1.7: Plant Cell Specialisation**

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**Video 1.8: Microscopy**

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**Video 1.9: Cell Division by Mitosis**

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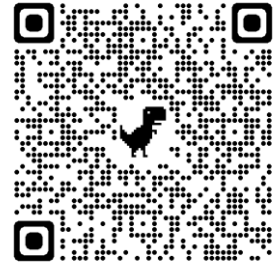
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Diagrams:

**Video 1.10: Stem Cells**

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Diagrams:

**Video 1.11: Diffusion**

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**Video 1.12: Surface Area to Volume Ratio**

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**Video 1.13: Osmosis**

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**Video 1.14: Active Transport**

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## 2 Organisation

### Video 2.1: The Digestive System

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Diagrams:

### Video 2.2: Digestive Enzymes

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Diagrams:



**Video 2.5: The Heart and Circulation**

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**Video 2.6: Arteries, Veins and Capillaries**

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**Video 2.7: The Blood**

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**Video 2.8: Cardiovascular Diseases**

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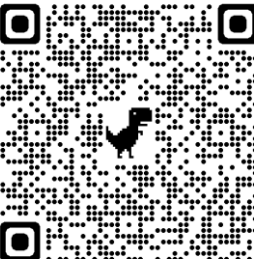
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**Video 2.9: Gas Exchange in the Lungs**

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**Video 2.10: Cancer**

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**Video 2.11: Communicable and Non-Communicable Diseases**

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Diagrams:

**Video 2.12: Correlating Risk Factors**

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Diagrams:







# 3 Infection and Response

## Video 3.1: Communicable and Non-Communicable Disease

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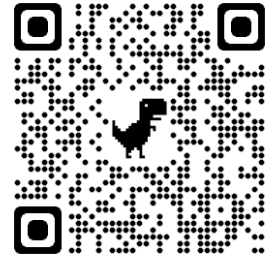
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Diagrams:

## Video 3.2: Pathogens

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Diagrams:







**Video 3.9: Vaccination**

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Diagrams:

**Video 3.10: Antibiotics**

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Diagrams:

**Video 3.11: Testing Medicines**

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## 4 Bioenergetics

### Video 4.1: Photosynthesis

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Diagrams:

### Video 4.2: Uses of Glucose from Photosynthesis

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Diagrams:













# **Biology – Paper 2**

## **Combined 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

**38 revision videos x 5 minutes long = 3 hours 10 minutes revision :)**

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| <b>3 Variation and Evolution</b> | <b>Page 11 - 14</b> |
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| <b>5 Required practicals</b>     | <b>Page 22</b>      |

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**Video 1.3: The Endocrine System**

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Diagrams:

**Video 1.4: Control of Blood Glucose Concentration**

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Diagrams:

**Video 1.5: The Menstrual Cycle**

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Diagrams:

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**Video 1.6: Contraception**

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Diagrams:

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**Video 1.7: Hormones to Treat Infertility**

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Diagrams:

**Video 1.8: Negative Feedback**

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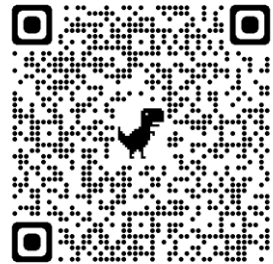
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Diagrams:

## 2 Inheritance

### Video 2.1: Sexual and Asexual Reproduction

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Diagrams:

### Video 2.2: Meiosis and Fertilisation

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Diagrams:



**Video 2.5: Cystic Fibrosis**

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Diagrams:

**Video 2.6: Polydactyly**

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Diagrams:

**Video 2.7: Family Trees**

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Diagrams:

**Video 2.8: Inheritance of Sex**

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Diagrams:

### 3 Variation and Evolution

#### Video 3.1: Variation

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Diagrams:

#### Video 3.2: Evolution by Natural Selection

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Diagrams:



**Video 3.3: Selective Breeding**

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Diagrams:

**Video 3.4: Genetic Engineering**

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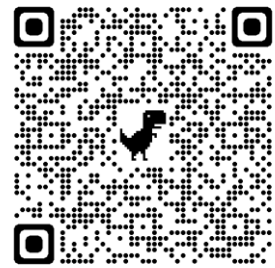
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Diagrams:

**Video 3.5: Evidence for Evolution: Fossils**

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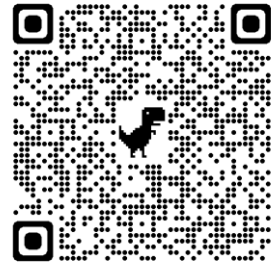
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Diagrams:

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**Video 3.6: Evidence for Evolution: Resistant Bacteria**

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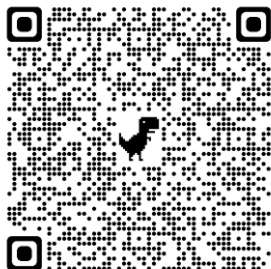
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Diagrams:

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**Video 3.7: Classification**

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Diagrams:

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**Video 4.3: Adaptations**

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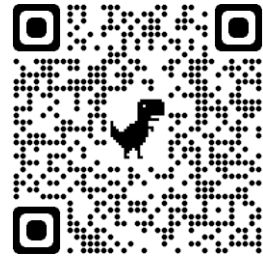
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Diagrams:

**Video 4.4: Food Chains and Predator-Prey Cycles**

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Diagrams:

**Video 4.5: Sampling Organisms**

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Diagrams:

**Video 4.6: Mean, Median and Mode**

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Diagrams:

**Video 4.7: The Carbon Cycle**

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Diagrams:

**Video 4.8: The Water Cycle**

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Diagrams:





**Video 4.11: Land Use**

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Diagrams:

**Video 4.12: Global Warming**

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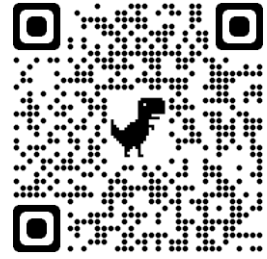
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Diagrams:

**Video 4.13: Maintaining Biodiversity**

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Diagrams:

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## 5 Required Practical

### Video 5.1: Required Practical 7: Reaction Time

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Diagrams:

### Video 5.2: Required Practical 9: Sampling Organisms

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Diagrams:

# **Chemistry – Paper 1**

## **Combined 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

**68 revision videos x 5 minutes long = 5 hours 40 minutes revision :)**

## Content

|  |                     |
|--|---------------------|
| <b>1 Atomic Structure and the periodic Table</b> | <b>Page 3 - 12</b>  |
| <b>2 Structure and Bonding</b>                   | <b>Page 13 - 19</b> |
| <b>3 Quantitative Chemistry</b>                  | <b>Page 20 - 27</b> |
| <b>4 Chemical Changes</b>                        | <b>Page 28 - 34</b> |
| <b>5 Energy Changes</b>                          | <b>Page 35 - 36</b> |
| <b>6 Required practicals</b>                     | <b>Page 37 - 38</b> |

### **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!**



**Video 1.3: Filtration and Crystallisation**

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Diagrams:

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**Video 1.4: Simple Distillation**

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Diagrams:

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**Video 1.5: Fractional Distillation**

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Diagrams:

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**Video 1.6: Paper Chromatography**

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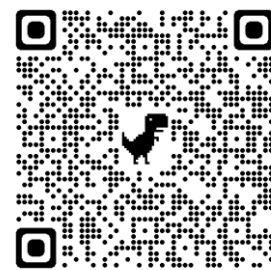
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**Video 1.7: Alpha-Scattering Experiment**

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Diagrams:

**Video 1.8: The Nuclear Model**

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Diagrams:





**Video 1.13: Group 0**

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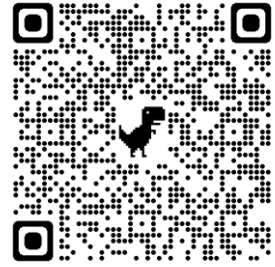
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**Video 1.14: Metals**

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**Video 1.19:** Group 7 Part 3

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Diagrams:

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**Video 2.7: Covalent Bonding 3**

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**Video 2.8: Properties of Small Covalent Molecules**

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### 3 Quantitative Chemistry

#### Video 3.1: Conservation of Mass

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Diagrams:

#### Video 3.2: Charges on Ions

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Diagrams:





**Video 3.5: Relative Formula Mass**

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**Video 3.6: Calculating Percentage by Mass**

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**Video 3.7:** Calculating Moles of an Element

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Diagrams:

**Video 3.8:** Calculating Moles of a Compound

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Diagrams:





**Video 3.13: Reacting Masses 1**

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Diagrams:

**Video 3.14: Reacting Masses 2**

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Diagrams:

**Video 3.15: Limiting Reactant**

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Diagrams:

**Video 3.16: Concentration of Solutions**

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Diagrams:









**Video 4.7:** Acids Reacting with Metals 2

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Diagrams:

**Video 4.8:** Three Reactions of Acids

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Diagrams:



**Video 4.11:** Electrolysis of Aluminium Oxide

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**Video 4.12:** Electrolysis of Aqueous Solutions 1

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Diagrams:

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**Video 4.13:** Electrolysis of Aqueous Solutions 2

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## 5 Energy Changes

### Video 5.1: Exothermic and Endothermic Reactions

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Diagrams:

### Video 5.2: Bond Energy Calculations 1

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Diagrams:

### Video 5.3: Bond Energy Calculations 2

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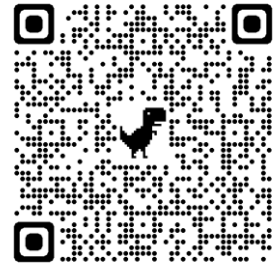
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**Video 6.4:** Required Practical 4: Temperature Changes

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# **Chemistry – Paper 2**

## **Combined 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

**33 revision videos x 5 minutes long = 2 hours 45 minutes revision :)**

## Content

|                                      |                     |
|--------------------------------------|---------------------|
| <b>1 Rates of Reaction</b>           | <b>Page 3 - 7</b>   |
| <b>2 Organic Chemistry</b>           | <b>Page 8 - 10</b>  |
| <b>3 Chemical Analysis</b>           | <b>Page 11 - 12</b> |
| <b>4 Chemistry of the Atmosphere</b> | <b>Page 13 - 15</b> |
| <b>5 Using Resources</b>             | <b>Page 16 - 18</b> |
| <b>6 Required practicals</b>         | <b>Page 19 - 20</b> |

### **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!**





**Video 1.5: Effect of Temperature on Rate**

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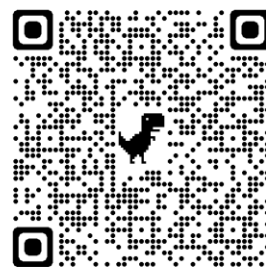
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**Video 1.6: Catalysts**

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**Video 1.7: Reversible Reactions**

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Diagrams:

**Video 1.8: Concentration and Reversible Reactions (HT ONLY)**

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Diagrams:

**Video 1.9: Temperature and Reversible Reactions (HT ONLY)**

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Diagrams:

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**Video 1.10: Pressure and Reversible Reactions (HT ONLY)**

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Diagrams:

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## 2 Organic Chemistry

### Video 2.1: Crude Oil and Hydrocarbons

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Diagrams:

### Video 2.2: Properties of Hydrocarbons

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Diagrams:







**Video 3.3: Testing for Gases**

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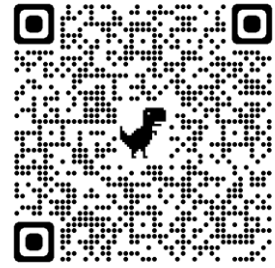
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Diagrams:

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**Video 4.5: Carbon Footprint**

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Diagrams:

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**Video 4.6: Pollutants from Fuels**

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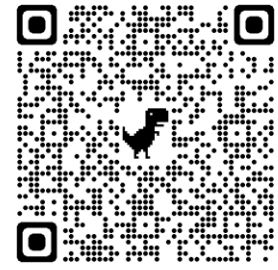
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Diagrams:

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# 5 Using Resources

## Video 5.1: Using the Earth's Resources

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Diagrams:

## Video 5.2: Potable Water

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Diagrams:





## 6 Required Practicals

**Video 6.1:** Required Practical 5: Rates of Reaction

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Diagrams:

**Video 6.2:** Required Practical 6: Chromatography

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Diagrams:

**Video 6.3:** Required Practical 8: Water

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# **Physics – Paper 1**

## **Combined 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

**52 revision videos x 5 minutes long = 4 hours and 20 minutes revision :)**

## Content

|   |                     |
|---|---------------------|
| <b>1 Energy</b>                             | <b>Page 3 - 9</b>   |
| <b>2 Electricity</b>                        | <b>Page 10 - 19</b> |
| <b>3 Particle Model of Matter</b>           | <b>Page 20 - 22</b> |
| <b>4 Atomic Structure and Radioactivity</b> | <b>Page 23 - 26</b> |
| <b>5 Required Practicals</b>                | <b>Page 27 - 28</b> |

### **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

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Diagrams:

## Video 1.2: Elastic Potential Energy

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Diagrams:



**Video 1.3: Gravitational Potential Energy**

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**Video 1.4: Specific Heat Capacity**

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**Video 1.7: Work Done by a Force**

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**Video 1.8: Calculating Power**

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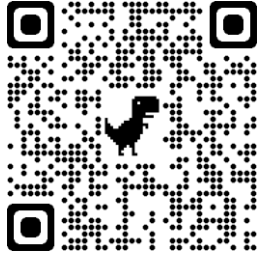
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**Video 1.9: Efficiency**

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Diagrams:

**Video 1.10: Cooling of Buildings**

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Diagrams:

**Video 1.11: Energy from Fossil Fuels**

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Diagrams:

**Video 1.12: Nuclear Power**

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Diagrams:

**Video 1.13: The UK Energy Mix**

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**Video 1.14: Renewable Sources of Energy**

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Diagrams:

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## 2 Electricity

### Video 2.1: Current in Series Circuits

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Diagrams:

### Video 2.2: Current in Parallel Circuits

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Diagrams:









**Video 2.9: Resistors**

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**Video 2.10: Resistance of a Filament Lamp**

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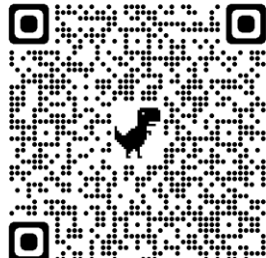
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Diagrams:

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**Video 2.11: Diodes and LEDs**

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Diagrams:

**Video 2.12: Resistors in Series and Parallel**

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Diagrams:

**Video 2.13:** Light-Dependent Resistors

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Diagrams:

**Video 2.14:** Thermistors

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Diagrams:

**Video 2.15: Energy Transfer by Appliances**

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Diagrams:

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**Video 2.16: Calculating Energy Transferred by Appliances**

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Diagrams:

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**Video 2.17: Power of Components**

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Diagrams:

**Video 2.18: DC and AC Supply**

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Diagrams:











## 4 Atomic Structure and Radioactivity

### Video 4.1: Atomic Structure

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Diagrams:

### Video 4.2: Atomic and Mass Numbers

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Diagrams:



**Video 4.5: Properties of Alpha, Beta and Gamma Radiation**

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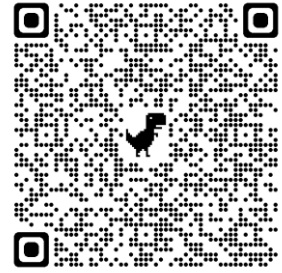
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Diagrams:

**Video 4.6: Nuclear Equations**

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Diagrams:

**Video 4.7: Half-Life**

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Diagrams:

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**Video 4.8: Irradiation and Contamination**

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Diagrams:

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**Video 5.3:** Required Practical 4: Current / PD Characteristics

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**Video 5.4:** Required Practical 5: Density

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Diagrams:

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# **Physics – Paper 2**

## **Combined 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

**36 revision videos x 5 minutes long = 3 hours revision :)**

## Content

|                              |                     |
|------------------------------|---------------------|
| <b>1 Forces</b>              | <b>Page 3 - 12</b>  |
| <b>2 Waves</b>               | <b>Page 13 - 16</b> |
| <b>3 Magnetism</b>           | <b>Page 17 - 19</b> |
| <b>4 Required practicals</b> | <b>Page 20 - 22</b> |

### **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

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Diagrams:

## Video 1.2: Contact and Non-Contact Forces

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Diagrams:

**Video 1.3: Gravity and Weight**

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**Video 1.4: Resultant Forces**

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**Video 1.7: Work Done and Energy Transfer**

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Diagrams:

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**Video 1.8: Forces and Elasticity**

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Diagrams:

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**Video 1.11: Distance-Time Graphs**

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Diagrams:

**Video 1.12: Acceleration**

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Diagrams:







**Video 1.19: Momentum (HT Only)**

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Diagrams:

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## 2 Waves

### Video 2.1: Transverse and Longitudinal Waves

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Diagrams:

### Video 2.2: Properties of Waves

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Diagrams:

**Video 2.3: The Wave Equation**

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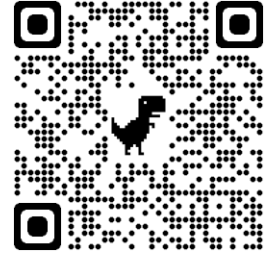
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Diagrams:

**Video 2.4: Electromagnetic Waves**

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Diagrams:





**Video 2.7:** Uses of EM Waves

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Diagrams:

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**Video 3.5: The Electric Motor (HT Only)**

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Diagrams:

## 4 Required Practicals

### Video 4.1: Required Practical 6: Stretching a Spring

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Diagrams:

### Video 4.2: Required Practical 7: Acceleration

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Diagrams:



**Video 4.5:** Required Practical 10: Infrared

**Notes** \_\_\_\_\_  
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Diagrams: