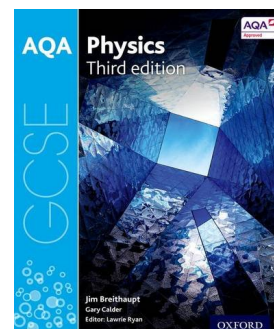




Physics Overview

Term: Autumn
Year: 10
Teacher: Mrs Aziza Helaly
Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Electric circuits: In this chapter, students will describe electric circuits and the components used to construct them using the concept of current as the rate of charge flow through components due to a potential difference between points in the circuit. Resistance was introduced and the cause of a heating effect and corresponding energy transfer. Finally, students investigate and analyse a range of series and parallel circuits describing the path of current at junctions, the potential difference across branches and components, and the effect on resistance of series and parallel branches.

2nd Half Term:

Electricity in the home: In this chapter, students will compare direct and alternating currents in terms of current direction. They will describe the UK mains supply and the wires used within it, outlining the National Grid and the high voltages associated with it. Finally, students will consider the importance of efficiency within mains powered electrical devices linking this concept back to energy transfer by a current and to the simplified system of energy efficiency ratings used when considering the purchase of an appliance.

Teacher's Marking Key:

Mark code	Means
SP	Spelling error
//	New paragraph needed
Work underlined	Indicate a word or phrase does not make sense
?	Not clear. Rewrite this section again to improve the expression.
FS	Write in full sentences
EX	Develop your explanation further using scientific keywords.
D	You need to add more detail.
EBI	Even better if
www	What went well
GR	Grammar error
P	Punctuation error



How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

1st Assessment: Electric circuits

2nd Assessment: Electricity in the home

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

How can I help my child in this subject?

- Ensure homework is complete; you can track students' homework assignments at <https://www.showmyhomework.co.uk>
- Encouragement, praise, ensuring that they do their homework; and checking their student planner.
- Encouraging them to read around the subject.
- Their notes must be in order; discipline is essential.

Resources

Useful Websites

For independent study the following websites are recommended:

- Mathematical relationships in GCSE Physics: <https://www.my-gcsescience.com/mathematical-relationships-gcse-physics/>
- AQA specification: <http://www.aqa.org.uk/subjects/science/gcse/physics-8463>
- BBC Bitesize: http://www.bbc.co.uk/schools/gcsebitesize/science/add_aqa/
- S-cool the revision website: <http://www.s-cool.co.uk/gcse/physics>
- Revision GCSE Physics: <http://www.gcsescience.com/pe.htm>
- Assessment resources: <http://www.aqa.org.uk/subjects/science/gcse/physics-8463/assessment-resources>
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Communications

Who do I contact if I have concerns about my child's progress in this subject?

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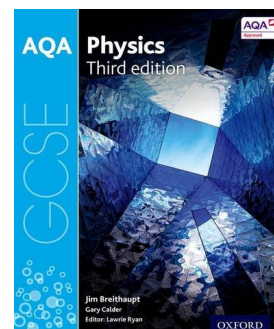
Physics Overview

Term: Spring

Year: 10

Teacher: Mrs Aziza Helaly & Mithlaj Aabith

Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Radioactivity: In this chapter, students will describe how the structure of the nucleus was discovered by the radiation emitted during nuclear decay and how experimentation and developments in our understanding of subatomic particles have driven to changes in the model used to describe the atom from the plum pudding model, through to the Rutherford model and then Bohr model.

Students will describe the changes in the nucleus which occur during alpha, beta, and gamma decay along with neutron emission in terms of atomic (proton) number and mass number using the appropriate nuclear notation for isotopes.

2nd Half Term:

Forces in balance: In this chapter, students will compare vectors and scalars using the examples of distance and displacement along with the nature of forces. Representations of vectors using scale diagrams led to descriptions of the forces acting in a wide variety of situations and the identification of Newton's third law. The concept of balanced and unbalanced forces will use to determine the behaviour of objects and the application of Newton's first law of motion. Finally, students will resolve forces at right angles to analyse systems and determine if a system is in equilibrium.

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How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

1st Assessment: Radioactivity

2nd Assessment: Forces in balance

At the end of the term there will summative exam that will test their knowledge for what they've covered during the course of the entire term.

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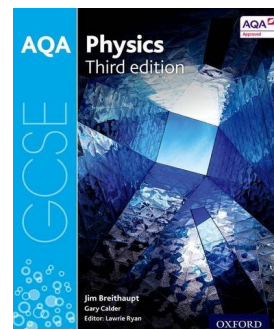
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Physics Overview

Term: Summer
Year: 10
Teacher: Mrs Aziza Helaly
Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Forces and motion: In this chapter, student will continue to develop their understanding of forces and motion. They will investigate the concept of momentum and its conservation. They will use the principle of conservation of momentum to allow them to determine the velocity of objects after collisions or explosion have taken place in a range of scenarios.

Finally, students will investigate the effect of forces on the stretching of a range of materials identifying both linear and non-linear relationships between the force and extension.

2nd Half Term:

Molecules and matter (part 2): Students will study the concept of internal energy in more detail; analysing the behaviour of particles in a solid, liquid or gas as the temperature changed. Students will describe latent heat of fusion and vaporisation mathematically, calculating energy changes during the appropriate phase changes and attempted to measure the latent heat of fusion for ice using electrical heating.

Electromagnetism: Students began this chapter by reinforcing their knowledge of magnetism by looking at the magnetic fields around permanent magnets and the concept of induced magnetism in some materials. They will be able to describe how a current carrying wire placed in a magnetic field would experience the motor effect before going on to explain how this effect could be used to create an electric motor.

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How will my child be assessed this term?

There will be at least 2 assessed pieces this term.

In more detail;

1st Assessment: Forces and motion

2nd Assessment: Electromagnetism

At the end of the term there will be a summative exam that will test their knowledge for what they've covered during the course of the entire term.

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