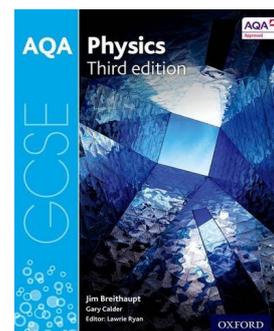




Physics Overview

Term: Autumn
Year: 9
Teacher: Mrs Aziza Helaly
Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Conservation and dissipation of energy: In this chapter, students will continue to develop their understanding of energy and energy transfer begun in Key Stage 3. This includes development of an energy stores model and the processes, such as forces and electrical currents, through which energy can be transferred.

Students will learn how to measure the work done by a force acting over a distance and how this concept can be used to analyse energy changes in gravitational stores, through lifting and falling, and elastic potential stores during stretching using the relevant mathematical relationships. Finally, students will learn about the rate of energy transfer in different systems through the through the concept of power and how this power rating can be used to determine total energy change over time.

2nd Half Term:

Energy transfer by heating: In this chapter, students will develop their understanding of the heating and cooling processes, which transfer energy within a material or from one object to another. They will investigate thermal conductivity and the differences in the processes of thermal conduction in metals and non-metals. They will analyse the changes in temperature when a material is heated, leading to the experimental determination of specific heat capacity along with corresponding calculations. The concept of specific heat capacity will then be used to explain the choice of materials used in heating systems.

There will be an end of term exam based on what students have covered this half-term.

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?

Student progress is monitored continuously through a variety of testing methods, including, class work, homework and summative assessment. Students will have an assessment every 4 weeks and end of term assessment. These assessment tasks will include the end of unit assessments. The skills that are assessed are as follows:

- Working scientifically
- Understanding the application and implication of science
- Using investigation approaches
- Working critically with evidence
- Quality of written communication

All assessment marks are recorded on a tracker in students' books.

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>
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- 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>
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Communications

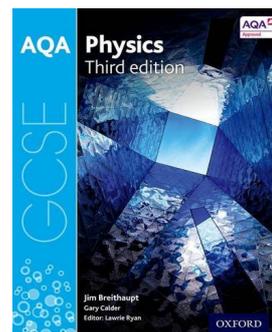
Who do I contact if I have concerns about my child's progress in this subject?

Please feel free to contact us at the school from 9.00-15:00 if you have any questions or concerns or contact me by email aziza.helaly@alkhairschool.org.uk.



Physics Overview

Term: Spring
 Year: 9
 Teacher: Mrs Aziza Helaly
 Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Energy resources: In this chapter, students will examine the different sources of energy that are used to generate electricity or provide heating for homes. They will consider the effect of the production and use of biofuels on the environment along with the concept of carbon-neutrality before outlining the use of nuclear power in comparison to fossil fuels. Student will describe and evaluate renewable resources such as wave power, wind power, hydroelectricity and tidal technology and how these can be used to generate electricity in specific locations.

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.

2nd Half Term:

Motion: In this chapter, students will analyse the motion of objects in depth starting from a recap of the concept of speed and this relationship to distance travelled and time taken. The representation of motion using distance-time graphs representing single and multiple objects will be analysed to give detailed descriptions of the movement of the objects.

There will be an end of term exam based on what students have covered this half-term.

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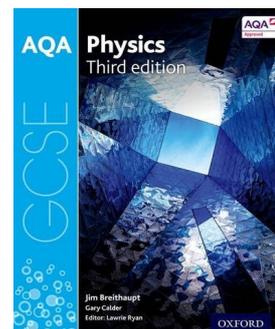
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Physics Overview

Term: Summer
 Year: 9
 Teacher: Mrs Aziza Helaly
 Textbook title: AQA GCSE Physics Oxford



What will we be covering this term?

1st Half Term:

Motion (Cont.): During this term the students will continue to analyse graphs representing motion by looking at the area beneath the line on a velocity-time graph and its relationship to the distance travelled by an object.

2nd Half Term:

Electric currents produce magnetic fields - Students will learn that forces produced in magnetic fields can be used to make things move. This is called the motor effect and is how appliances such as the electric motor create movement.

There will be an end of term exam based on what students have covered this half-term.

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