



Ballymena Academy Physics

Year 10 Revision Checklist

Summer 2019



Please ensure you bring the following items with you on the day of the exam:

- Pen(s) and pencil(s).
- 30cm ruler
- Scientific Calculator



The following is a list of topics which will be examined:

(Please refer to the individual pupil guides for a full list of learning outcomes and VLE for revision questions on each topic).

Assume all parts will be covered unless mentioned below.

Year 10: Sound

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
Recall what causes sounds	Sounds are caused by vibrations
Explain what the Frequency of a sound is.	Frequency = Pitch Long object vibrates with low frequency
Recall the unit for Frequency	Frequency is measured in Hertz (Hz)
Explain what the amplitude of a sound is.	Amplitude = "Loudness" of sound
Identify type of sound from a CRO	Waves close together = High Frequency Tall waves = Large Amplitude
State the range of Human Hearing	Humans can generally hear sounds from 20Hz to 20000Hz
Understand what can affect the ability to hear high frequency sounds.	Age: older people can't hear up to 20000Hz Behaviour: listening to loud music can lower the upper limit.

Year 10: Forces

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
Recall what a Force is	A Push or a Pull
Recall the effects of a Force	Change the speed, shape, direction of an object or make it spin.
Recall the unit for Force	Newton (N)
Understand the difference between mass and weight	Mass is amount of matter measured in Kg Weight is Force of gravity acting on a mass measure in Newtons.
Recall the equation for Weight	Weight = Mass x Gravity
Be able to rearrange this equation to calculate mass or gravity	Mass = Weight / Gravity Gravity = Weight/ Mass
State what Friction is	A Force which opposes motion
List ways Friction can be reduced	Polishing, rolling, cushion of air, oiling etc.
List situations where friction is useful	Grip on boots, tread on car tyres, brakes on bikes etc.
List situations where friction is a nuisance	Slows objects down e.g. air resistance on cars etc.
State Hooke's Law	"The extension of a spring is directly proportional to the applied load provided the elastic limit has not been exceeded"
Carry out an experiment to investigate Hooke's Law	Weight on a spring, measure extension. Plot and interpret a graph of Force (Weight) against Extension

Year 10: Pressure

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
Recall what factors affect Pressure	Force and Area
Recall the equation for Pressure	Pressure = Force / Area
Be able to rearrange this equation to calculate Area or Force	Force = Pressure x Area Area = Force / Pressure
State the Units for Pressure	N/cm ² N/m ² (also known as Pascal i.e. 1Pa = 1 N/m²)

Year 10: Speed

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
Recall what factors affect Speed	Distance and Time
Recall the equation for Speed	Speed = Distance / Time
Be able to rearrange this equation to calculate Distance or Time	Distance = Speed x Time Time = Distance / Speed
State the Units for Speed	m/s km/h
Interpret motion graphs	Draw and explain Distance Vs Time graphs

Year 10: Electricity

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
State which materials can be charged.	State which materials can be charged.
Insulators.	Insulators.
Define an insulator and give some examples.	Define an insulator and give some examples.
Explain how POLYTHENE can be charged by rubbing it with wool.	Explain how POLYTHENE can be charged by rubbing it with wool.
Electrons move onto of the polythene and off of the wool. The polythene becomes negatively charged and the wool positively charged.	Electrons move onto of the polythene and off of the wool. The polythene becomes negatively charged and the wool positively charged.
Explain how ACETATE can be charged by rubbing it with wool.	Explain how ACETATE can be charged by rubbing it with wool.
Electrons move off of the acetate and onto the wool. The acetate becomes positively charged and the wool negatively charged.	Electrons move off of the acetate and onto the wool. The acetate becomes positively charged and the wool negatively charged.
State two uses of static electricity.	State two uses of static electricity.
State a rule explaining how like charges and unlike charges behave.	State a rule explaining how like charges and unlike charges behave.
Like charges repel Unlike charges attract	Like charges repel Unlike charges attract
Use circuit symbols to draw circuit diagrams	Use circuit symbols to draw circuit diagrams
See p. 5	See p. 5

State definitions of an electrical conductor and an electrical insulator	State definitions of an electrical conductor and an electrical insulator
State the type of circuit required for current to flow	State the type of circuit required for current to flow
The circuit must be complete.	The circuit must be complete.
State how to light a bulb with "normal" brightness	State how to light a bulb with "normal" brightness
A circuit with one cell and one bulb.	A circuit with one cell and one bulb.
Explain how a switch can be used to complete an electrical circuit	Explain how a switch can be used to complete an electrical circuit
A closed switch is used to complete an electrical circuit. See p. 11.	A closed switch is used to complete an electrical circuit. See p. 11.
Explain how POLYTHENE can be charged by rubbing it with wool.	Explain how POLYTHENE can be charged by rubbing it with wool.
Calculate the current at different points in a circuit diagram	Calculate the current at different points in a circuit diagram

Year 10: Magnetism

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
State three magnetic materials.	Iron, nickel and cobalt
Be able to identify magnetic materials, non-magnetic materials and magnets	Use a magnet
State how like poles and unlike poles behave when brought together.	Opposites attract, like repel
Explain what is meant by an electromagnet.	A material that becomes a magnet when current flows through it
State three factors that affect the strength of an electromagnet.	Current, coils, core
List three uses of electromagnets.	Scrap yard magnet, speakers, electric bell
Label the parts of an electric bell and explain how it works.	Know diagram and explain how it works

Year 10: Light and Shadows

Objective/ Learning outcome.	Notes to help with learning.
State the name given to objects that produce light + examples	Luminous e.g. sun, fire, torch
State the name given to objects that reflect light + examples	Non-luminous e.g. moon, planet, mirror, table
State how light travels.	In straight lines
Name 2 different types of shadow.	Umbra and penumbra
State 2 differences between the types of shadow.	Umbra – perfectly dark, sharp edge Penumbra – not perfectly dark, blurry edge
Draw a ray diagram to show how shadows are produced using a point source.	Use a pencil and ruler and put arrows on rays
Draw a ray diagram to show how shadows are produced using an extended source.	Use a pencil and ruler and put arrows on rays

GRAPHS

- Picking good scales for x and y-axis to use 2/3 of the page
- Putting a title on the graph
- Labelling the x and y-axis including units e.g. distance / m or force / N
- Plotting points correctly and drawing a best fit line

Please refer to the VLE for a collection of resources to support your revision including revision questions!



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Your progress

General

Welcome to Year 10 Physics!!!

Here you will find resources, websites, games and quizzes that will help you with your understanding and revision of the topics you learn in Year 10 physics.

Welcome to Physics!

Below is a link to the vle

<http://ballymenaacademy2.wholeschoolvle.com>