

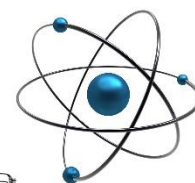


Ballymena Academy Physics

Year 10 Revision Checklist Summer 2021

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

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



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

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 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
List situations where friction is a nuisance	Slows objects down e.g. air resistance on cars
State Hooke's Law	"The extension of a spring is directly proportional to the applied load provided the elastic limit has not been exceeded"
Plot a graph to prove Hooke's Law	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 and N/m ²

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: Light and Shadows

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
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

Year 10: Reflection

<i>Objective/ Learning outcome.</i>	<i>Notes to help with learning.</i>
Draw and label a mirror diagram.	Symbols for mirror, normal and rays
State 4 properties of an image formed by a mirror.	<ul style="list-style-type: none"> • Same size as object • Laterally inverted • Virtual • Same distance behind mirror as object is in front of mirror
State the law of reflection.	Angle of incidence (i) = angle of reflection (r)
Draw a ray diagram to show how a periscope works	Use a pencil and ruler and put arrows on rays 2 rays turned through 90° from object to eye
Draw a ray diagram to show how a light ray is reflected off 2 mirrors	Use a pencil and ruler and put arrows on rays Label all angles

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