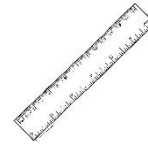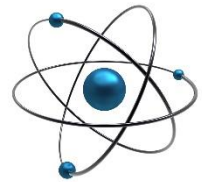# Ballymena Academy Physics

Year 10 Revision Checklist

Preparation for the Winter Examination 2021

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).

Year 10:   Forces

Objective/ Learning outcome.	Notes to help with learning.
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. (*This was covered as part of the Space topic in Year 9*)	Mass is amount of matter measured in kg Weight is the 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 etc.
State Hooke's Law	"The extension of a spring is directly proportional to the applied load provided the limit of proportionality has not been exceeded"

Recall the 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

Objective/ Learning outcome.	Notes to help with learning.
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**)
List applications where a high pressure is desirable. Be able to describe how the area and force can result in a high pressure.	e.g. a drawing pin, emergency escape hammer etc
List applications where a low pressure is desirable. Be able to describe how the area and force can result in a low pressure.	e.g. snow shoes, elephants having large feet.

Year 10:   Speed

Objective/ Learning outcome.	Notes to help with learning.
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

GRAPHS

You should be able to:

- Pick good scales for x and y-axis to ensure use of 2/3 of available plot area.

- Label the x and y-axis including units e.g. distance / m or force / N

- Plot points accurately

- Draw a best fit line

- Identify relationship between variables e.g. DIRECTLY PROPORTIONAL.