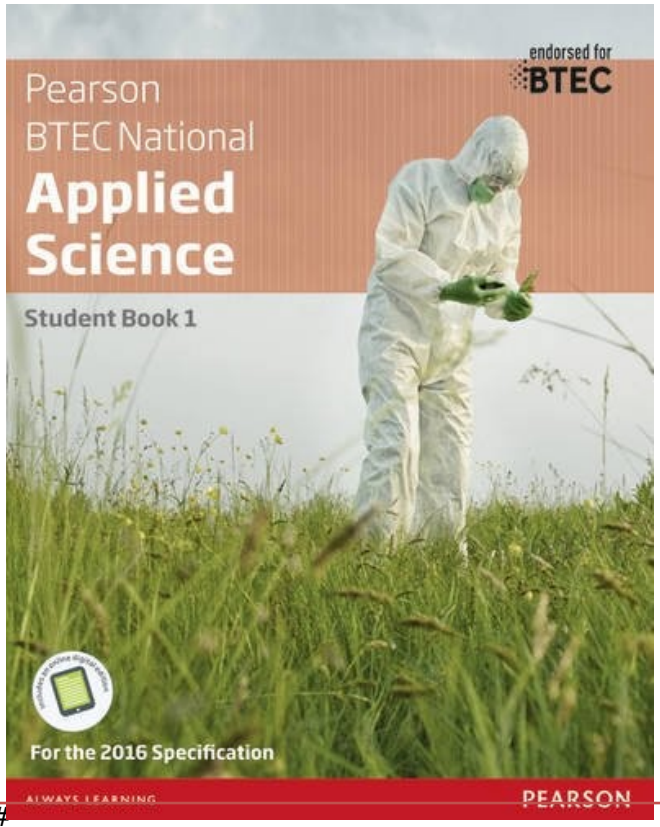
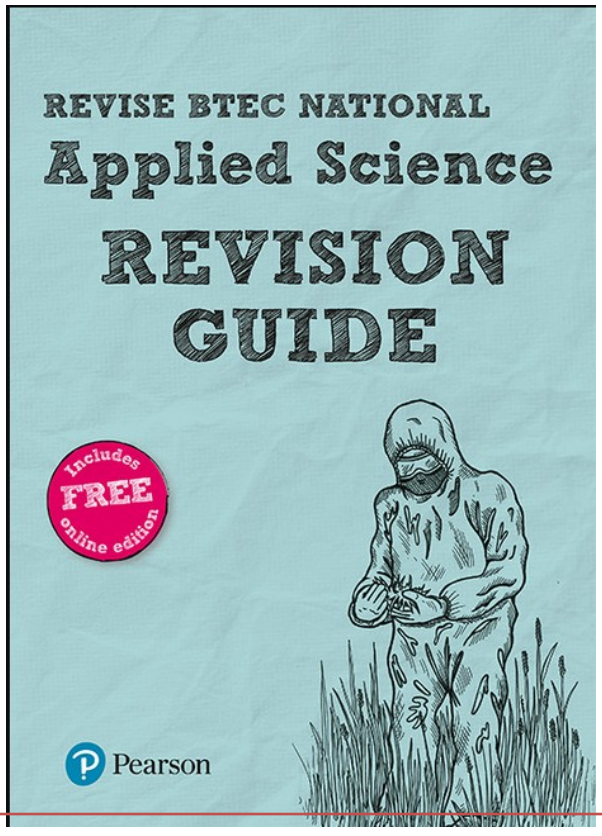
Wigston College

Level 3 National Extended Certificate in Applied Science

Yr12 to Yr13 transition pack

2019/20





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The first year is the Certificate qualification in National BTEC Level 3Applied Science. If you are continuing for the second year the qualification becomes the Extended Certificate.
In the below table it shows the points threshold for each grading overall. Remember on the BTEC course, your work will be assessed to one of five levels:
U- Unclassified (no qualification awarded)
P - Pass (equivalent to E at A-level)
M - Merit (equivalent to C at Alevel)
D - Distinction (equivalent to A at AS-level)
D*- Distinction*(equivalent to A* at AS-level)

Calculation of qualification grade

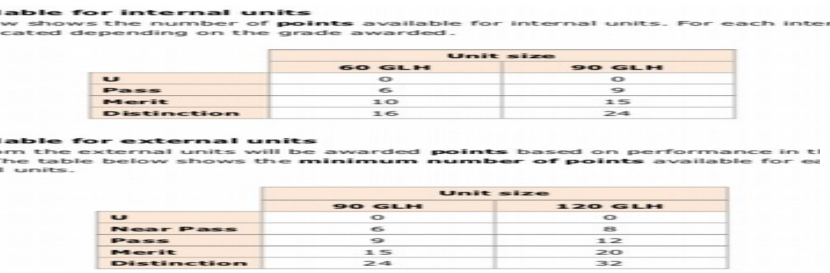
Applicable for registration from 1 September 2016

Certificate		Extended Certificate	
180 GLH		360 GLH	
Grade	**Points threshold**	**Grade**	**Points threshold**
U	0	U	0
Pass	18	P	36
Merit	26	M	52
Distinction	42	D	74
Distinction*	48	D*	90

Where are you now?
Look up how many points you have gained from your grading of each Unit so far. Unit 1 was the exam Unit 2 is the assignments and is the lowest grade from the 4 completed.

Grade	
Unit 1 (90 GLH)	Points (look up from table)
Unit 2 (90 GLH)	

Unit 1 &2 Unit 3 (yr13) Unit 8 (yr13)



able for internal units

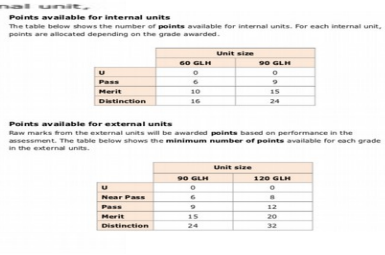
w shows the number of **points** available for internal units. For each internal unit, cated depending on the grade awarded.

	Unit size	
	60 GLH	90 GLH
U	0	0
Pass	6	9
Merit	10	15
Distinction	16	24

able for external units

m the external units will be awarded **points** based on performance in t he table below shows the **minimum number of points** available for e units.

	Unit size	
	90 GLH	120 GLH
U	0	0
Near Pass	6	8
Pass	9	12
Merit	15	20
Distinction	24	32



Points available for internal units

The table below shows the number of **points** available for internal units. For each internal unit, points are allocated depending on the grade awarded.

	Unit size	
	60 GLH	90 GLH
U	0	0
Pass	6	9
Merit	10	15
Distinction	16	24

Points available for external units

Raw marks from the external units will be awarded **points** based on performance in the assessment. The table below shows the **minimum number of points** available for each grade in the external units.

	Unit size	
	90 GLH	120 GLH
U	0	0
Near Pass	6	8
Pass	9	12
Merit	15	20
Distinction	24	32

<u>Ambition</u>
What grade are you aiming for overall?
What grades do you need to achieve next year for this to be realised?
Unit 3
Unit 8
As you can see Unit 3 which is the exam based on a practical is worth twice the weighting of the assignments next year so this is where you need to aim to achieve your best to realise your potential!
The Revision guide featured on the front page is a fantastic resource for the Unit 3 exam.

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Hypothesis

In the exam you will be asked to write a hypothesis.

Key term

Hypothesis – a prediction, based on scientific ideas, made as a starting point for further investigation.

Level	Mark	Descriptor
Level 1	1-4	• Limited attempt at a hypothesis is made
Level 2	4-6	• An explanation for the hypothesis is given which is partially supported by scientific understanding
Level 3 / 4	7-12	• An explanation for the hypothesis is given which is supported by scientific understanding

Write a hypothesis for the following

1. The effect of pH on enzyme activity.

2. The effect of surface area on the rate of diffusion

3. The effect of light on the growth of plants

4. Different fuels and the amount of energy they release

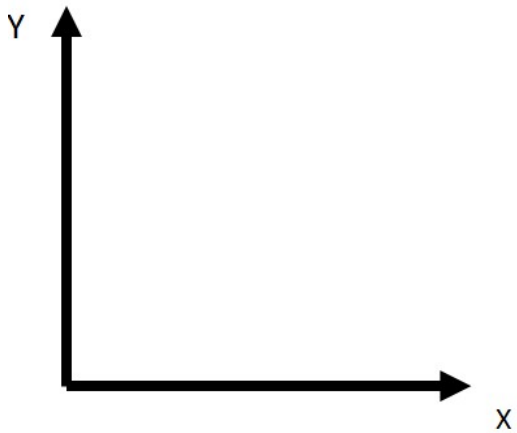
Variables

Which variable is...

The one you change/investigate the effect of –

The one you measure –

Ones you keep the same –



On the graph below, label which variable goes where.

Key terms

Define the following terms;

Accuracy –

Precision –

Reliability –

Anomaly –

Mean –

Mode –

Median –

Compare the data for resting heart rate whilst watching two different TV shows. Describe the data.

Heart rate (beats per min) whilst watching ..	
Love Island	**Geordie Shore**
118	92
122	156
126	133
129	164
140	145
141	99

Now calculate the mean and standard deviation. Use the tables in the resources section to help you!

	Love Island	Geordie Shore
mean		
SD		
2 x SD		
Mean + (2 x SD)		
Mean - (2 x SD)		

Describing the results

Plot the bar chart on graph paper and draw on the 2 x SD bars. You ma
find you can describe the data without plotting the bar chart though.

There is **an / no** overlap in the (±2 SD) bars.

This indicates that the differences in the means (.....) is **unlikely/likely** to be due to chance.

How to calculate Standard deviation

The standard deviation is calculated using the formula:

$$SD = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n - 1}}$$

SD = Standard deviation

X = value

$\bar{x}$ = mean

n = the number of values you have

Draw graph on next page..

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There is **an / no** overlap in the (±2 SD) bars.

This indicates that the differences in the means (.....) is **unlikely/likely** to be due to chance.

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Plan an investigation to look at the number of daisies in different areas of the campus or in a local park.by and collect data using quadrats.

Hypothesis;

__Independent Variable;_____
Dependant Variable;_____
Control Variables ;

Method

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Question number	Indicative content
4	A plan that makes reference to: • a hypothesis • equipment techniques and /or procedures • risks • control variables • dependent variables – how it will be measured, units and the precision of measurements to be taken • independent variable – the range of measurements/categories to be used and how they will be measured, the intervals to take measurements • data analysis.
Mark scheme (Award up to 12 marks) Refer to the general marking guidance found in this document on how to apply levels- based mark schemes*.	

Level	Mark	Descriptor
Level 0	0	No awardable content
Level 1	1-4	• Limited attempt at a hypothesis is made • Demonstrates limited knowledge and understanding of scientific concepts, procedures, processes and techniques with a basic description of the plan to investigate the scientific scenario given • Provides a rationale for the method suggested and generic statements may be presented rather than linkages being made so that lines of scientific reasoning are unsupported or unclear • The plan will not be logically ordered with significant gaps that will not lead to reliable results being collected
Level 2	4-6	• An explanation for the hypothesis is given which is partially supported by scientific understanding • Demonstrates adequate knowledge and understanding of scientific concepts, procedures, processes and techniques with a partial description of the plan to investigate the scientific scenario given • Provides a rationale for the method which has occasional linkages present so that lines of scientific reasoning are partially supported • The plan will generally be in a logical sequence and will yield some results
Level 3	7-9	• An explanation for the hypothesis is given which is supported by scientific understanding • Demonstrates good knowledge and understanding of scientific concepts, procedures, processes and techniques with a clear description of the plan to investigate the scientific scenario given • Provides a rationale for the method which has linkages present so that lines of scientific reasoning are supported • The plan will be in a logical sequence but with minor omissions of steps and will yield reliable results
Level 4	10-12	• An explanation for the hypothesis is given which is fully supported by scientific understanding • Demonstrates comprehensive knowledge and understanding of scientific concepts, procedures, processes and techniques with a step- by- step description of the plan to investigate the scientific scenario given • Provides a rationale for the method which has consistent

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