

GCE AS/A LEVEL



WJEC GCE AS/A LEVEL in PSYCHOLOGY

ACCREDITED BY WELSH GOVERNMENT

SPECIFICATION

Teaching from 2015

For award from 2016 (AS)

For award from 2017 (A level)

WJEC GCE AS and A LEVEL in PSYCHOLOGY

For teaching from 2015
For award from 2017

This specification meets the GCE AS and A Level Qualification Principles which set out the requirements for all new or revised GCE specifications developed to be taught in Wales from September 2015.

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GCE PSYCHOLOGY (Wales)

SUMMARY OF ASSESSMENT

This specification is divided into a total of 4 units, 2 AS units and 2 A2 units. Weightings noted below are expressed in terms of the full A level qualification.

AS (2 units)

AS Unit 1 Psychology: Past to Present Written examination: 1 hour 30 minutes 20% of qualification	80 marks
Compulsory questions relating to five psychological approaches and classic pieces of research.	
AS Unit 2 Psychology: Using Psychological Concepts Written examination: 1 hour 30 minutes 20% of qualification	80 marks
Section A: Contemporary debate One question linked to the given debates.	
Section B: Principles of research and application of research methods	
Principles of research Compulsory questions on the theory of psychological research (including the work of social and developmental psychologists).	
Application of research methods to a novel scenario Compulsory questions requiring a response to a piece of research previously unseen.	

A Level (the above plus a further 2 units)

A2 Unit 3 Psychology: Implications in the Real World Written examination: 2 hours 30 minutes 40% of qualification	100 marks
Section A: The study of behaviours Three structured essays from a choice of six.	
Section B: Controversies in psychology One question from a choice of two requiring a synoptic exploration of psychological controversies.	
A2 Unit 4 Psychology: Applied Research Methods Written examination: 1 hour 30 minutes 20% of qualification	60 marks
Section A: Personal investigations Compulsory questions based on investigative activities carried out prior to the assessment.	
Section B: Application of research methods to novel scenarios Compulsory questions requiring a response to pieces of research.	

This is a unitised specification which allows for an element of staged assessment. Assessment opportunities will be available in the summer assessment period each year, until the end of the life of the specification.

Unit 1 and Unit 2 will be available in 2016 (and each year thereafter) and the AS qualification will be awarded for the first time in summer 2016.

Unit 3 and Unit 4 will be available in 2017 (and each year thereafter) and the A level qualification will be awarded for the first time in summer 2017.

Qualification Accreditation Numbers

GCE AS: 601/5759/8

GCE A level: 601/5719/7

GCE AS and A LEVEL PSYCHOLOGY

1 INTRODUCTION

1.1 Aims and objectives

WJEC's A Level specification in Psychology is stimulating, distinctive and attractive, providing plenty of opportunities for the learners to study:

- a variety of psychological approaches including evolutionary, positive and psychodynamic
- significant pieces of research covering a variety of perspectives and topics
- the reality of applying psychological information to everyday situations
- how psychological data is collected (through own research).

The specification encourages learners to:

- develop essential knowledge and understanding of different areas of psychology and how they relate to each other
- develop and demonstrate a deep appreciation of the skills, knowledge and understanding of scientific methods in psychology
- develop competence and confidence in a variety of practical, mathematical and problem-solving skills
- develop their interest in and enthusiasm for psychology, including developing an interest in further study and careers associated with the subject, and
- understand how society makes decisions about psychological issues and how psychology contributes to the success of the economy and society.

1.2 Prior learning and progression

There is no specific requirement for prior learning, although some learners will have already gained knowledge and understanding of relevant areas through their study of Psychology at GCSE. It is expected that for the majority this will be a new subject area. It is desirable for learners to have achieved Grades A*- C in GCSE, or the equivalent, in English, Mathematics and/or Sciences before beginning this specification, although no formal qualification is required. This specification may be followed by any candidate, irrespective of their gender, ethnic, religious or cultural background. Additionally, this specification is not age-specific and, as such, provides opportunities for learners to extend life-long learning.

This specification provides a suitable foundation for the study of Psychology or a related area through a range of higher education courses (e.g. law, education, medical and social science programmes); progression to the next level of vocational qualifications (e.g. in the areas of caring, sports management or business); or direct entry into employment. In addition, the specification provides a coherent, satisfying and worthwhile course of study for learners who do not progress to further study in this subject providing opportunities to gain skills applicable in a wide variety of academic or occupational settings.

1.3 Equality and fair access

This specification may be followed by any learner, irrespective of gender, ethnic, religious or cultural background. This specification is not age-specific and, as such, provides opportunities for candidates to extend their life-long learning. It has been designed to avoid, where possible, features that could, without justification, make it more difficult for a learner to achieve because they have a particular protected characteristic.

The protected characteristics under the Equality Act 2010 are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex and sexual orientation.

The specification has been discussed with groups who represent the interests of a diverse range of learners, and the specification will be kept under review.

Reasonable adjustments are made for certain learners in order to enable them to access the assessments (e.g. application for extra time in a GCE subject where extended writing is required). Information on reasonable adjustments is found in the following document from the Joint Council for Qualifications (JCQ): *Access Arrangements and Reasonable Adjustments: General and Vocational Qualifications*. This document is available on the JCQ website (www.jcq.org.uk).

We will be following the principles set out in this document and, as a consequence of provision for reasonable adjustments, very few learners will have a complete barrier to any part of the assessment.

1.4 Welsh Baccalaureate

In following this specification, learners should be given opportunities, where appropriate, to develop the skills that are being assessed through the Core of the Welsh Baccalaureate:

- Literacy
- Numeracy
- Digital Literacy
- Critical Thinking and Problem Solving
- Planning and Organisation
- Creativity and Innovation
- Personal Effectiveness.

1.5 Welsh perspective

In following this specification, learners should be given opportunities, where appropriate, to consider a Welsh perspective if the opportunity arises naturally from the subject matter and if its inclusion would enrich learners' understanding of the world around them as citizens of Wales as well as the UK, Europe and the world.

2 SUBJECT CONTENT

This specification is intended to ensure that learners gain a comprehensive appreciation of the nature of psychology and psychological enquiry. Through the specification learners will be introduced to historical and current psychological approaches and classic and contemporary research. In addition there are opportunities to explore psychological controversies and debates. Learners will also study a variety of methods used by psychologists and will be given opportunities to carry out their own investigations. Consideration of the ethical issues and implications of psychological endeavours will be emphasised in all aspects of the specification.

The content is stimulating, relevant and accessible to a wide range of learners, ensuring both breadth and depth to the study of psychology.

2.1 AS UNITS

Unit 1

Psychology: Past to Present

- Written examination: 1 hour 30 minutes
- 20% of A Level qualification (50% of AS qualification)

The purpose of this unit is to give a solid grounding in some of the basic core elements of psychology. The intention is to allow the learner, through the study of classic research to gain an appreciation that psychology continues to develop and evolve. The early ideas should not be dismissed but rather studied in context with consideration of the advances made in more recent years.

For each of the five psychological approaches (biological, psychodynamic, behaviourist, cognitive and positive) it will be necessary for learners to:

- know and understand the assumptions
- apply the assumptions to explain the formation of a relationship
- know and understand how the approach can be used in therapy (one therapy per approach)
- know and understand the main components of the therapy
- evaluate the therapy (including its effectiveness and ethical considerations)
- evaluate the approach (including strengths, weaknesses and comparison with the four other approaches)
- know, understand and make judgements on a classic piece of evidence (including methodology, procedures, findings, conclusions and ethical issues and social implications).

Unit 1: Content to be taught

Approach	Assumptions (including)	Therapy (one per approach)	Classic research
Biological	<ul style="list-style-type: none"> evolutionary influences localisation of brain function neurotransmitters 	drug therapy OR psychosurgery	Raine, A., Buchsbaum, M. and LaCasse, L. (1997) Brain abnormalities in murderers indicated by positron emission tomography. <i>Biological Psychiatry</i> , 42(6), 495-508
Psychodynamic	<ul style="list-style-type: none"> influence of childhood experiences the unconscious mind tripartite personality 	dream analysis OR group analysis psychotherapy	Bowlby, J. (1944) Forty-four juvenile thieves: Their characters and home-life. <i>International Journal of Psychoanalysis</i> , 25 (19-52), 107 - 127
Behaviourist	<ul style="list-style-type: none"> blank slate behaviour learnt through conditioning humans and animals learn in similar ways 	aversion therapy OR systematic desensitisation	Watson, J.B. and Rayner, R. (1920) Conditioned emotional reactions. <i>Journal of Experimental Psychology</i> , 3(1), 1-14
Cognitive	<ul style="list-style-type: none"> computer analogy internal mental processes schemas 	cognitive behavioural therapy OR rational emotive behaviour therapy	Loftus, E. and Palmer, J.C. (1974) Reconstruction of automobile destruction: an example of the interaction between language and memory. <i>Journal of Verbal Learning and Verbal Behaviour</i> , 13, 585-589
Positive	<ul style="list-style-type: none"> acknowledgement of free will authenticity of goodness and excellence focus on 'the good life' 	mindfulness OR quality of life therapy	Myers, D.G. and Diener, E. (1995) Who is happy? <i>Psychological Science</i> 6(1) 10-17
Learners will be expected to apply one of the given assumptions from each approach to the formation of a relationship.			

Unit 2

Psychology: Using Psychological Concepts

- Written examination: 1 hour 30 minutes
- 20% of A Level qualification (50% of AS qualification)

Section A - Contemporary debate

The explorations of five contemporary debates provide an opportunity for independent research into areas that psychology has influenced. Both sides of the debate should be considered from a psychological perspective (including the ethical, social and economic implications as well as the consideration of social and cultural diversity). Learners are asked to explore the debates using their knowledge and understanding of the five approaches in Unit 1. This section provides an opportunity to consider psychological work carried out in Wales.

Section B - Principles of research and application of research methods

Principles of research

The focus for this section is that of psychological research, from the initial planning stages through to the final stage of analysis and evaluation. It is designed to introduce candidates to the methodologies used by psychologists in working scientifically and to gain an appreciation of the impact of choices made on the outcomes of the work and consequently the possible applications. Learners should appreciate the limitations of scientific research and when dealing with the complexities of humans as test material, there are several issues which need to be considered. To achieve this appreciation learners are encouraged to carry out appropriately supervised, ethical investigations. To give an appropriate context for the teaching, two pieces of research from the work of social and developmental psychologists should be studied.

Application of research methods to a novel scenario

This section requires learners to apply their knowledge and understanding of research methods to a novel research scenario, making judgements on the details of psychological research.

Unit 2: Content to be taught

Section A: Contemporary debates

Learners should:

- understand what is at the core of the debate
- refer to psychological studies and theories
- explore both sides of the contemporary debate from a psychological perspective (including the ethical, economic and social implications)

The debates
the ethics of neuroscience
the mother as primary care-giver of an infant
using conditioning techniques to control the behaviour of children
reliability of eye-witness testimony (including children)
relevance of positive psychology in today's society

Section B: Principles of research and application of research methods

Learners will be expected to demonstrate

Knowledge, understanding and evaluation of:

Social Psychology:

Milgram, S. (1963). Behavioral study of Obedience. *Journal of Abnormal and Social Psychology*, 67, 371-8

Developmental Psychology:

Kohlberg, L. (1968). The child as a moral philosopher. *Psychology Today*, 2, 25-30

Deciding on a research question

Knowledge and understanding of:

- aim of the research
- research hypotheses
- alternative (or experimental) hypotheses
- directional and non-directional hypotheses
- null hypotheses
- independent variables
- dependant variables
- co-variables
- operationalisation of variables
- confounding variables
- extraneous variables

Methodologies

Knowledge, understanding and evaluation of:

- experiments
- quasi-experiments (including natural experiments)
- participant observations
- non-participant observations
- content analysis
- structured interviews / questionnaires
- semi-structured interviews
- correlational studies
- case studies
- self-reports

Both quantitative data and qualitative data should be included.

Both primary and secondary sources should be included.

Location of research

Knowledge, understanding and evaluation of:

- conducting research in a laboratory environment
- conducting research in the field
- conducting research on-line

Participants

Knowledge, understanding and evaluation of:

- target populations
- sampling frames
- random sampling
- opportunity sampling
- systematic sampling
- stratified sampling
- quota sampling
- self-selected sampling
- snowball sampling
- observational sampling techniques (including event sampling, time sampling)

Experimental design

Knowledge, understanding and evaluation of:

- independent groups
- repeated measures
- matched pairs

Levels of measurement

Knowledge and understanding of:

- nominal data
- ordinal data
- interval data
- ratio data

Graphical representation

Knowledge of, and be able to construct and interpret:

- frequency tables
- graphical representation (including line graphs, histograms, bar charts, pie charts, scatter diagrams)

Descriptive statistics

Knowledge, evaluation, interpretation, estimation and calculation of:

- measures of central tendency (including mean $\frac{\sum x}{n}$, median and mode)
- measures of dispersion (including range and standard deviation $\sqrt{\frac{\sum(x-\bar{x})^2}{n-1}}$)

Reliability

Knowledge, understanding and application of:

- internal reliability
- external reliability
- ways of dealing with issues of reliability

Validity

Knowledge, understanding and application of:

- internal validity
- external validity
- specific validity issues (including researcher bias, demand characteristics, social desirability)
- ways of dealing with issues of validity

Ethics

Knowledge, understanding and application of:

- confidentiality
- deception
- risk of stress, anxiety, humiliation or pain
- risk to the participants' values, beliefs, relationships, status or privacy
- valid consent
- working with vulnerable individuals (including children)
- working with animals
- ways of dealing with ethical issues (including ethics committees, ethical guidelines and debriefing)

You should also refer to Appendix A for a full list of required mathematical skills. Those in **bold** do not apply to Unit 2.

2.2 A2 UNITS

Unit 3

Psychology: Implications in the Real World

- Written examination: 2 hours 30 minutes
- 40% of A Level qualification

Having learnt about the various psychological approaches in Unit 1, learners are expected to apply this knowledge and understanding to human / animal behaviours. Learners should be able to explain and draw conclusions about the possible causes of these behaviours and understand that psychology then has the potential to impact on society as a whole by developing methods of modifying behaviour. In addition, learners should explore five controversies that continue to pose challenges for psychology. These controversies can be considered synoptically and draw on the content from the whole of the specification.

Section A: The study of behaviours

Learners must choose to study three from six nominated behaviours. For each behaviour it will be necessary for learners to:

- know the characteristics of the behaviour
- know and understand biological, individual differences and social psychological explanations for the behaviour
- evaluate the biological, individual differences and social psychological explanations of the behaviour
- apply the explanations to methods of modifying the behaviour
- know and understand the methods of modifying the behaviour
- evaluate the methods of modifying the behaviour (including their effectiveness, ethical implications and social implications).

Section B: Controversies

For each controversy it will be necessary for learners to:

- understand the issue and why it is controversial
- apply knowledge and understanding to controversies in psychology
- make judgements and come to conclusions about the controversies from a psychological perspective.

Unit 3: Content to be taught

	Biological explanations (at least two)	Individual differences explanations (at least two)	Social Psychological Explanations (at least two)	Methods of modifying this behaviour (at least two)
Addictive behaviours	For example <ul style="list-style-type: none"> addiction genes disease of the brain dopamine 	For example <ul style="list-style-type: none"> cognitive biases field dependence Lang's addictive personality traits 	For example <ul style="list-style-type: none"> co-morbidity with mental illness peer pressure role of the media 	Including <ul style="list-style-type: none"> agonist and antagonist substitution aversion therapy
Autistic spectrum behaviours	For example <ul style="list-style-type: none"> amygdala dysfunction chloride ions at birth genetic predisposition 	For example <ul style="list-style-type: none"> gender differences theory of mind weak central coherence theory 	For example <ul style="list-style-type: none"> male behaviour empathising-systemising theory refrigerator mother 	Including <ul style="list-style-type: none"> Picture Exchange Communication System (PECS) Relationship Development Intervention
Bullying behaviours	For example <ul style="list-style-type: none"> bullying genes evolved gender differences hormones 	For example <ul style="list-style-type: none"> cognitive biases narcissistic personality theory of mind 	For example <ul style="list-style-type: none"> cultural differences in-group / out-group moral disengagement 	Including <ul style="list-style-type: none"> Creating A Peaceful School Learning Environment (CAPSLE) Olweus Bullying Prevention Programme
Criminal behaviours	For example <ul style="list-style-type: none"> disinhibition hypothesis inherited criminality role of the amygdala 	For example <ul style="list-style-type: none"> Eysenck's criminal personality intelligence factors psychopathic personality 	For example <ul style="list-style-type: none"> differential association theory gender socialisation normalisation theory 	Including <ul style="list-style-type: none"> anger management restorative justice
Schizophrenia	For example <ul style="list-style-type: none"> cannabis influence on brain chemistry dopamine hypothesis enlarged ventricles 	For example <ul style="list-style-type: none"> thought disorder schizophrenogenic mother sex differences 	For example <ul style="list-style-type: none"> cultural norms dysfunctional families expressed emotion 	Including <ul style="list-style-type: none"> antipsychotic drugs cognitive behavioral therapy
Stress	For example <ul style="list-style-type: none"> adrenaline evolutionary adaptation stress genes 	For example <ul style="list-style-type: none"> hardiness self-efficacy type A, type B personalities 	For example <ul style="list-style-type: none"> daily hassles life events locus of control 	Including <ul style="list-style-type: none"> beta blockers stress inoculation training

Controversy in psychology	Exploration of the controversy to include
Cultural Bias	<ul style="list-style-type: none"> • cross cultural studies • difference or bias • ethnocentrism • historical and social context
Ethical costs of conducting research	<ul style="list-style-type: none"> • benefits to society • individual participants • potentially negative consequences for society • use of ethical guidelines
Non-human animals	<ul style="list-style-type: none"> • BPS Guidelines for Psychologists Working with Animals • comparative / ethological psychology • use as a therapeutic device • speciesism
Scientific status	<ul style="list-style-type: none"> • benefits of being a science • changing nature of 'science' • costs of being a science • methodologies used by the various approaches
Sexism	<ul style="list-style-type: none"> • gender difference or gender bias • heterosexism • historical and social context • the 'invisibility' of women in psychology

Unit 4

Psychology: Applied Research Methods

- Written examination: 1 hour 30 minutes
- 20% of A Level qualification

Section A: Personal investigations

It is necessary for learners to know and understand the methodologies used in psychology and be able to evaluate the strengths and weaknesses of these. To ensure true appreciation of these methodologies the learners are expected to gain first-hand experience of two research methods. Learners will be required to respond to questions concerning these investigations in the assessment. The two investigations required each year are outlined in Appendix B. Learners are encouraged to use ICT in researching, designing, analysing and presenting their investigation. Learners will be expected to apply their knowledge of research methods to each investigation, including the following aspects: hypotheses; variables; methodology (including experimental design if appropriate); sampling; descriptive statistics; graphical representations; inferential statistics; reliability; validity; ethics.

Section B: Application of research methods to novel scenarios

The second aspect of this component is for learners to apply their knowledge and understanding of research methods to novel research scenarios, making judgements on the details of psychological research.

Content to be taught (in addition to content from Unit 2, Section B).

Learners will be expected to demonstrate:
<p>Methodologies</p> <p>Knowledge, understanding and evaluation of:</p> <ul style="list-style-type: none"> • brain scans • longitudinal studies • cross-sectional studies
<p>Assessing reliability</p> <p>Knowledge, understanding and application of:</p> <ul style="list-style-type: none"> • inter-rater reliability • test-retest reliability • split-half reliability

Assessing validity

Knowledge, understanding and application of:

- concurrent validity
- predictive validity
- face validity
- content validity
- construct validity

Graphical representation

Knowledge of and be able to construct and interpret:

- distribution curves
- normal
- positive skewed
- negative skewed

Inferential statistics

Knowledge, appropriate application and interpretation of:

- Chi-squared test
- Mann Whitney U test
- Sign test
- Spearman's rank order correlation coefficient
- Wilcoxon matched pairs signed ranks test
- probability values
- significance levels
- observed (calculated) values
- critical values from tables

See also Appendix A for a full list of required mathematical skills (all apply to Unit 4)

3 ASSESSMENT

3.1 Assessment objectives and weightings

Below are the assessment objectives for this specification. Learners must:

AO1

Demonstrate a knowledge and understanding of scientific ideas, processes, techniques and procedures

AO2

Apply knowledge and understanding of scientific ideas, processes, techniques and procedures:

- in a theoretical context
- in a practical context
- when handling qualitative data
- when handling quantitative data

AO3

Analyse, interpret and evaluate a range of scientific information, ideas and evidence including in relation to issues, to:

- make judgements and reach conclusions
- develop and refine practical design and procedures

Assessment objective weightings are shown below as a percentage of the full A level, with AS weightings in brackets.

Unit	Unit Weighting	AO1	AO2	AO3
AS Unit 1	20% (50%)	10% (25%)	2.5% (6.25%)	7.5% (18.75%)
AS Unit 2	20% (50%)	6% (15%)	9.5% (23.75%)	4.5% (11.25%)
A2 Unit 3	40%	12%	10%	18%
A2 Unit 4	20%	3.3%	10%	6.7%
Total	100%	31.3%	32%	36.7%

4 TECHNICAL INFORMATION

4.1 Making entries

This is a unitised specification which allows for an element of staged assessment.

Assessment opportunities will be available in the summer assessment period each year, until the end of the life of the specification.

Unit 1 and Unit 2 will be available in 2016 (and each year thereafter) and the AS qualification will be awarded for the first time in summer 2016.

Unit 3 and Unit 4 will be available in 2017 (and each year thereafter) and the A level qualification will be awarded for the first time in summer 2017.

Candidates may re-sit units **ONCE ONLY** prior to certification for the qualification, with the better result contributing to the qualification. Individual unit results, prior to the certification of the qualification, have a shelf-life limited only by that of the qualification.

A candidate may retake the whole qualification more than once.

The entry codes appear below.

	Title	Entry codes	
		English-medium	Welsh-medium
AS Unit 1	Past to Present	2290U1	2290N1
AS Unit 2	Using Psychological Concepts	2290U2	2290N2
A2 Unit 3	Implications in the Real World	1290U3	1290N3
A2 Unit 4	Applied Research Methods	1290U4	1290N4
AS Qualification cash-in		2290QS	2290CS
A level Qualification cash-in		1290QS	1290CS

The current edition of our *Entry Procedures and Coding Information* gives up-to-date entry procedures.

There is no restriction on entry for this specification with any other WJEC AS or A level specification.

4.2 Grading, awarding and reporting

The overall grades for the GCE AS qualification will be recorded as a grade on a scale A to E. The overall grades for the GCE A level qualification will be recorded as a grade on a scale A* to E. Results not attaining the minimum standard for the award will be reported as U (unclassified). Unit grades will be reported as a lower case letter a to e on results slips but not on certificates.

The Uniform Mark Scale (UMS) is used in unitised specifications as a device for reporting, recording and aggregating candidates' unit assessment outcomes. The UMS is used so that candidates who achieve the same standard will have the same uniform mark, irrespective of when the unit was taken. Individual unit results and the overall subject award will be expressed as a uniform mark on a scale common to all GCE qualifications. An AS GCE has a total of 200 uniform marks and an A level GCE has a total of 500 uniform marks. The maximum uniform mark for any unit depends on that unit's weighting in the specification.

Uniform marks correspond to unit grades as follows:

Unit Weightings	Maximum unit uniform mark	Unit grade				
		a	b	c	d	e
Unit 1 (20%)	100	80	70	60	50	40
Unit 2 (20%)	100	80	70	60	50	40
Unit 3 (40%)	200	160	140	120	100	80
Unit 4 (20%)	100	80	70	60	50	40

The uniform marks obtained for each unit are added up and the subject grade is based on this total.

	Maximum uniform marks	Qualification grade				
		A	B	C	D	E
GCE AS	200	160	140	120	100	80
GCE A level	500	400	350	300	250	200

At A level, Grade A* will be awarded to candidates who have achieved a Grade A (400 uniform marks) in the overall A level qualification and at least 90% of the total uniform marks for the A2 units (270 uniform marks).

APPENDIX A

Mathematical skills	Exemplification of mathematical skills in the context of A level Psychology (assessment is not limited to the examples given below)
Arithmetic and numerical computation	
Recognise and use expressions in decimal and standard form	Converting data in standard form from a results table into decimal form in order to construct a pie chart
Use ratios, fractions and percentages	Calculating the percentages of cases that fall into different categories in an observation study
Estimate results	Commenting on the spread of scores for a set of data, which would require estimating the range
Handling data	
Use an appropriate number of significant figures	Expressing a correlation coefficient to two or three significant figures
Find arithmetic means	Calculating the means for two conditions using raw data from a class experiment
Construct and interpret frequency tables and diagrams, bar charts and histograms	Selecting and sketching an appropriate form of data display for a given set of data
Understand simple probability	Explaining the difference between the 0.05 and 0.01 levels of significance
Understand the principles of sampling as applied to scientific data	Explaining how a random or stratified sample could be obtained from a target population
Understand the terms mean, median and mode	Explaining the differences between the mean, median and mode and selecting which measure of central tendency is most appropriate for a given set of data
Use a scatter diagram to identify a correlation between two variables	Plotting two variables from an investigation on a scatter diagram and identifying the pattern as a positive correlation, a negative correlation or no correlation
Use a statistical test	Calculating a non-parametric test of differences using data from a class experiment
Make order of magnitude calculation	Estimating the mean test score for a large number of participants on the basis of the total overall score
Distinguish between levels of measurement	Stating the level of measurement (nominal, ordinal or interval) that has been used in a study
Know the characteristics of normal and skewed distributions	Being presented with a set of scores from an experiment showing a normal distribution and being asked to indicate the position of the mean (or median, or mode)
Select an appropriate statistical test	Selecting a suitable inferential test for own practical investigation and explaining why the chosen test is appropriate

Use statistical tables to determine significance	Using an extract from statistical tables to say whether or not a given observed value is significant at the 0.05 level of significance for a one-tailed test
Understand measures of dispersion, including standard deviation and range	Explaining why the standard deviation might be a more useful measure of dispersion for a given set of scores e.g. where there is an outlying score
Understand the differences between qualitative and quantitative data	Explaining how a given qualitative measure (for example, an interview transcript) might be converted into quantitative data
Understand the difference between primary and secondary data	Stating whether data collected by a researcher dealing directly with participants is primary or secondary data
Algebra	
Understand and use the symbols: =, <, ≤, ≥, >, α, ≈	Expressing the outcome of an inferential test in the conventional form by stating the level of significance at the 0.05 level or 0.01 level by using symbols appropriately
Substitute numerical values into algebraic equations using appropriate units for physical quantities	Inserting the appropriate values from a given set of data into the formula for a statistical test e.g. inserting the N value (for the number of scores) into the Chi Square formula
Solve simple algebraic equations	Calculating the degrees of freedom for a Chi Square test
Graphs	
Translate information between graphical, numerical and algebraic forms	Using a set of numerical data (a set of scores) to construct a bar graph
Plot two variables from experimental or other data	Drawing a scatter diagram from two sets of data in a correlational investigation

APPENDIX B

Unit 4: Personal Investigations

Each year learners are required to carry out two psychological investigations as indicated below:

Assessment	Investigation one	Investigation two
Summer 2017	An experiment on bilingualism	Case study on learning
Summer 2018	An experiment on the effect of context on an individual's perception	An observation on sharing behaviour
Summer 2019	An experiment on the Chameleon effect	A questionnaire on relationships

Further years will be updated annually.

[The British Psychological Society's Code of Ethics and Conduct \(2009\)](#) must be adhered to in the implementation of the investigations. It is the teachers' responsibility to ensure that the work carried out is appropriate for the learners.

Learners can collect data as individuals, pairs or groups within or external to the educational context. It is suggested that a log book is kept of the work which would be the source of information for the assessment (this book will not be allowed in the examination room). It will be the responses to the questions in the written examination that will be credited rather than the investigation itself. Learners could consider the Welsh context of their research if appropriate.