

A Level Psychology Introduction Summer Project



This research based project is designed to give you an ideal grounding for your A Level Psychology course.

Research and complete the tasks independently over the summer to get a head start and prepare for the key topics within Year one of A Level Psychology.

Present the tasks in any format you like and bring them with you to your first lesson after the summer.

Good luck and Enjoy ☺

Miss Rana

The AQA Course

A Level Psychology

Paper 1: Introductory topics in psychology	Paper 2: Psychology in context	Paper 3: Issues and options in psychology
What's assessed SOCIAL INFLUENCE ATTACHMENTS MEMORY PSYCHOPATHOLOGY	What's assessed APPROACHES BIOPSYCHOLOGY RESEARCH METHODS (DOUBLE WEIGHTED)	What's assessed ISSUES & DEBATES AGGRESSION RELATIONSHIPS SCHIZOPHRENIA
Assessed <ul style="list-style-type: none">written exam: 2 hours96 marks in total33.3% of A-level	Assessed <ul style="list-style-type: none">written exam: 2 hours96 marks in total33.3% of A-level	Assessed <ul style="list-style-type: none">written exam: 2 hours96 marks in total33.3% of A-level
Questions <ul style="list-style-type: none">Section A: multiple choice, short answer and extended writing, 24 marksSection B: multiple choice, short answer and extended writing, 24 marksSection C: multiple choice, short answer and extended writing, 24 marksSection D: multiple choice, short answer and extended writing, 24 marks	Questions <ul style="list-style-type: none">Section A: multiple choice, short answer and extended writing, 24 marksSection B: multiple choice, short answer and extended writing, 24 marksSection C: multiple choice, short answer and extended writing, 48 marks	Questions <ul style="list-style-type: none">Section A: multiple choice, short answer and extended writing, 24 marksSection B: RELATIONSHIPS multiple choice, short answer and extended writing, 24 marksSection C: SCHIZOPHRENIA multiple choice, short answer and extended writing, 24 marksSection D: AGGRESSION multiple choice, short answer and extended writing, 24 marks

100% Exam (three papers), 0% Coursework



Task 1, Topic 1: Marvellous Memory...

Mini Experiment:

In this experiment you can test as many or as little people as you like. As the experimenter you should read out one line at a time of the triangle of numbers below to your participant. When you have finished reading out the line, your participant should recite back to you as many of the numbers they can remember. Record how many numbers they recall correctly on each line.

6
27 35
10 28 22
38 46 10 11
52 8 19 81 17
55 38 29 13 8 71
75 17 20 61 82 5 12
61 38 17 40 49 84 57 8
71 22 31 89 47 5 1 16 94
18 95 48 30 89 67 18 11 15 17
76 83 40 28 25 12 15 53 95 49 20
16 9 11 17 49 50 28 69 24 53 78 10
77 53 49 76 19 94 87 64 23 19 15 51 2
78 56 34 19 27 20 80 42 38 64 29 10 79 31

Now think about and explain:

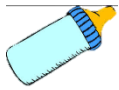
- 1) What was the maximum amount of numbers your participants call recall from any line? (If you used more than one participant, take the average).
- 2) What do your results suggest about memory?

Now research and answer the following...

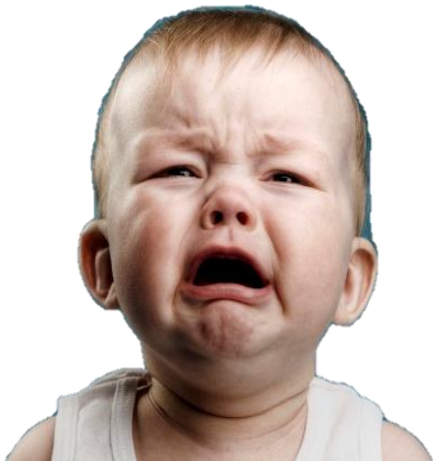
- 1) What is memory? Does it have different types? If so, explain them...
- 2) What is the capacity and duration of the average memory in humans?
- 3) What did George Miller do in 1956? What did he discover about memory? How does this link to the results from your experiment above?



Task 2, Topic 2: Attachment



Babies, Babies, Babies...



Research and answer the following:

From a Psychological Perspective...

Why do babies cry all of the time?

Why are all babies born with blue eyes?

Useful Link: http://www.babycenter.com/2_creating-an-attachment-with-your-baby_10350318.bc

“Oh, oobee doo I wanna be like you...”



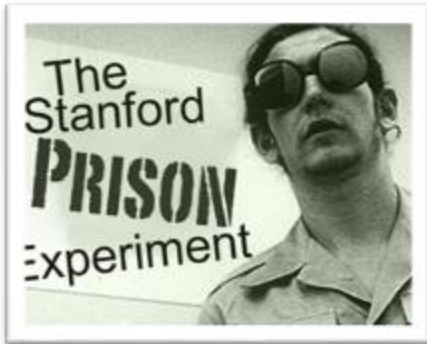
Consider, research and answer the following:

From a Psychological point of view, why should Moley not survive in the Jungle?

Hint: Try to link to the psychologist John Bowlby in your answer...

Task 3, Topic 3: Social Influence

Obedience, Obey, Conform...



Research and produce a fact sheet on two key studies:

- 1) Milgram's (1963) Obedience to Authority
- 2) Zimbardo's Stanford Prison Experiment

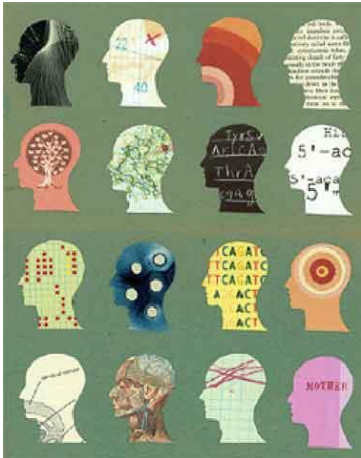
Taking it further...



Explain how research such as Milgram & Zimbardo, might explain historical atrocities such as the Nazi persecution of the Jews...

Task 4, Topic 4: Psychopathology...

What is normal?



Consider, research and explain...

- 1) Is there such a thing as normal and abnormal? What are the definitions of these?
- 2) How do Psychologists decide what is abnormal?

Fear. Sadness. Obsession.



Produce a fact file on each of the following mental disorders. Include **symptoms**, potential **causes** and **treatments**.


- 1) Phobias
- 2) Depression
- 3) OCD

Task 5, Topic 5: Approaches to Psych...

The Famous Five

There are five main Psychological approaches or perspectives. Research them and explain the key terms, assumptions and psychologists which fit into each one.





Task 6, Topic 6: Psychology? A Science? Really?

Now to the biggest and most controversial debate of them all....

Most people assume Psychology is an easy or 'soft' subject which cannot possibly be a science. But is it?

It is your job to come to a conclusion as to whether or not Psychology IS a hard science.

Research arguments for and against Psychology as a Science and produce a debate on this.

Consider:

- 1) The Subject Content
- 2) Research Methods Used

FOR Psych as a Science 😊	AGAINST Psych as a Science ☹️






Useful Resources & Further Reading

To help you on your way...

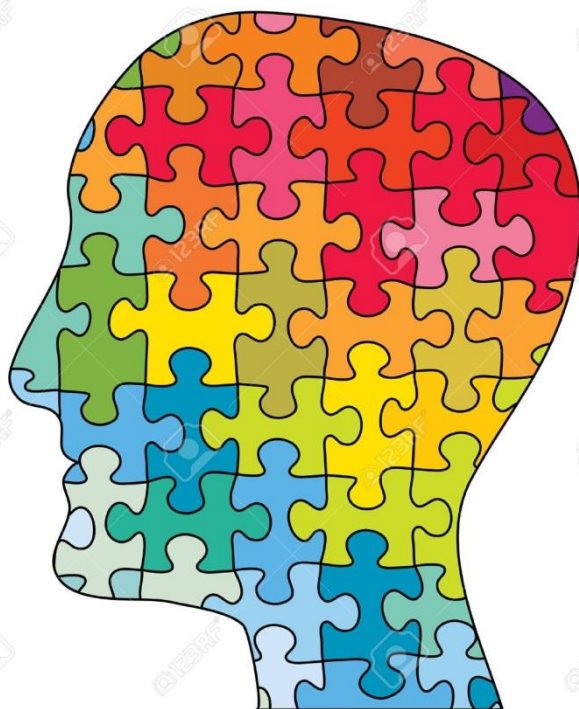
Websites:

- **Youtube** have a number of really good factual clips. In particular ‘Crash Course’ have produced a number of introductory videos to key elements in Psychology.
- <http://www.simplypsychology.org/a-level-psychology.html> - Tailored to the old specification, but has all the relevant key information for A Level Psychology.
- <http://www.psychteacher.co.uk/> - Tailored to the old specification but contains key information for A Level Psychology.
- <http://www.tutor2u.net> – This website is made specifically for your AQA course and has loads of helpful videos, webinars and revision quizzes.
- <http://www.psychologyhacked.com> – Lots of useful revision videos on topics you will study next year.

Books:

- ***Working Memory, Thought and Action*** – Alan Baddeley
 - ***The Lucifer Effect*** – Phillip Zimbardo
 - ***Obedience to Authority*** – Stanley Milgram
 - ***Fundamentals of Cognition*** – Michael Eysenck
 - ***Psychology: The Science of the Mind and Behaviour*** – Richard Gross
 - ***The Complete Companions: AQA Psychology Year 1 and AS Student Book*** – Mike Cardwell & Cara Flanagan
 - ***AQA Psychology for A Level Year 1 and AS Student Book*** – Cara Flanagan & Dave Berry
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Introduction to A Level Psychology





Expectations in A Level Psychology



1. Your attendance at **ALL** lessons is **COMPULSORY**.
2. If you do miss any lessons you **MUST** copy the work up before the next lesson. Any points of confusion **YOU** need to follow up! (You can contact Miss Rana by emailing if you can't track her down!)
3. All deadlines should be adhered to. If there are extenuating circumstances then talk to your teacher **BEFORE** the deadline!
4. AS is hard – so you need to use your teachers as a resource and **ASK** for help if you need it. Don't just hope it will all make sense later!
5. Get involved in **ALL** lessons by asking and answering at least 3 questions each time.
6. Listen respectfully to the views of others, even if you don't agree with them.
7. Ensure that your folder is kept up-to-date and bring it to **ALL** lessons with the current topic/units' work.
8. If presenting work in a group ensure you have copies for your classmates and contact your group members if you are likely to be away on the day (and pass your work on so they can present in your absence).

Presentation in A Level Psychology

1. All work should be kept in a folder just for Psychology and this must be clearly labelled.
2. There should be a course handbook at the front of your folder.
3. All information about the course including grade boundaries and websites should be at the **front of your folder**.
4. Your tracker should be kept in the relevant section of your folder in a clearly labelled section and kept up-to-date.
5. All topics should be sorted into sections using clearly labelled dividers.
6. Tests for each section and evaluation paperwork should be kept at the back of the relevant section.
7. **ALL** work should be written in black or blue ink.
8. **ALL** pieces of work should have a title and a date.
9. **ALL** titles and dates should be underlined with a ruler.
10. **NO** graffiti or doodling on your work or folder.



NB – Folders will be checked once per half term!



Course

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What will I study?

PAPER 1: INTRODUCTORY TOPICS

Social Influence	<ul style="list-style-type: none"> • Types of conformity: internalisation, identification and compliance. Explanations for conformity: informational social influence and normative social influence, and variables affecting conformity including group size, unanimity and task difficulty as investigated by Asch. • Conformity to social roles as investigated by Zimbardo. • Explanations for obedience: agentic state and legitimacy of authority, and situational variables affecting obedience including proximity, location and uniform, as investigated by Milgram. • Dispositional explanation for obedience: the Authoritarian Personality. • Explanations of resistance to social influence, including social support and locus of control. • Minority influence including reference to consistency, commitment and flexibility. • The role of social influence processes in social change.
Memory	<ul style="list-style-type: none"> • The multi-store model of memory: sensory register, short-term memory and long-term memory. • Features of each store: coding, capacity and duration. • Types of long-term memory: episodic, semantic, procedural. • The working memory model: central executive, phonological loop, visuo-spatial sketchpad and episodic buffer. Features of the model: coding and capacity. • Explanations for forgetting: proactive and retroactive interference and retrieval failure due to absence of cues. • Factors affecting the accuracy of eyewitness testimony: misleading information, including leading questions and post-event discussion; anxiety. Improving the accuracy of eyewitness testimony, including the use of the cognitive interview.
Attachments	<ul style="list-style-type: none"> • Caregiver-infant interactions in humans: reciprocity and interactional synchrony. Stages of attachment identified by Schaffer. Multiple attachments and the role of the father. • Animal studies of attachment: Lorenz and Harlow. • Explanations of attachment: learning theory and Bowlby's monotropic theory. The concepts of a critical period and an internal working model. • Ainsworth's 'Strange Situation'. Types of attachment: secure, insecure-avoidant and insecure-resistant. • Cultural variations in attachment, including van Ijzendoorn. • Bowlby's theory of maternal deprivation. Romanian orphan studies: effects of institutionalisation. • The influence of early attachment on childhood and adult relationships, including the role of an internal working model.
Psychopathology	<ul style="list-style-type: none"> • Definitions of abnormality, including deviation from social norms, failure to function adequately, statistical infrequency and deviation from ideal mental health. • The behavioural, emotional and cognitive characteristics of phobias, depression and obsessive-compulsive disorder (OCD). • The behavioural approach to explaining and treating phobias: the two-process model, including classical and operant conditioning; systematic desensitisation, including relaxation and use of hierarchy; flooding. • The cognitive approach to explaining and treating depression: Beck's negative triad and Ellis's ABC model; cognitive behaviour therapy (CBT), including challenging irrational thoughts. • The biological approach to explaining and treating OCD: genetic and neural explanations; drug therapy.

What will I study?

PAPER 2: PSYCHOLOGY IN CONTEXT

Approaches	<p>The basic assumptions of the following approaches:</p> <ul style="list-style-type: none">• Learning approaches: the behaviourist approach, including classical conditioning and Pavlov's research, operant conditioning, types of reinforcement and Skinner's research; social learning theory including imitation, identification, modelling, vicarious reinforcement, the role of mediational processes and Bandura's research.• The cognitive approach: the study of internal mental processes, the role of schema, the use of theoretical and computer models to explain and make inferences about mental processes. The emergence of cognitive neuroscience.• The biological approach: the influence of genes, biological structures and neurochemistry on behaviour. Genotype and phenotype, genetic basis of behaviour, evolution and behaviour.• The psychodynamic approach: the role of the unconscious, the structure of personality that is ID, ego and superego, defence mechanisms including repression, denial and displacement, psychosexual stages.• Humanistic psychology: free will, self-actualisation and Maslow's hierarchy of needs, focus on the self, congruence, the role of conditions of worth. The influence on counselling psychology.• Comparison of approaches.
Biopsychology	<ul style="list-style-type: none">• The divisions of the nervous system: central and peripheral (somatic and autonomic).• The structure and function of sensory, relay and motor neurons. The process of synaptic transmission, including reference to neurotransmitters, excitation and inhibition.• The function of the endocrine system: glands and hormones.• The fight or flight response including the role of adrenaline.• Localisation of function in the brain and hemispheric lateralisation: motor, somatosensory, visual, auditory and language centres; Broca's and Wernicke's areas, split brain research. Plasticity and functional recovery of the brain after trauma.• Ways of studying the brain: scanning techniques, including functional magnetic resonance imaging (fMRI); electroencephalogram (EEGs) and event-related potentials (ERPs); post-mortem examinations.• Biological rhythms: circadian, infradian and ultradian and the difference between these rhythms. The effect of endogenous pacemakers and exogenous zeitgebers on the sleep/wake cycle.

*****Continued on next page...***

Methods

- Experimental method. Types of experiment, laboratory and field experiments; natural and quasi-experiments.
- Observational techniques. Types of observation: naturalistic and controlled observation; covert and overt observation; participant and non-participant observation.
- Self-report techniques. Questionnaires; interviews, structured and unstructured.
- Correlations. Analysis of the relationship between co-variables. The difference between correlations and experiments.
- Content analysis.
- Case studies.

Scientific processes

- Aims: stating aims, the difference between aims and hypotheses.
- Hypotheses: directional and non-directional.
- Sampling: the difference between population and sample; sampling techniques including: random, systematic, stratified, opportunity and volunteer; implications of sampling techniques, including bias and generalisation.
- Pilot studies and the aims of piloting.
- Experimental designs: repeated measures, independent groups, matched pairs.
- Observational design: behavioural categories; event sampling; time sampling.
- Questionnaire construction, including use of open and closed questions; design of interviews.
- Variables: manipulation and control of variables, including independent, dependent, extraneous, confounding; operationalisation of variables.
- Control: random allocation and counterbalancing, randomisation and standardisation.
- Demand characteristics and investigator effects.
- Ethics, including the role of the British Psychological Society's code of ethics; ethical issues in the design and conduct of psychological studies; dealing with ethical issues in research.
- The role of peer review in the scientific process.
- The implications of psychological research for the economy
- Reliability across all methods of investigation. Ways of assessing reliability: test-retest and inter-observer; improving reliability.
- Types of validity across all methods of investigation: face validity, concurrent validity, ecological validity and temporal validity. Assessment of validity. Improving validity.
- Features of science: objectivity and the empirical method; replicability and falsifiability; theory construction and hypothesis testing; paradigms and paradigm shifts.
- Reporting psychological investigations. Sections of a scientific report: abstract, introduction, method, results, discussion and referencing.
- Quantitative and qualitative data; the distinction between them

Data handling and analysis

- Quantitative and qualitative data; the distinction between qualitative and quantitative data collection techniques.
- Primary and secondary data, including meta-analysis.
- Descriptive statistics: measures of central tendency – mean, median, mode; calculation of mean, median and mode; measures of dispersion; range and standard deviation; calculation of range; calculation of percentages; positive, negative and zero correlations.
- Presentation and display of quantitative data: graphs, tables, scattergrams, bar charts.
- Distributions: normal and skewed distributions; characteristics of normal and skewed distributions.
- Introduction to statistical testing; the sign test.
- Analysis and interpretation of correlation, including correlation coefficients.
- Levels of measurement: nominal, ordinal and interval.
- Content analysis and coding. Thematic analysis.

Inferential testing






- Introduction to statistical testing; the sign test.
- Probability and significance: use of statistical tables and critical values in interpretation of significance; Type I and Type II errors.
- Factors affecting the choice of statistical test, including level of measurement and experimental design. When to use the following tests: Spearman's rho, Pearson's r, Wilcoxon, Mann-Whitney, related t-test, unrelated t-test and Chi-Squared test.

What will I study?






Issues & Debates	<ul style="list-style-type: none"> • Gender and culture in psychology – universality and bias. Gender bias including androcentrism and alpha and beta bias; cultural bias, including ethnocentrism and cultural relativism. • Free will and determinism: hard determinism and soft determinism; biological, environmental and psychic determinism. The scientific emphasis on causal explanations. • The nature-nurture debate: the relative importance of heredity and environment in determining behaviour; the interactionist approach. • Holism and reductionism: levels of explanation in psychology. Biological reductionism and environmental (stimulus-response) reductionism. • Idiographic and nomothetic approaches to psychological investigation. • Ethical implications of research studies and theory, including reference to social sensitivity.
Aggression	<ul style="list-style-type: none"> • Neural and hormonal mechanisms in aggression, including the roles of the limbic system, serotonin and testosterone. Genetic factors in aggression, including the MAOA gene. • The ethological explanation of aggression, including reference to innate releasing mechanisms and fixed action patterns. Evolutionary explanations of human aggression. • Social psychological explanations of human aggression, including the frustration-aggression hypothesis, social learning theory as applied to human aggression, and de-individuation. • Institutional aggression in the context of prisons: dispositional and situational explanations. • Media influences on aggression, including the effects of computer games. The role of desensitisation, disinhibition and cognitive priming.
Relationships	<ul style="list-style-type: none"> • The evolutionary explanations for partner preferences, including the relationship between sexual selection and human reproductive behaviour. • Factors affecting attraction in romantic relationships: self-disclosure; physical attractiveness, including the matching hypothesis; filter theory, including social demography, similarity in attitudes and complementarity. • Theories of romantic relationships: social exchange theory, equity theory and Rusbult's investment model of commitment, satisfaction, comparison with alternatives and investment. Duck's phase model of relationship breakdown: intra-psychic, dyadic, social and grave dressing phases. • Virtual relationships in social media: self-disclosure in virtual relationships; effects of absence of gating on the nature of virtual relationships. • Parasocial relationships: levels of parasocial relationships, the absorption addiction model and the attachment theory explanation.
Schizophrenia	<ul style="list-style-type: none"> • Classification of schizophrenia. Positive symptoms of schizophrenia, including hallucinations and delusions. Negative symptoms of schizophrenia, including speech poverty and avolition. Reliability and validity in diagnosis and classification of schizophrenia, including reference to co-morbidity, culture and gender bias and symptom overlap. • Biological explanations for schizophrenia: genetics, the dopamine hypothesis and neural correlates. • Psychological explanations for schizophrenia: family dysfunction and cognitive explanations, including dysfunctional thought processing. • Drug therapy: typical and atypical antipsychotics. • Cognitive behaviour therapy and family therapy as used in the treatment of schizophrenia. Token economies as used in the management of schizophrenia. • The importance of an interactionist approach in explaining and treating schizophrenia; the diathesis stress model.

Psychology Independent Study Guide






Top 5 to read:

-  *AQA Psychology for A-Level Year 1 & AS - Revision Guide* – Cara Flanagan et al.
-  *Picking Cotton* – Jennifer Thompson-Cannino, Ronald Cotton and Erin Torneo
-  *The Lucifer Effect: How Good People Turn Evil* – Philip Zimbardo
-  *Genie: A Scientific Tragedy* – Russ Rymer
-  *The Skeleton Cupboard* – Tanya Byron

Top 5 to watch:

-  <https://www.ted.com/topics/psychology>
-  <https://cosmolearning.org/psychology/documentaries/>
-  <https://documentaryaddict.com/categories/psychology>
-  <https://www.youtube.com/user/PsychologyTodayVideo>
-  <https://www.youtube.com/watch?v=sQH4Taus0K4>

Top 5 to follow:

-  https://getrevising.co.uk/resources/level/a_ib/subjects/psychology
-  <https://www.tutor2u.net/psychology>
-  <https://twitter.com/tutor2upsych>
-  <https://twitter.com/psychtoday>
-  <https://twitter.com/psychmag>

Maths in Psychology



Bridging Work 2020

Introduction:

In Psychology about 10% of the marks available are maths skills – in terms of overall marks this equates to about a grade. The Maths skills are an equivalent level to that of Higher GCSE Maths/Stats– this booklet is to help you become more familiar with some of the mathematical content that you will need to know for the course.

1) Standard form:

Sometimes psychologists will come across very large or very small numbers. Because of the nature of very large numbers, it is often necessary to simplify these using shorthand, this is known as standard form.

Write in standard form

a) 70×10^5

b) 40×10^5

c) 0.8×10^6

d) 0.4×10^8

e) 0.3×10^8

f) 0.7×10^6

g) 150×10^4

h) 480×10^2

i) 0.044×10^5

j) 0.073×10^7

2) Rounding to decimal places

Round to 1 decimal place

- a) 0.374
- b) 0.798
- c) 0.393
- d) 0.584

Round to 2 decimal places

- e) 0.136
- f) 0.138
- g) 0.464

Round to three decimal places

- h) 29.9757
- i) 46.2317
- j) 79.0919

Round the numbers in the table.

Number	1 decimal place	2 decimal places
0.181	0.2	k)
8.928	l)	m)
0.4923	n)	o)
45.7053	p)	q)

3) Rounding to significant figures

Round to 1 significant figure

- a) 15
- b) 983
- c) 0.0097
- d) 1.9

Round to 2 significant figures

- e) 0.133
- f) 0.0403
- g) 90054

Round to 3 significant figures

- h) 0.6402
- i) 160.7

Round the numbers in the table.

Number	1 significant figure	2 significant figures	3 significant figures
4.915	5	j)	k)
5253	l)	m)	n)
197.196	o)	p)	q)
0.4063	r)	s)	t)

4) Using percentages, fractions and decimals

Convert to a decimal

a) $\frac{1}{2}$

b) $\frac{3}{40}$

c) 65%

d) 153%

e) 51.6%

f) 41%

Convert to a fraction, reduced to simplest form

g) 0.2

h) 0.62

i) 90%

Convert to a percentage

j) 0.87

k) 2.11

l) 0.017

m) 2.91

n) $\frac{9}{10}$

o) $\frac{2}{5}$

Convert to a fraction:

p) 67%

Sample Question

Look at the pie chart below What fraction of divorced adults had a type B attachment?

A pie chart to show the distribution of infant attachment types of divorced adults



- A. $1/5$
- B. $3/10$
- C. $2/5$
- D. $1/2$

5) Ratios

Simplify

- a) 5 : 10
- b) 15 : 5
- c) 5 : 50
- d) 52 : 56
- e) 52 : 12
- f) 52 : 56
- g) 18 : 22 : 12
- h) 16 : 52 : 48
- i) 42 : 15 : 24

Sample question

The findings from the study are presented below:

A table to show the number of participants who perceived the ambiguous image as a monkey or as a teapot from both conditions: image presented with animals and image presented with kitchen items.

	Perceived as a monkey	Perceived as a teapot
Presented with animals	15	10
Presented with kitchen items	5	12

- Identify and simplify the ratio of the number of participants who perceived a monkey in the first condition and the number who perceived a monkey in the second condition.
- Identify and simplify the ratio of the number of participants who perceived a teapot in the first condition and the number who perceived a teapot in the second condition.

6) Measures of Central tendency.

- a) Find the mean of the data given below.

6 6 1 2 1 8

mean =

- b) Find the mean of the given data below, rounding your answer to the nearest whole number.

11 12 28 17 21 24 27

mean =

- c) Find the mean of the given data below, rounding your answer to 1 decimal place

11.9 4.8 16.4 18.2 12.3 3.6 2.8 25.6 10.8 0.6

mean =

- d) Find the median of the data given below.

15 20 10 15 14 23 14

median =

e) Find the median of the data given below.

20 13 10 20

median =

f) Find the median of the data given below.

23.1 11.1 13.1 30.9 13.5 18.1 14.1 0.3

median =

g) Find the median of the data given below

26.3 18.6 8.8 23.2 29.3 20.9 1.5 0.2

median =

h) Find the mode of the data given below.

1 4 6 2 10 11 12 8 10

mode =

i) Find the mode of the data given below.

9 2 4 3 6

mode =

j) Find the mode of the data given below.

8 6 5 3 3 6

mode =

Sample question

A Psychologist investigated whether recall was affected by the way the material was presented. One group was given pictures to recall, the other group were given words.

Number of Pictures Recalled	Number of Words Recalled
7	4
5	6
10	7
8	5
7	6
5	5
7	9
9	3

Calculate the measures of central tendency for the following set of raw data.

Condition 1 (Numbers of pictures recalled)

- a) Mode =
- b) Median =
- c) Mean =

Condition 2 (Number of words recalled)

- d) Mode =
- e) Median =
- f) Mean =

7) Displaying Data

Graphs, charts and tables are all used to describe data and make it easier for the data to be understood.

There are a number of graphs and charts that you need to be able to draw and interpret, they

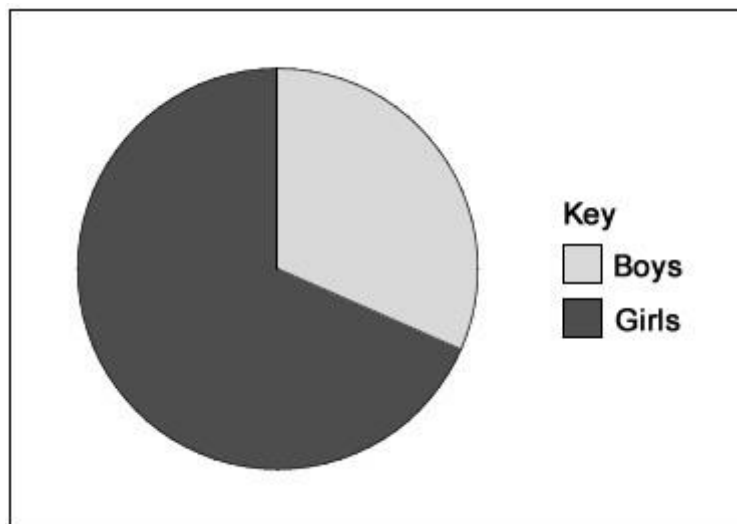
include:

- Tally chart (frequency table)
- Line graph
- Pie chart
- Bar chart
- Histogram
- Scatter diagram

Sample questions

A researcher is investigating gender differences in classification of attachment. They conduct a study using Ainsworth's 'Strange Situation'. The results are shown in the figure below.

The proportions of boys and girls who are classified as securely attached



- (a) Using the information in the figure, estimate the percentage of **boys** and **girls** that are securely attached.

Boys =

Girls =

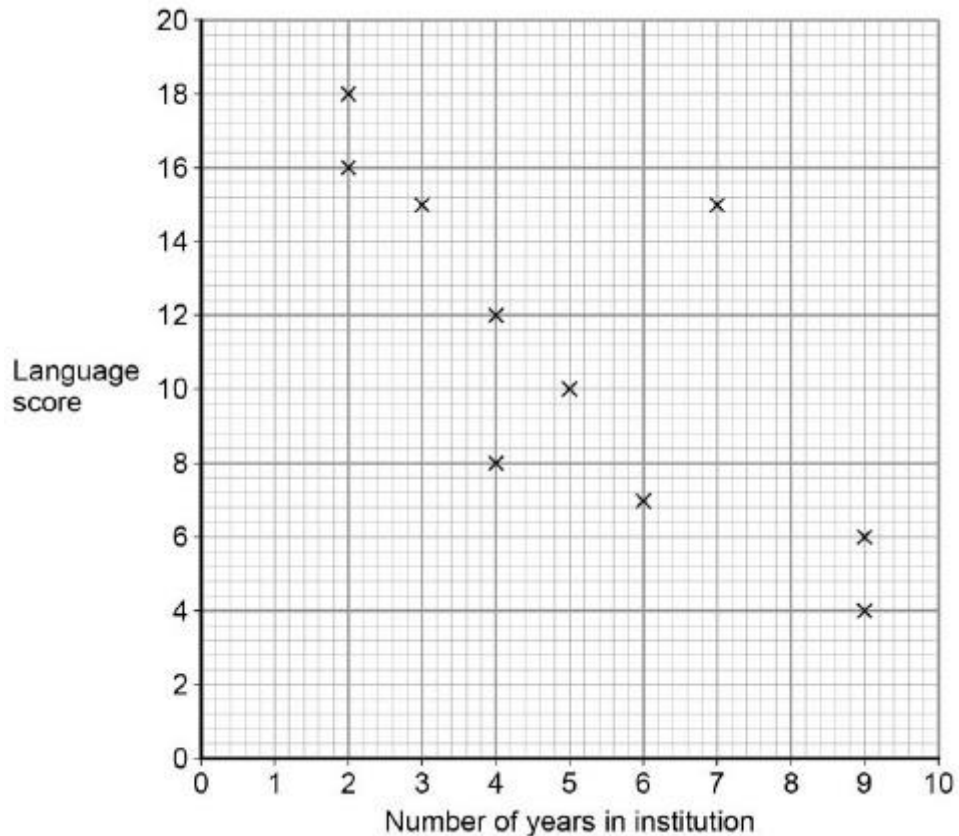
(2)

- (b) In a different study, 150 children were classified as securely attached. Of these, 40% were boys. How many of the 150 children were girls? Show your workings.

(2)

A psychologist thinks that there may be a link between language ability and institutionalisation. She tests the language skills of 8-year-old institutionalised children. A high score on the test indicates good language ability and a low score on the test indicates poor language ability. She also records the number of years that each child has been institutionalised. The findings are shown in the figure below.

The relationship between time spent in institution and language score



(c) Identify the type of graphical display in the figure.

- A Histogram
- B Bar graph
- C Line graph
- D Scattergram

(1)

(d) How many children took part in the study?

(1)

(e) What does the pattern of data in the figure suggest about language ability and institutionalisation?

(2)

(f) Calculate the range for the language scores. Show your workings.

(2)

Maths in Psychology – answers

1) Using standard form

- a) 7×10^6
- b) 4×10^6
- c) 8×10^5
- d) 4×10^7
- e) 3×10^7
- f) 7×10^5
- g) 1.5×10^6
- h) 4.8×10^4
- i) 4.4×10^3
- j) 7.3×10^5

2 Rounding – decimal places

- a) 0.4
- b) 0.8
- c) 0.4
- d) 0.6
- e) 0.14
- f) 0.14
- g) 0.46
- h) 29.976
- i) 46.232
- j) 79.092
- k) 0.18
- l) 8.9
- m) 8.93
- n) 0.5
- o) 0.49
- p) 45.7
- q) 45.71

3) Rounding – significant figures

- a) 20
- b) 1000
- c) 0.01
- d) 2
- e) 0.13
- f) 0.040
- g) 90000
- h) 0.640
- i) 161
- j) 4.9
- k) 4.92
- l) 5000
- m) 5300
- n) 5250
- o) 200
- p) 200
- q) 197
- r) 0.4
- s) 0.41
- t) 0.406

4 Using percentages, fractions and decimals

- a) 0.5
- b) 0.075
- c) 0.65
- d) 1.53
- e) 0.516
- f) 0.41
- g) $1/5$
- h) $31/50$
- i) $9/10$
- j) 87%
- k) 211%
- l) 1.7%
- m) 291%
- n) 90%
- o) 40%
- p) $67/100$

Sample Q:

A $1/5$

5 Ratios

- a) 1 : 2
- b) 3 : 1
- c) 1 : 10
- d) 13 : 14
- e) 13 : 3
- f) 13 : 14
- g) 9 : 11 : 6
- h) 4 : 13 : 12
- i) 14 : 5 : 8

Sample Q:

- a) 3 : 1 (simplified from 15 : 5)
- b) 5 : 6 (simplified from 10 : 12)

6 Measures of central tendency

- a) 4
- b) 20
- c) 10.7
- d) 15
- e) 16.5
- f) 13.8
- g) 19.75
- h) 10
- i) None
- j) 6 , 3

Sample Q:

Condition 1

- a) 7
- b) 7
- c) 7.25

Condition 2:

- a) 5 , 6
- b) 5.5
- c) 5.625

7 Displaying data

- a) Boys: between 26% and 37% inclusive
Girls: between 63% and 74%
Two figures must add up to 100%
- b) 90
- c) Scattergram

- d) 10 children
- e) Negative correlation
The more years spent in an institution the lower their language ability or opposite argument.