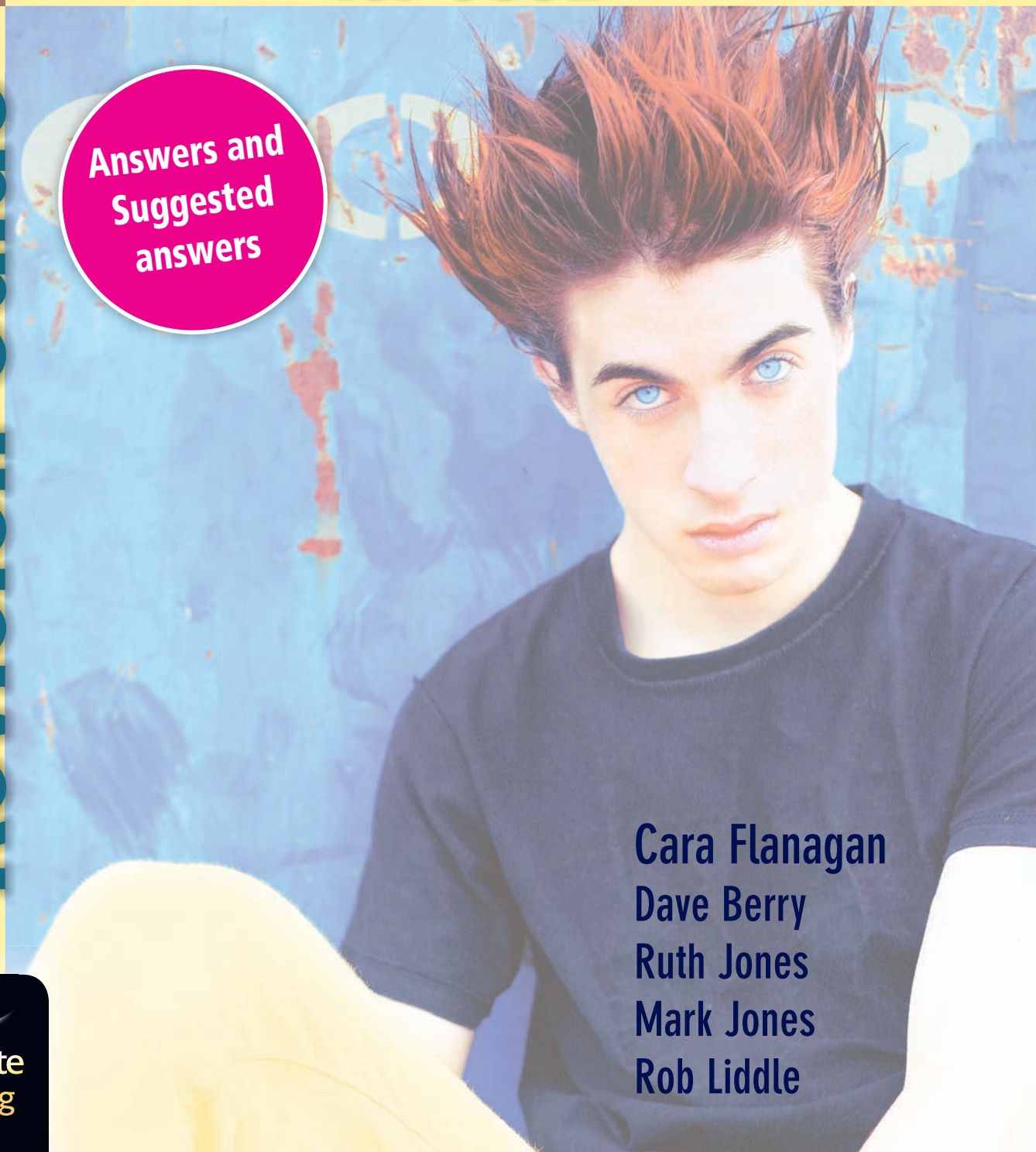
AQA Psychology for GCSE

Revision Guide

Answers and Suggested answers



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Illuminate Publishing

Is it true or is it false?

Here are some statements about encoding, storage and retrieval. Add ticks and crosses to the boxes to show which are true and which are false.

		True or false?
1	Encoding is about how we get information out of memory.	✗
2	There are just two main types of encoding.	✗
3	Thinking about your favourite song and hearing the music in your head is an example of an acoustic memory.	✓
4	Picturing your house in your mind means you are using visual encoding.	✓
5	Semantic encoding refers to the meaning of something (such as words).	✓
6	Being able to use the word 'elephant' so it makes sense in a sentence is semantic encoding.	✓
7	Tactile encoding concerns our memories of smells.	✗
8	Storage of information comes before encoding.	✗
9	Cued recall is a type of retrieval.	✓
10	Free recall involves identifying something previously learned from different options.	✗

Mind maps

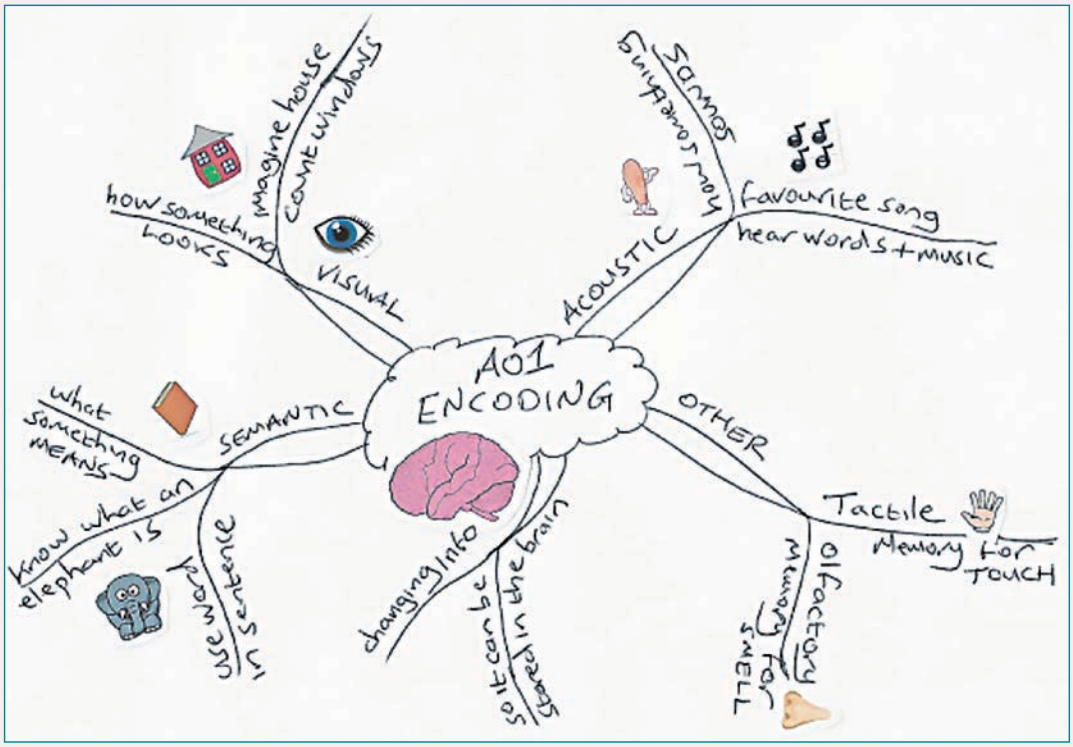
A mind map (or spider diagram) is a really useful way of organising revision material. It's highly visual and shows how all the parts of a topic are linked. It can give you the best of both worlds – a quick 'at a glance' overview and a closer level of detail as well.

A mind map has a single main idea (topic) in the middle, with lots of branches representing the more detailed elements linked to the main idea. You can add colour, more branches for greater detail, and even little pictures/images. You can use highlighters and felt-tip pens to make each of your mind maps unique – you should aim to make them all look different.

Looking at a mind map is helpful, but creating one is even better because it encourages you to process and restructure the information – and psychological research into memory shows that this is beneficial.

On the right is a mind map representing the information about encoding from the previous page.

Have a go at producing one on encoding yourself.



Classic study mix up

Suggested answer

Exam type question: Describe a study that investigated how memories are encoded.

Below are some sentences that will help you answer the question above. Unfortunately, the sentences have become jumbled up and are in the wrong order.

Write down the right order in the boxes below so that the answer makes sense.			
Aim	Method	Results	Conclusion
11	8, 2, 9, 5, 1, 3, 13, 14	12, 10, 7, 6	4

1	In group C, the participants had words with similar meanings.
2	He gave them 12 sets of five words to remember.
3	The participants in Group D were given words with dissimilar meanings.
4	Baddeley claimed that the results showed that STM is encoded by sound (acoustically) and LTM by meaning (semantically).
5	Group B had words that sounded dissimilar.
6	In LTM words with similar meanings were more poorly recalled than words with different meanings.
7	In STM similar sounding words were more poorly recalled than words with different sounds.
8	Baddeley used four groups of participants.
9	Group A was given words that sounded similar.
10	Group C recalled fewer words than Group D.
11	Alan Baddeley (1966) wanted to see if there were any differences in the encoding used in STM and LTM.
12	Baddeley found that Group A recalled fewer words than Group B.
13	Participants in Groups A and B had to recall their words straightaway – this tested STM.
14	Groups C and D recalled their words after 20 minutes – this tested LTM.

Evaluating the study – Fill in the blanks

A strength of Baddeley's research is that it is a *laboratory* study where extraneous *variables* were well *controlled*. For example, he controlled hearing ability by giving participants a hearing *test*, which was important because the words were *read* out. This is a *strength* because we can be more certain that the type of *words* used was the factor that affected participants' recall.

A weakness of the study is that encoding in *STM* does not always involve *sound*. Other studies (e.g. *Brandimonte et al.*) have found that if *pictures* are used rather than words then the information is encoded *visually*. This shows that information does not just go into STM in an *acoustic* form.

Another weakness is that *LTM* may not have been tested in the study. The participants had to wait 20 *minutes* before *recall* but this doesn't mean the words were in LTM. This is a weakness because it could mean the conclusion that LTM encoding is semantic lacks *validity*.

Here is a cheat list of the words that go in the blanks.

acoustic
recall
Brandimonte et al.
sound
STM
controlled
strength
laboratory
test
LTM
validity
minutes
variables
pictures
visually
read
words

Turbo-charge your AO1

Suggested answer

Giving examples is a great way of boosting your descriptions by adding detail. Write down definitions of each type of memory. Add examples to take your definitions further. Try to think of different examples from the ones on the previous page.

	Definition	Example
Episodic memory	*Memories of events (episodes) from your life and what you have done.*	*Remembering what happened on your first day at school.*
Semantic memory	*Memory of what things mean ('facts') including word meanings.*	*Remembering that winter tends to be associated with cold and snowy weather.*
Procedural memory	*Memory of how to do things (actions), which are hard for us to consciously explain.*	*Remembering how to ride a bike, play an instrument or tie your shoelaces.*

Elaborate your evaluation

Suggested answer

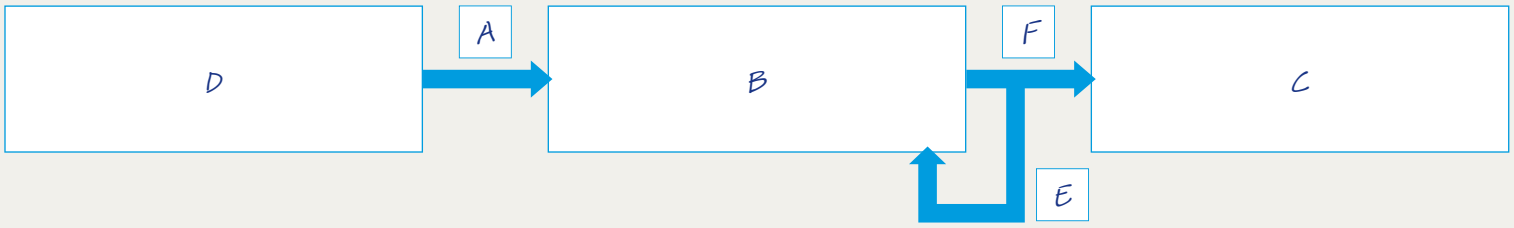
Don't waste your AO3 points. Make the most of them by elaborating – develop and explain them fully, just like we do in this book. You can do this by using the trigger phrases in the 2nd, 3rd and 4th columns to help you construct an evaluation.

Specific locations in the brain	Brain scans ... *have found that different types of LTM are located in different parts of the brain.*	Episodic memory ... *is located in the right prefrontal cortex.* Semantic memory ... *can be found in the left prefrontal area.*	This shows that ... *there must be different types of LTM in separate brain areas.*
Patients with amnesia	Case studies ... *of patients with amnesia give research support.*	Clive Wearing ... *could still play the piano so his procedural memory was fine although his episodic memory was damaged.*	This shows that ... *there are different types of memory affected by brain damage in different ways.*
It's not that simple	Types of LTM are ... *very difficult to separate from each other.*	Episodic and semantic memories ... *overlap a lot so there is no clear difference between them.*	This shows that ... *it is oversimplified to say there are separate types of LTM.*

Magic multi-store model

Suggested answer

Here is a diagram of the multi-store model. Below the table is a list of components each with a letter. Place the letters in the right boxes and write one sentence for each component. Put the sentences in the order which makes most sense. Hey presto – you now have a description of the multi-store model.



A	Attention	Paying attention to the information in sensory memory transfers it to the short-term memory store.
B	Short-term memory	Stores information temporarily (for up to about 30 seconds), limited capacity of about 5 to 9 items, mostly acoustic encoding.
C	Long-term memory	Permanent memory store of up to a lifetime, unlimited capacity, encoding is mostly semantic.
D	Sensory memory	Stores information from our senses (e.g. sight, sound) for a very short time – very large capacity.
E	Maintenance rehearsal	Verbally repeating information (rehearsing it) over and over keeps it stored in short-term memory.
F	Prolonged rehearsal	Rehearsing information for long enough will transfer it to long-term storage.

Evaluation match-up

Fill in the blanks and then match up the sentences to make three full evaluation points of three sentences each.

A For example, Baddeley's study found that STM encodes information *acoustically* and LTM encodes *semantically*.	**B** A weakness is that the research supporting the model used *artificial* materials.	**C** A weakness is that the model is too simple because it suggests we have just *one* STM and *one* LTM.
D For example, many studies used lists of words or *consonant* syllables.	**E** This means that the results do not show us all the *different* ways we use our memories.	**F** Instead, studies show that *STM* is divided into *visual* and acoustic stores, and LTM is made up of *episodic*, semantic and procedural memory.
G This shows that memory is more *complex* than the multi-store model proposes.	**H** This shows that STM and LTM are qualitatively different.	**I** A strength is that some research supports the existence of *different* memory stores.

Classic study – true or false?

Read the sentences below about the study by Murdock. Indicate whether each is true or false. For the false sentences, rewrite them in the final column so they become true.

Suggested answer

		True or false?	
1	Murdock's aim was to support the multi-store model.	✗	Murdock's aim was to find out if memory for words depends on where the word is located in a list.
2	Murdock's words were drawn from 4000 common words in English.	✓	
3	Murdock chose every 10th word from the dictionary.	✗	Murdock selected words at random.
4	Each participant read 10 word lists.	✗	Each participant read 20 word lists.
5	Each list had between 10 and 40 words on it.	✓	
6	The participants recalled the lists after 20 minutes.	✗	The participants recalled the lists immediately after hearing them.
7	Murdock found a primacy effect because recall of the last few words on each list was relatively high.	✗	Murdock found a primacy effect because recall of the first few words on each list was relatively high.
8	Murdock's findings demonstrated the serial position effect.	✓	
9	Unfortunately, Murdock's findings do not support the multi-store model.	✗	Murdock's findings support the multi-store model because they show that there are two separate memory stores, STM and LTM.
10	The first few words on each list are rehearsed, so are contained in LTM.	✓	

Build your answer

Answering a 9-mark exam question can seem like a big ask when you are first learning to do it. One way to ease into it is to focus on the descriptive (AO1) element. Build your description of Murdock's study by responding to the statements/questions in each box.

Suggested answer

What was Murdock's aim?

Murdock aimed to find out whether the location of a word in a list affected how well it was remembered.

Explain how he conducted the study (i.e. his method – materials and procedure).

Murdock chose words randomly from a list of 4000 common English words. The participants listened to 20 lists containing between 10 and 40 words and had to recall the words after hearing each list.

Describe the results of the study.

Recall of words from the start (primacy effect) and end (recency effect) of the list was higher than for words in the middle.

Explain **two** conclusions you can draw from the results.

1. The findings demonstrated the existence of the serial position effect – recall of a word depends on its position in the list.

2. This finding supports the multi-store model – the primacy effect exists because the first few words are rehearsed and stored in LTM and the last few words are still in STM.

AO3 – Fill in the blanks

Complete the evaluation by filling in the missing words. Try to avoid looking back at the material on the previous page. But if you do get stuck, the words you need are below the passage.

One weakness of Bartlett's study is that it lacks *control*. For example, he did not tell the participants that *accurate* recall was important. Other studies have found that recall is *better* when participants are told this. This shows that recall is more accurate than Bartlett suggested.

Another weakness is that Bartlett's own *beliefs* may have affected the results. Because he analysed the participants' responses himself, his belief that recall would be affected by cultural *expectations* might have *biased* his interpretation of the results. This means that we cannot fully trust Bartlett's conclusions.

A final weakness is that the War of the *Ghosts* was an unusual story. Because it was so unfamiliar, recall of the story may not reflect *everyday* memory processes as these would not be affected by cultural expectations. This suggests that Bartlett's study tells us little about everyday memory.

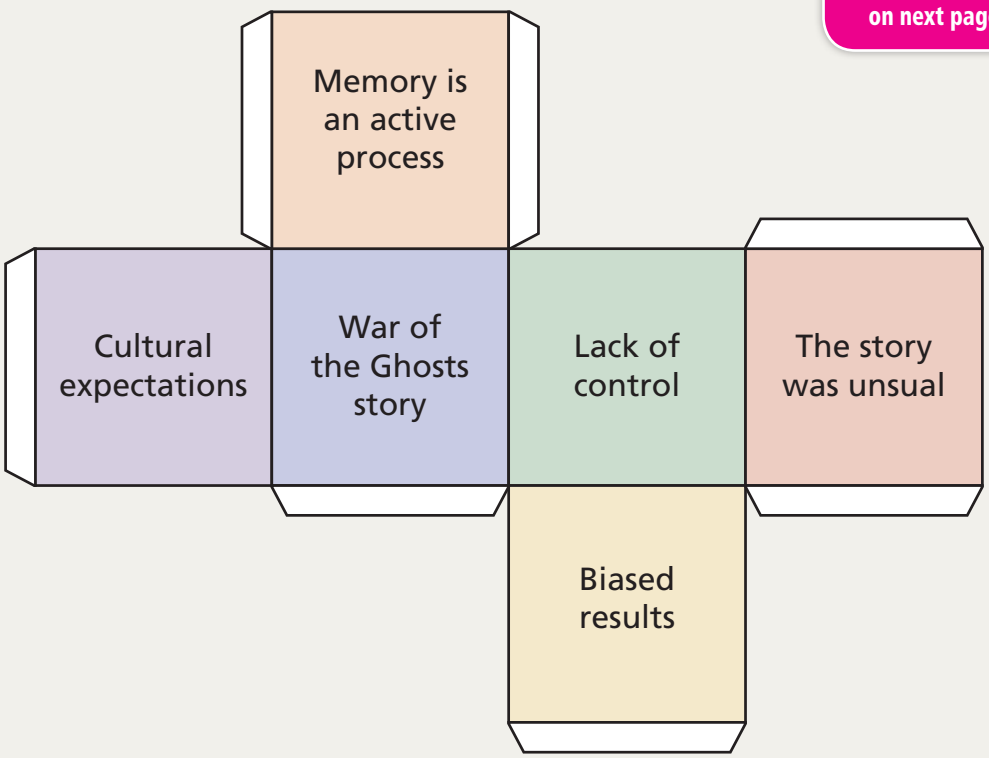
Ghosts | better | beliefs | biased | control | accurate | expectations | everyday

The War of the Ghosts cube

This is an activity you can do on your own or with other students. Make a small cube using the template on the right. Roll the cube and give a detailed explanation of whichever phrase or term comes up. If you're with other students you can take turns and explain to each other.

Of course you can use the template to construct cubes for any topic using six terms or phrases.

Suggested answer on next page



Suggested answer

Here are some possible explanations for each phrase on the cube.

Memory as an active process	Memory is not a passive playback of a perfect recording of events. It is an active reconstruction of what happened. Details are forgotten, added and changed to match our expectations and personal biases.
Cultural expectations	Some of our expectations are based on cultural factors. Some things are familiar because they are part of our culture. Some things are unfamiliar because they are unusual in our culture – these are more likely to be distorted or forgotten in memory.
War of the Ghosts story	This is the story Bartlett used in his study. It is an Inuit folk tale and includes details that would be very unfamiliar to Bartlett's English participants (canoes, ghosts, arrows, ... etc.), words that are not part of their culture or experience.
Lack of control	This was a weakness of Bartlett's study because he did not carry it out in a systematic way. Conditions varied from one participant to another. Recall might have been poor because Bartlett did not tell his participants that accuracy was important.
The story was unusual	This was another weakness of Bartlett's study. The story was meant to be unfamiliar and unusual. But because it was, the participants' recall did not reflect everyday memory processes. So the study tells us little about how memory works in everyday life.
Biased results	Bartlett had strong beliefs about the results of his study. He analysed the data himself, so his interpretations may have been influenced by his expectations. This means we may not be able to fully trust his conclusions.

Fake news

Suggested answer

Fake news is everywhere these days, but we're not going to stand for it. Here are some fake headlines about reconstructive memory. Rewrite them so they are true, and then write the first sentence of an imaginary article to explain the headline.

1	Reconstructive memory shows memory is passive, claim psychologists	Reconstructive memory shows that memory is active, claim psychologists	We tend to remember the overall meaning of an event, and reconstruct the memory when we recall it.
2	Memories perfect representation of events, say scientists	Memories are not exact records of events, say scientists	Elements of events are left out when a memory is reconstructed, so the memory is not perfectly accurate.
3	**Researchers say how memories are stored is independent of culture**	Researchers say how memories are stored is affected by culture	Our cultural experiences influence what we expect to see or hear, which influences what we recall.
4	Details of the event most important thing, reckon researchers	Meaning of the event is the most important thing, reckon researchers	We make an 'effort after meaning' in other words it is the meaning that comes first, so the details are less important.
5	Bombshell: reconstructive memory not like real life	Bombshell: reconstructive memory is just how memory works in real life	Research uses real-life materials (e.g. stories) rather than artificial word lists and consonant syllables.
6	OMG: all memories inaccurate, psychologists opine	OMG: some memories are accurate, psychologists opine	Not all memories are reconstructions, some are recalled directly and accurately (perhaps because they are distinctive).

Writing thorough answers

Suggested answer

An excellent way to boost your AO3 marks is to make sure your evaluation is thorough. So every time you make a point of evaluation, such as a strength or weakness, you should develop and explain it. The same goes for description – add detail to increase your AO1 marks (using examples is good for this). Fortunately, you can learn these skills with plenty of practice.

Complete the table by responding to the statements in each box. Write your sentences in your own words.

In your own words, THOROUGHLY explain the theory in no more than five sentences – one for each of the main AO1 points.	***THOROUGHLY explain a strength of the theory.***
Bartlett showed in the War of the Ghosts study that memory is an active process because we recall the overall meaning of an event and reconstruct the memory.	Point The study investigated how we use memory in our everyday lives.
Because memories are reconstructed, bits are left out which can make them inaccurate versions of an event.	Example Bartlett used a story rather than artificial lists of words or consonant syllables.
Each time we recall an event, we put the pieces of the memory back together in different ways.	Conclusion This is a strength because his findings are more realistic and relevant to real-life memory.
How we reconstruct a memory is influenced by our expectations, which in turn are affected by social and cultural factors – this was clear in the culturally unfamiliar War of the Ghosts story.	***THOROUGHLY explain a weakness of the theory.***
We make an 'effort after meaning' to try to make sense of an event, and fill in the details afterwards.	Point Some memories are reconstructed, but not all.
	Example Bartlett found that participants remembered distinctive phrases such as 'something black came out of his mouth'.
	Conclusion This is a weakness of reconstructive memory theory because it shows that some memories can be very accurate.

Interference theory anagrams

Everyone loves an anagram, apparently. Can you unjumble these words related to interference theory?

1	FIERCERENNET	INTERFERENCE	Between two memories = forgetting.
2	HOGMECC	MCGEOCH	One of the researchers.
3	SCANTNOON SLAYBELLS	CONSONANT SYLLABLES	A type of stimulus material in the study.
4	IDGIST	DIGITS	Another type of material – numbers.
5	LIARISM	SIMILAR	More forgetting if two memories are _____.
6	ATONINGCARBUNCLE	COUNTERBALANCING	The way to control order effects.
7	DAMNCOLD	MCDONALD	Another of the researchers.
8	ITALICFAIR	ARTIFICIAL	The environment of a lab.
9	ITVLUNG	TULVING	Memory researcher keen on cues.
10	SACSEC	ACCESS	Perhaps we forget because we don't have _____ to the memory.

Match them up

How much do you know about interference theory and McGeoch and McDonald's study? Find out by matching the first half of each sentence in the left-hand column with the second half in the right-hand column. Then put the sentences in the correct order.

5. When two memories interfere with each other ...	G. … one memory may prevent us from accessing the other memory.
4. McGeoch and McDonald aimed to find out ...	C. … if the accuracy of recalling a list of words is affected by a competing set of words.
8. Participants first of all learned ...	I. … a list of ten words.
2. After they learned the list ...	D. … the participants were shown a new list.
10. One new list contained words with the same ...	K. … meanings as the first list.
3. Another new list contained consonant ...	A. … syllables.
7. Another list contained three-digit ...	F. … numbers.
11. Some participants were shown no ...	H. … new list.
1. When the participants recalled the first list of words ...	E. … their memories were affected by the new list.
9. McGeoch and McDonald concluded that ...	J. … interference from a second set of information reduces the accuracy of memory.
6. Another conclusion was that interference is strongest when ...	B. … the two sets of information are similar.

AO1 – Fill in the blanks

Try to fill in the blanks in the following passage without looking on the previous page. If you get stuck choose from the word list at the end of the passage to help you out (but only if you really need to).

When we *learn* some information, other things are present in the situation at the same time. These can act as *cues* for recall, improving the *accuracy* of memory.

One study into context as a cue was carried out by *Godden* and *Baddeley*. They wanted to see if the context of learning can improve recall. They used '*underwater*' (wet) and 'on the *beach*' (dry) as the two contexts.

The researchers asked *divers* to listen to and recall words in the same or different settings. When the contexts were *the same*, divers learned the words underwater and recalled them *underwater*. Or they learned them on the beach and recalled them on the beach. When the contexts were *different*, the divers learned the words underwater and recalled them on the beach. Or they learned them *on the beach* and recalled them underwater.

The main result was that recall was *highest* in the two matching conditions (dry/dry or wet/wet). The researchers *concluded* that the context of learning acts as a cue when trying to remember information, so memory is more accurate.

underwater | Godden | different | learn | the same | cues | on the beach | beach | accuracy | underwater | concluded | highest | Baddeley | divers

Evaluate with key phrases

Here are some key phrases related to the evaluation of context as a factor affecting the accuracy of memory. First, decide which phrases go together by putting them into pairs. Then try to write a sentence for each pair without looking at your notes or on the previous page. Finally, try to write write a further sentence, to explain why your first sentence is a strength/weakness.

Suggested answer

Immediate not delayed

Artificial task

Short-term recall

Learning and recall situations

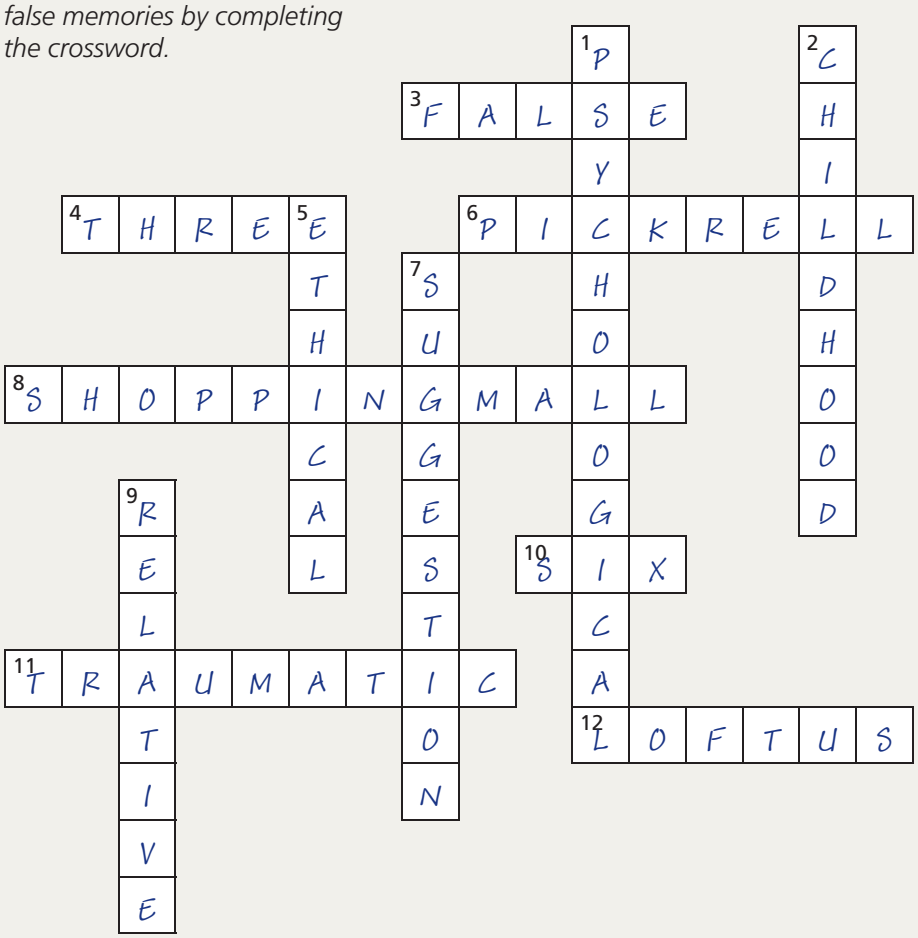
Lists of words

Contexts must be very similar

Write down the pairs	Write a sentence	Strength or weakness
1 *Artificial task* *Lists of words*	*Godden and Baddeley's study used lists of words, so this is an artificial task unlike most real-life memory tasks.*	*This is a weakness because context may be less important when the material being learned is more complex and realistic.*
2 *Short-term recall* *Immediate not delayed*	*Participants had to recall the words immediately, which again is unlike real-life situations (e.g. revising for exams).*	*This is a weakness because the study only tells us about how context influences short-term recall rather than long-term.*
3 *Contexts must be very similar* *Learning and recall situations*	*Context only acts as a cue when the learning and recall situations are very similar, which they often are not in real life.*	*This is a weakness because it means that context is only influential in a limited set of conditions.*

False memory crossword

See how much you know about false memories by completing the crossword.



DOWN

1. The kind of harm the study might have caused. P_____ (13)
2. The stories were about events from C_____. (9)
5. The study raised some of these issues. E_____ (7)
7. Can this implant a false memory? S_____ (10)
9. A R_____ of the participant told the researchers the true story. (8)

ACROSS

3. The kind of memories the study was about. F_____ (5)
4. Number of true stories for each participant. T_____ (5)
6. Jacqueline, one of the researchers. P_____ (8)
8. Lost in here, according to the false story. S_____ M_____ (8,4)
10. Number of participants recalling false story. S_____ (3)
11. The kind of memories recalled in therapy. T_____ (9)
12. Elizabeth, one of the researchers. L_____ (6)

Match them up

Indicate in the table, with a tick or a cross, whether the statements are true or false. You can then rewrite the false statements to make them true.

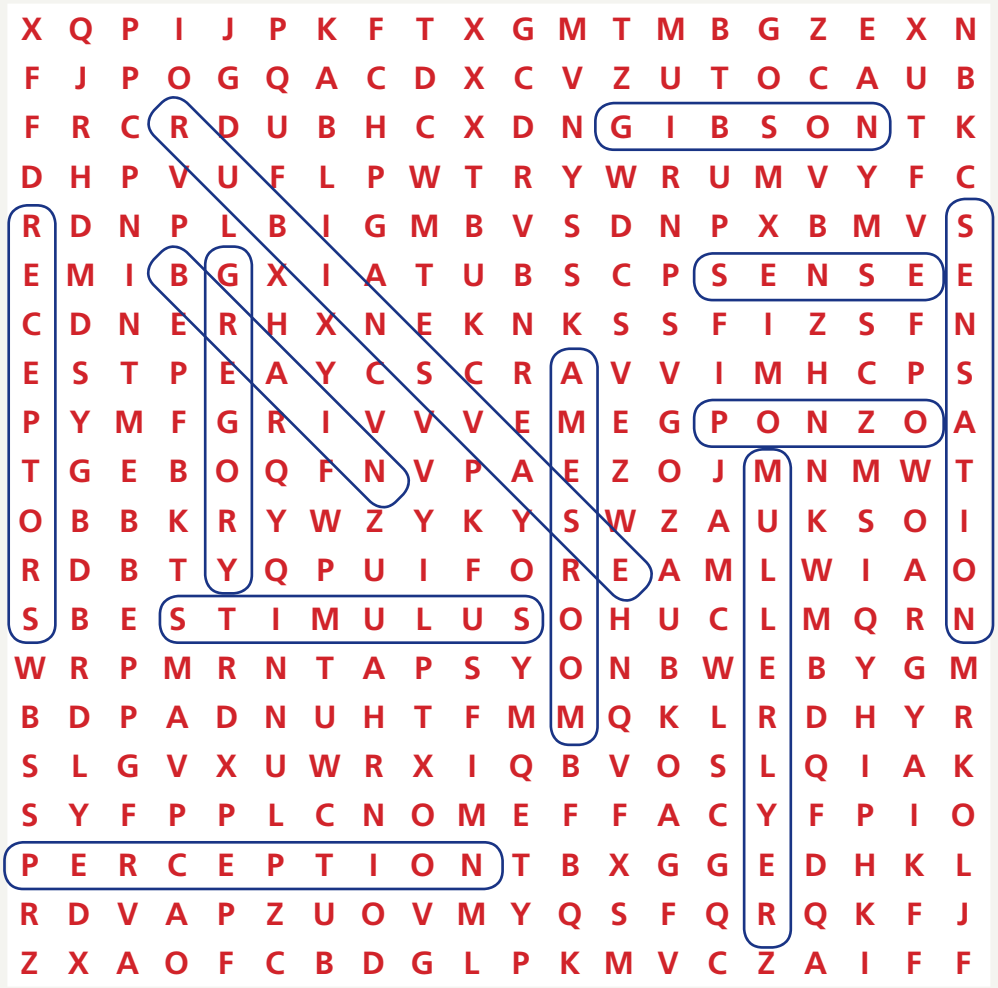
Suggested answer

		True or false?	
1	Loftus and Pickrell wanted to use suggestion to see if false memories could be implanted.	✓	
2	The participants read five stories about recent events.	✗	The participants read four stories about childhood events.
3	Three of the stores were true.	✓	
4	Two of the stories were false.	✗	Only one of the stories was false.
5	Participants had to explain out loud what they remembered about each story.	✗	Participants had to write down what they remembered about each story.
6	25% of the true stories were remembered.	✗	68% of the true stories were remembered.
7	18 participants had no memory of the false story.	✓	
8	The researchers concluded that it is impossible to implant a false memory.	✗	The researchers concluded that a false memory can be implanted just by imagining an event, making memory inaccurate.

Sensation and perception wordsearch

Can you find the words related to the topic of sensation and perception?

There are 12 of them. They could be horizontal, vertical or diagonal (but not backwards).



Match them up

Work out which statements in the first column go with the statements in the second column. Draw in lines to connect them.

1. Sensation	A. The brain organises and interprets sensory information.
2. Perception	B. Direct.
3. Gregory's theory	C. Sense receptors process physical stimulation.
4. Gibson's theory	D. Looks normal but actually trapezoid shape.
5. Ponzo illusion	E. Ambiguous figure.
6. Müller–Lyer	F. Two vertical lines of same length, side by side, one with outgoing fins and the other with ingoing fins.
7. Rubin's vase	G. Constructivist.
8. Ames Room	H. Two horizontal lines of same length, one above the other, with two converging lines on either side.

True or false?

Suggested answer

Some of the statements below about visual cues and constancies are true and some are false. Indicate which is which and rewrite the false statements to make them true.

		True or false?	
1.	Visual cues are part of the human visual system.	✗	Visual cues are features of the environment.
2.	Visual constancy refers to objects looking the same despite seeing them from different angles and distances.	✓	
3.	There is just one major binocular depth cue.	✗	There are two major binocular depth cues.
4.	Retinal disparity is a monocular depth cue.	✗	Retinal disparity is a binocular depth cue.
5.	Convergence refers to objects higher up in the visual field appearing further away.	✗	Convergence refers to how the eyes become closer together to see objects near to us.
6.	You need two eyes to see monocular depth cues.	✗	You only need one eye to see monocular depth cues.
7.	There are four main monocular depth cues.	✓	
8.	Relative size refers to how smaller objects appear further away.	✓	
9.	Height in plane means that objects in front of others appear nearer.	✗	Height in plane means that objects higher up in the visual field appear further away.
10.	Linear perspective is created when parallel lines appear to converge.	✓	

Boost your description with examples

Suggested answer

Giving examples is a great way to add detail to your descriptions. In the boxes below, write down definitions of visual cues and constancies. Add examples to take your definitions further. Try to think of different examples from the ones on the previous page.

Convergence

Definition

A binocular cue. As an object gets closer to us, our eyes get closer together. The brain uses this information to work out how far away something is.

Example

You alternate your vision between a TV screen (further away) and a book (nearer). Your eyes move closer and further apart.

Height in plane

Definition

A monocular cue. An object that is higher up in the visual field appears further away than one that is lower down.

Example

You are talking to a friend face-to-face when you see another friend in the distance. They look 'higher up' in the scene.

Occlusion

Definition

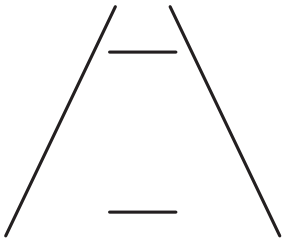
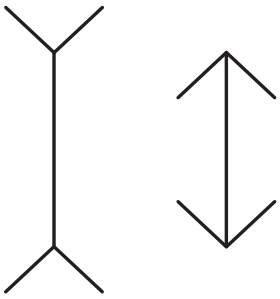
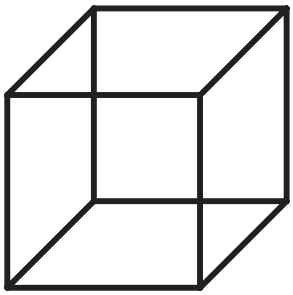
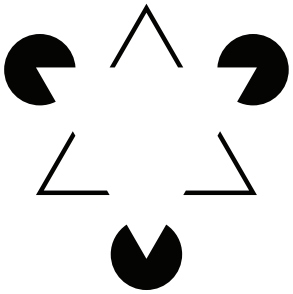
Another monocular cue. An object in front of another appears closer to us.

Example

In a crowded college canteen, people stand in front of others, obscuring parts of them. They appear closer.

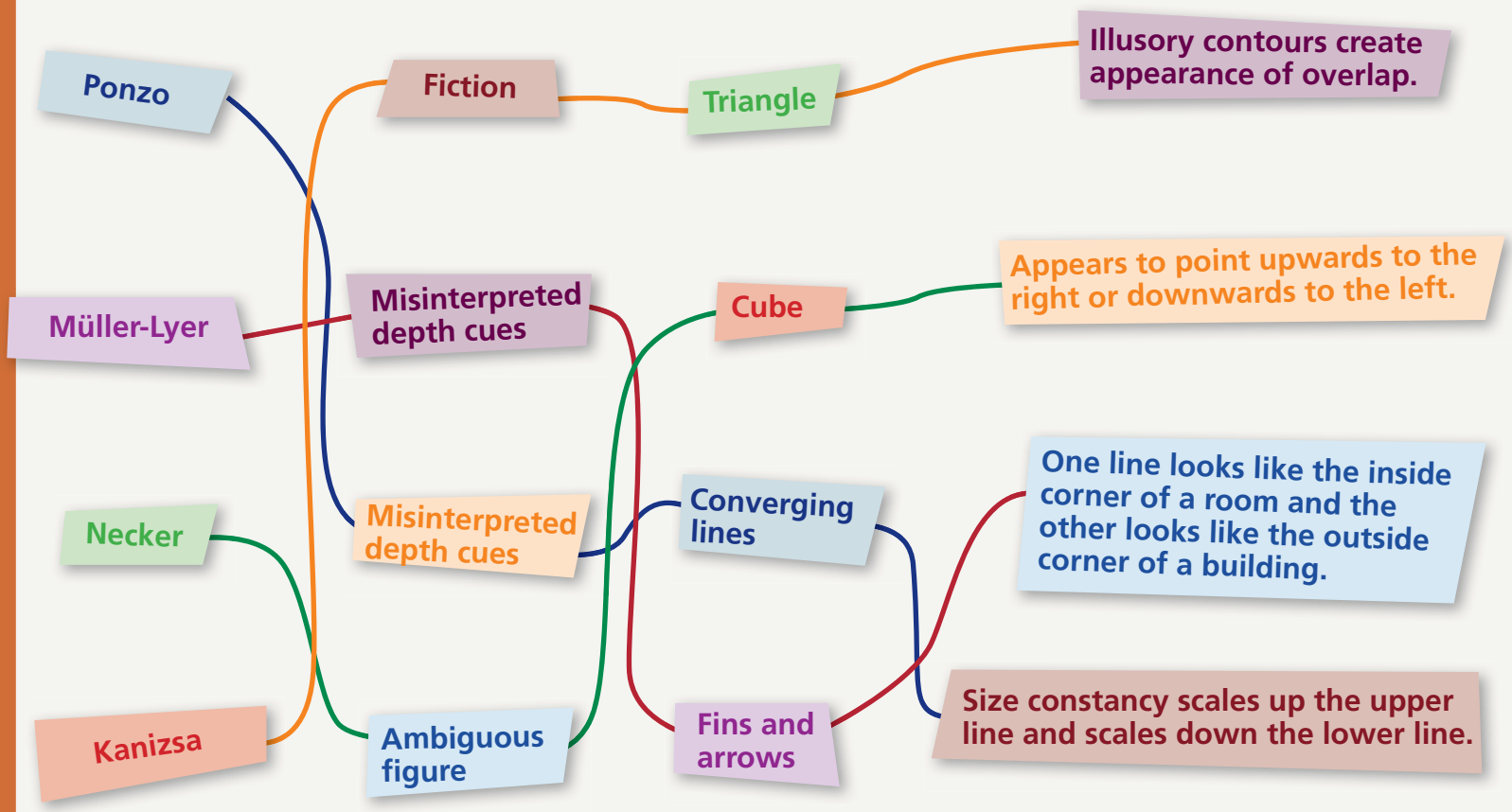
Draw your own

Have a go at drawing the four visual illusions for this topic for yourself. Try to complete the table from memory, without looking at the book. Your drawing doesn't have to be a work of art – substance is more important than style. Write the name of the illusion in the top row, and draw it underneath.

Ponzo	Müller-Lyer	Necker cube	Kanizsa triangle
			

Visual illusion match-up

Match up the statements in the four columns by drawing lines to link them.



Fill in the blanks

Complete the passage by filling in the missing words from this description of Gibson's direct theory of perception. Try to complete the activity without referring to your notes or the previous page. The words you need to choose from are on the right if you really get stuck.

Gibson's theory is a *direct* theory of perception. It suggests that all of the information we need for perception comes from the *environment*. According to Gibson, *sensation* and perception are the same thing.

Gibson explained perception of movement in terms of *optic* flow patterns. When we move, the point we are moving towards stays *fixed* and everything else appears to rush away from it. Our eyes detect this flow pattern, which tells the *brain* we are moving. We can perceive the *speed* and direction we are travelling in.

Another monocular depth *cue* which tells the brain we are moving is motion *parallax*. Objects that are closer in our field of vision appear to move *faster* than objects that are further away.

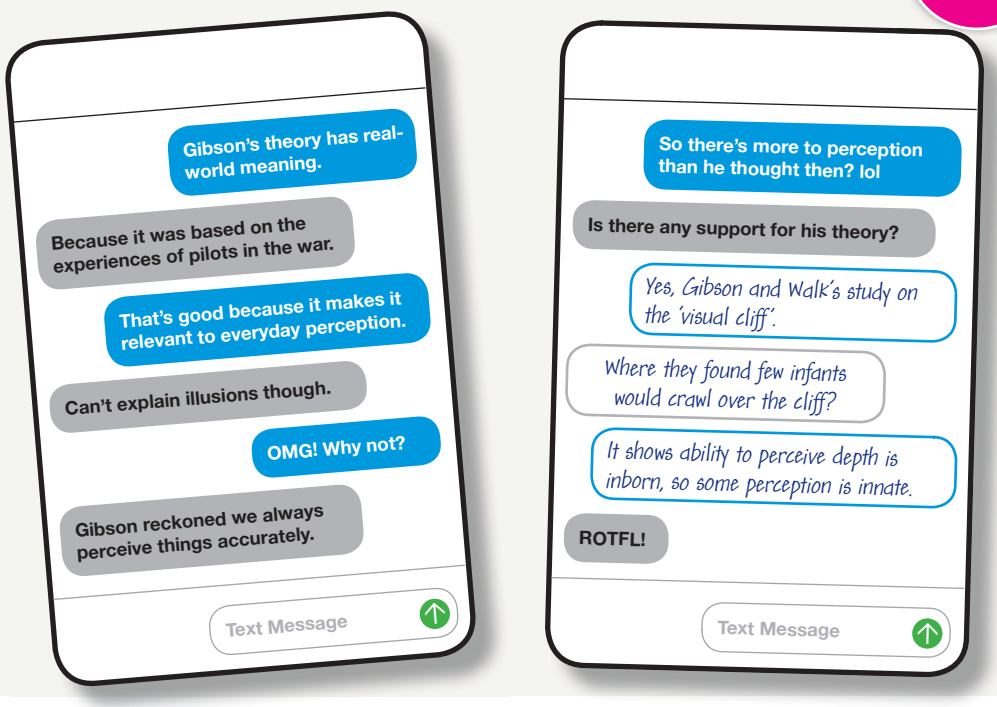
Gibson argues that we do not *learn* the ability to perceive – we are born with it. He believed that nature explains perception, not *nurture*. We have an innate visual system that is able to detect fine changes in light, texture, movement and depth.

sensation
environment
parallax
direct
faster
nurture
fixed
optic
cue
learn
brain
speed

Instant messaging evaluation

Suggested answer

Two students are having an instant messaging conversation about Gibson's theory of perception (as you do). They are building evaluation points step by step. Some of the conversation has gone missing for some reason, so you need to fill in the gaps.



Writing well-organised answers

Suggested answer

Here's a typical 9-mark question: Describe and evaluate Gregory's constructivist theory of perception.

An excellent way to boost your marks to such a question is to organise your answer clearly. The table below offers a way to visualise your answer.

For the describe part, identify 4 key points (each in a different colour):	For the evaluate part, identify 3 points:
1. *Perception is a construction – past experience.*	1. *Research support – cultural differences.*
2. *Brain uses inference – fill in gaps.*	2. *Visual illusions – not real world.*
3. *Brain uses visual cues – illusions!!!*	3. *How does perception begin? – weakness.*
4. *Nurture – experience, learning.*	

Now use this framework to write out your essay in full on a separate piece of paper. Use the same colours to write out each description point.

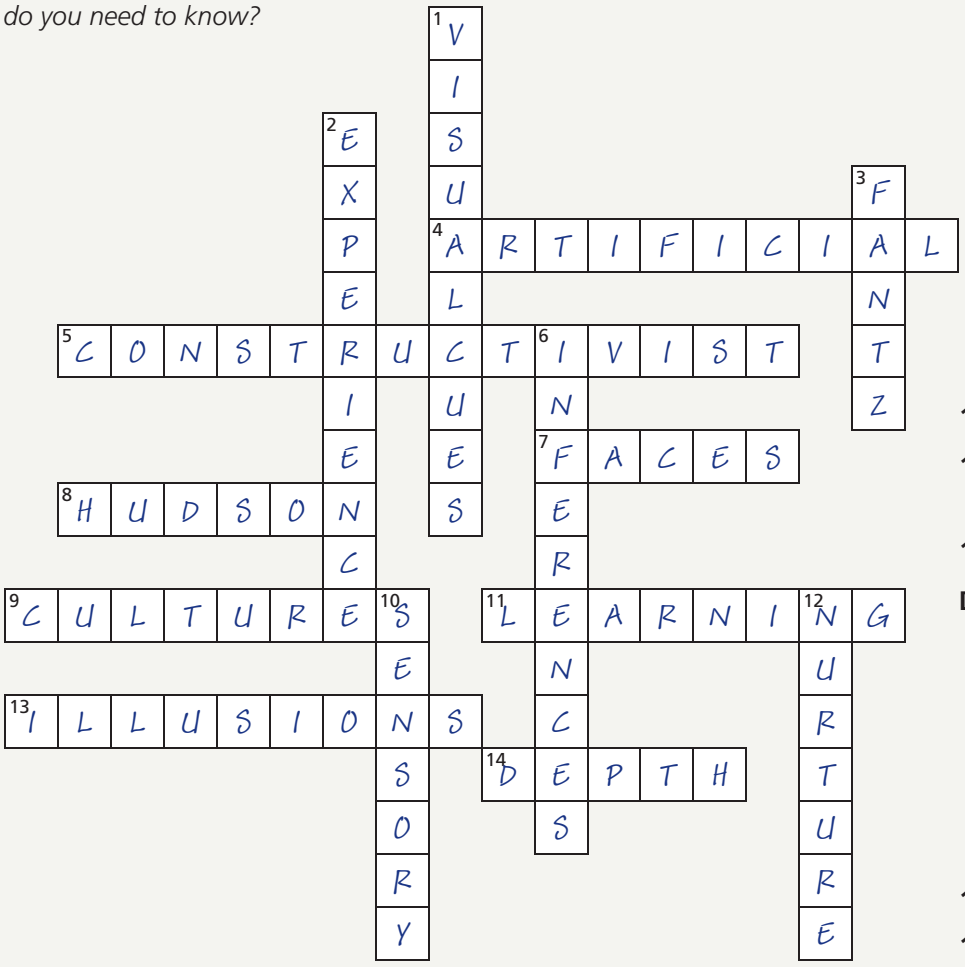
For the description you should write about 25 words for each point.

For the evaluation you need to provide an explanation and a conclusion for each point.

Suggested answer continues on next page

Constructivist theory crossword

It's a crossword. What more do you need to know?



ACROSS

4. Visual illusions are A_____ images. (10)

5. Gregory's is this type of theory. C_____. (14)

7. Children are born with the ability to perceive these. F_____ (5)

8. He investigated the effects of culture. H_____. (6)

9. Perception is different in different C_____. (8)

11. Perception develops through L_____. (8)

13. Gregory's theory can explain visual I_____. (9)

14. An important visual cue. D_____. (5)

DOWN

1. Features of the environment telling us about distance, etc. V_____ C_____. (6,4)

2. We use past E_____ to perceive the world. (10)

3. He investigated 7 across. F_____. (5)

6. We fill in the gaps by making I_____. (10)

10. The brain uses S_____ information. (7)

12. Perception is due to N_____ not nature. (7)

Continued from previous page

This is 4 × 25 words of description and 3 evaluation points, written as an essay.

Gregory says that perception is a construction. The brain uses sensory information (sights, sounds, etc.) and combines it with our knowledge about the world.

The brain makes inferences about what it perceives. The sensory information may not be complete, so the brain fills in the 'gaps' using knowledge/past experiences to draw a conclusion.

The brain makes inferences about the world (depth, distance, etc.) from features of the environment called visual cues. Illusions occur when the brain draws the wrong conclusions from these cues.

Some of these cues are learned, which is why perception partly depends on experience. Therefore nurture has an important role in perception.

A strength is that Gregory's theory is supported by studies of cultural differences. For example, Hudson showed that experience affects how we interpret visual cues. This is a strength because it shows the theory is right to say that experience (culture) affects perception.

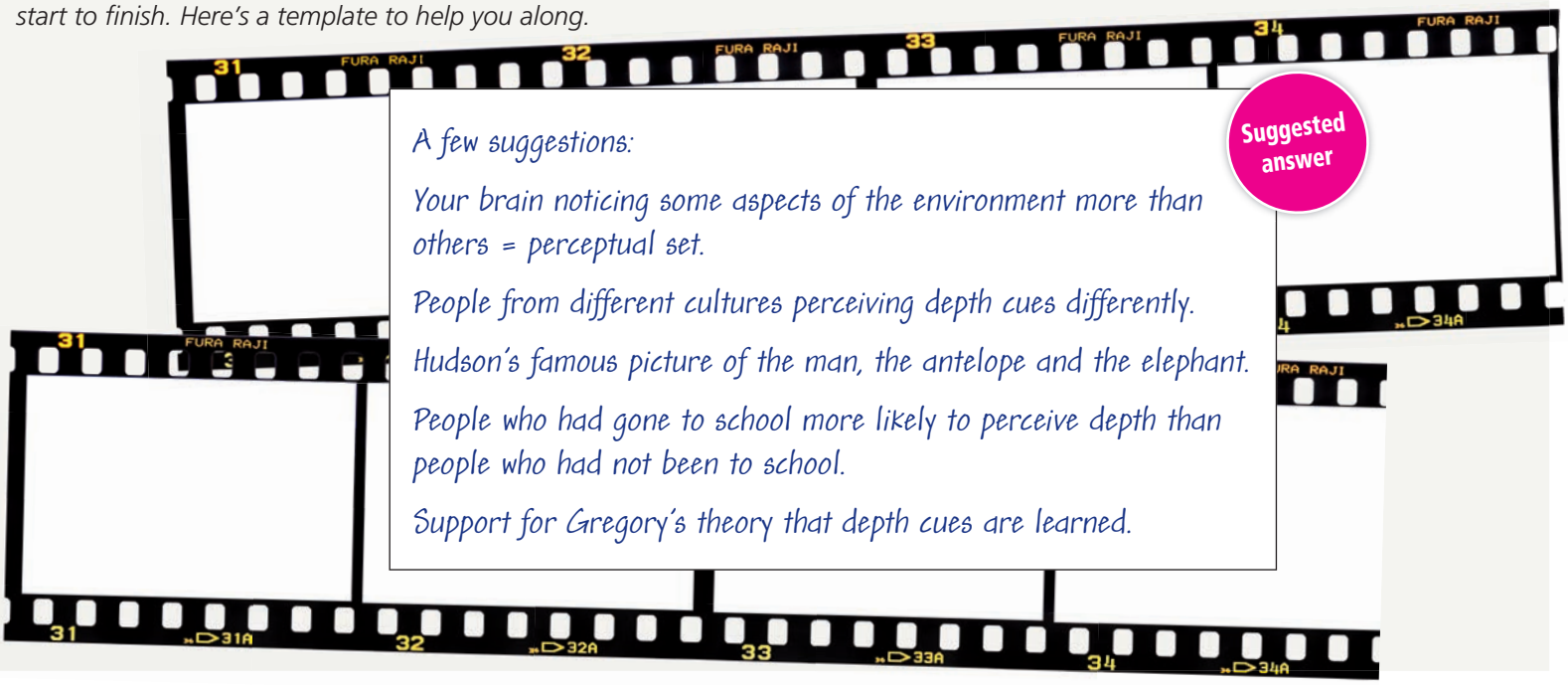
A weakness is that Gregory used visual illusions. Illusions are deliberately designed to fool our perceptual systems (e.g. they are 2D images not 3D). This is a weakness because it means his theory does not tell us much about how perception works in the real world.

Another weakness is that Gregory's theory does not explain how perception begins. For example, other studies (e.g. Fantz) show that babies have perceptual abilities at birth (preferring human faces). This is a weakness because it suggests that not all perception is the result of experience, as Gregory claimed.

Word count = 241

Storyboard Hudson's study

They say a picture is worth a thousand words. If that's true, then this book would be a lot shorter. But visual images can be useful, so why not outline Hudson's study in pictures? Take the main elements of the study and try to represent them with drawings, like a film director might do with a 'storyboard', a series of images that tell the story of the film (or study) from start to finish. Here's a template to help you along.



Suggested answer

A few suggestions:

Your brain noticing some aspects of the environment more than others = perceptual set.

People from different cultures perceiving depth cues differently.

Hudson's famous picture of the man, the antelope and the elephant.

People who had gone to school more likely to perceive depth than people who had not been to school.

Support for Gregory's theory that depth cues are learned.

Key phrase evaluation

Below are some evaluative phrases for this topic. Decide which ones go together in pairs. For each pair, write a sentence for each of the statements and write a further sentence to explain why each point is a weakness (they are all weaknesses). The first one has been done as an example

Suggested answer

Drawings on paper **No control group** **Cross-cultural research**

Old study **Language barrier** **Familiar materials**

Pair	Descriptions	Explanation
Cross-cultural research + Language barrier	*Cross-cultural research:* The study was conducted in a different culture.	This means the results would lack validity so it is unclear what it tells us about cultural influences on perception.
	Language barrier: The method had to be translated so the language barrier may have meant some things were unclear.	
Drawings on paper + Familiar materials	***Drawings on paper:*** *The participants were shown drawings on paper, which confused them because it was an unfamiliar material.*	*This means that perception in other cultures is not that different, depending on how the study is conducted.*
	Familiar materials: *The answers were different when the drawings were presented on cloth, which was familiar to the participants.*	
Old study + Questions out loud	***Old study:*** *This is an old study and had some design issues.*	*This means it is difficult to compare results, so the study lacks validity.*
	Questions out loud: *The tester may have unconsciously indicated which answer to give.*	

AO1 – True or false

Suggested answer

How much do you know about the study by McGinnies? Find out by identifying which of the statements below are true and which are false. Rewrite the false statements to make them true.

		True or false?	
1.	McGinnies aimed to find out if culture influences perception.	✗	McGinnies aimed to find out if we are less likely to notice things that cause us anxiety than things that are emotionally neutral.
2.	There were 16 participants in total.	✓	
3.	The participants were male office workers.	✗	The participants were male and female students.
4.	Neutral and offensive words were both used.	✓	
5.	An example of an offensive word was 'apple'.	✗	An example of an offensive word is 'bitch'.
6.	Participants listened to the words read out by the experimenter.	✗	The participants saw the words flashed up on a screen.
7.	McGinnies used a questionnaire to measure the amount of emotional arousal.	✗	McGinnies used galvanic skin response (GSR) to measure the amount of emotional arousal.
8.	It took longer for the participants to say the offensive words than the neutral ones.	✓	
9.	GSRs increased more for neutral words than offensive ones.	✗	GSRs increased more for offensive words than neutral ones.
10.	McGinnies concluded that emotional arousal affects perceptual set.	✓	
11.	The brain uses perceptual attack to cope with words that cause anxiety.	✗	The brain uses perceptual defence to cope with words that cause anxiety.

AO3 – McGinnies match-up

Suggested answer

Fill in the missing information. Then decide which sentences go together.

E A strength is that _emotion_ was measured objectively.

G Galvanic _skin_ response is a scientific way of assessing people's anxiety responses.

B This is a strength because it means the results are relatively un_biased_ compared with _self_-report methods (e.g. rating scales and questionnaires).

D A weakness is that the findings may have been due to embarrassment.

F For example, the participants may have been reluctant to repeat _offensive_ words and so took longer.

A This means that the participants' discomfort might have been an _extraneous_ variable, reducing the _validity_ of the results.

C A weakness is that results from different studies are mixed and _contradict_ each other.

I Some studies find that perceptual _defence_ occurs and other studies find perceptual sensitisation occurs.

H This means it is hard to draw firm _conclusions_ because we do not know why this happens.

Broken sentences match-up

Below are some sentences that describe Gilchrist and Nesberg's study. They have become broken and muddled up, so put them back together again by matching the first half of each sentence in the left-hand column with the second half in the right-hand column.

1. Gilchrist and Nesberg's aim was to …	**F.** … find out if food deprivation affects how people perceive images of food.
2. The experimental design of the study was …	**I.** … independent groups.
3. The participants were …	**A.** … students.
4. The participants in the experimental group …	**H.** … were deprived of food for 20 hours.
5. The participants were shown …	**J.** … four slides of meals.
6. Each slide …	**B.** … was displayed for 15 seconds.
7. Each picture was shown twice and the second time the participants had to …	**D.** … adjust the brightness.
8. Gilchrist and Nesberg found that …	**G.** … the food-deprived participants perceived the images as brighter.
9. Being deprived of food …	**C.** … increased perceptual sensitivity.
10. Gilchrist and Nesberg concluded that …	**E.** … hunger is a motivating factor that affects how food is perceived.

Motivation anagrams

Time to unjumble these words relating to Gilchrist and Nesberg's study. Can you do it without looking at the clues?

1. VITAMINTOO	MOTIVATION	The behaviour that this is all about.
2. OVERPAIDNIT	DEPRIVATION	Gilchrist and Nesberg used food _____ in this study.
3. DUSTNETS	STUDENTS	The participants were all _____.
4. CORNLOT	CONTROL	One type of group in the study.
5. NIGHGILT	LIGHTING	This is what the participants had to adjust.
6. YETISINSITV	SENSITIVITY	The deprived participants had more perceptual _____.
7. FANSROD	SANFORD	He carried out a similar study.
8. ACHEUNTIL	UNETHICAL	Some have criticised the study for being _____.
9. EPICRUST	PICTURES	The researchers used _____ rather than real food.
10. VARYEYED	EVERYDAY	The study wasn't really like _____ life.

Put it right

The passage below is a description of Bruner and Minturn's study. Unfortunately several mistakes have crept into it. Your task is to identify the errors and correct them.

Bruner and Minturn wanted to find out if we perceive an ambiguous figure differently if ~~we are hungry~~ the context changes. They used a ~~matched pairs~~ an independent groups experimental design.

They showed their participants an ambiguous figure, which could be perceived as either the letter B or the number ~~23~~ 13. One group saw the figure ~~at the end~~ in the middle of a sequence of letters. Another group saw the figure ~~at the start~~ in the middle of a sequence of numbers. ~~A third group just saw the ambiguous figure on its own.~~ There was no third group.

The researchers found that the participants who saw the sequence of letters were more likely to report the ambiguous figure as '~~13~~ B'. The participants who saw the sequence of numbers were more likely to interpret the figure as '~~B~~ 13'.

~~Gilchrist and Nesberg~~ Bruner and Minturn concluded that the participants' ~~culture~~ expectations affected their perception of the figure.

Elaborate to evaluate

Complete each sentence below to practise elaboration for an evaluation point.

Suggested answer

Point 1: An artificial task … … was used in this study (perceiving an ambiguous figure).	An ambiguous figure … … is designed to trick perception.	This is a weakness because … … the result is that the results lack validity.
Point 2: An independent groups design … … was used in the study.	Individual differences … … between participants could have occurred, meaning the two groups might have differed in various ways.	This is a weakness because … … the results could have been due to participant variables and not to expectations affecting perception.
Point 3: A real-life application … … was a strength of this study.	For example, … … people often perceive things incorrectly because they expect to see or hear something.	This is a strength because … … the study can explain why people make such serious mistakes in real-world situations.

AO1 – Anagrams

Time to unjumble these words relating to early brain development. Can you do it without looking at the clues?

1. RANBI METS	BRAIN STEM	Attached to the spinal cord.
2. CRUMBLELEE	CEREBELLUM	Co-ordinates movement and sensory information.
3. HAULMAST	THALAMUS	The brain's hub.
4. REXCOT	CORTEX	Thin layer covering the brain.
5. CAUTIONOM	AUTONOMIC	Functions such as heartbeat, breathing, etc.
6. PLAINS DORC	SPINAL CORD	Attached to the back of the brain.
7. HEMEPERISH	HEMISPHERE	The brain has two of these.
8. RESNOSY	SENSORY	Information relating to the senses.
9. EVENTMOM	MOVEMENT	Co-ordinated by the cerebellum.
10. MRTOO	MOTOR	The cortex that controls item 9 above.

Nature/nurture – True or false?

What do you know about nature and nurture in development? Find out by identifying which of the following statements are true and which are false. For the false ones, write them so that they are true.

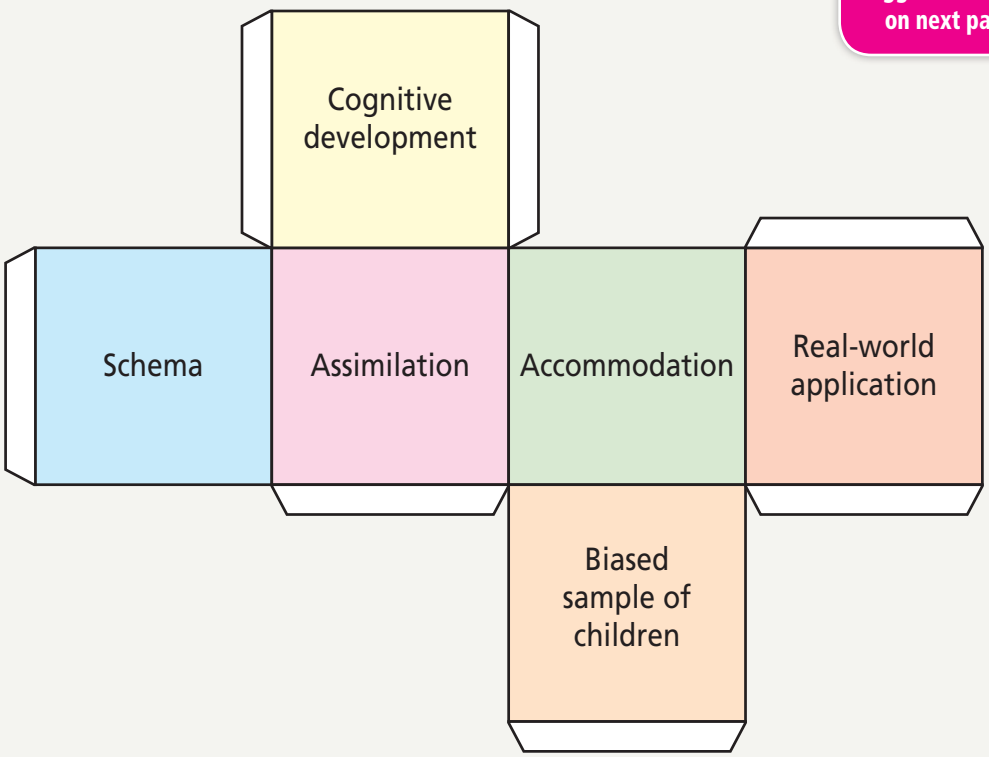
Suggested answer

		True or false?	
1.	Nature is to do with how the environment affects your development.	✗	Nature is about the influence of the things you have inherited.
2.	Nurture includes influences such as learning.	✓	
3.	Smoking affects the development of babies in pregnancy.	✓	
4.	German measles does not really affect babies developing in the womb.	✗	German measles can cause brain damage and hearing loss in babies in the womb.
5.	DeCaspar and Spence did a study into the effects of German measles.	✗	DeCaspar and Spence's study was into how babies can respond to book passages read to them in the womb.
6.	Another name for German measles is rubella.	✓	
7.	A baby can learn to recognise his or her mother's voice in the womb.	✓	
8.	The initial formation of the brain is due to nature.	✓	
9.	The environment has no effect on brain development.	✗	The environment (e.g. in the womb) can have a very significant effect on brain development.
10.	The influence of nature on development is always greater than the influence of nurture.	✗	Both nature and nurture have important influences on development.

The Piaget cube

Make a small cardboard cube using this template. Roll the cube and whichever term/phrase comes up, provide a detailed explanation of it. You can do this on your own, but if you're with other students you can take turns to explain to each other. Keep the explanation going until everyone understands it.

Suggested answer on next page



Explaining examples

Examples are great things – they can add detail to descriptions, especially when you explain how the example relates to a concept. Here's an activity to help you get thinking about examples and what they mean. The first column of the table has examples relating to some of Piaget's concepts. In the second column are sentence starters – you have to explain the example in more detail and then try and come up with another example of your own.

Suggested answer

A young child believes all furry animals with four legs are 'doggies'.	This is an example of a schema because … *… it contains the child's current knowledge of one aspect of the world – 'doggies'. It is a basic schema which will become more complex through assimilation and accommodation.* Another example is … *… the child's current knowledge of adult men and women.*
The child sees a breed of dog for the first time. She says, 'Look, a doggie.'	This is an example of assimilation because … *… the new breed of dog fits the schema of 'furry and four legs'. Because it is not that different from other examples of doggies she has seen before, it fits into her current schema.* Another example is … *… the child calls any adult male 'Daddy'.*
The child sees a cat and says, 'Look, a doggie.' Mum says, 'No that's a cat.' The next time the child sees a cat, she says 'Look, a cat.'	This is an example of accommodation because … *… the child learns that not all animals with fur and four legs are 'doggies'. Some are cats, therefore her schema has to change to accommodate the new information. She will likely develop a new schema for 'cats'.* Another example is … *… the child learns that some adult males are not 'Daddy' (e.g. the man who delivers the post).*

Suggested answer

Here are some possible explanations for each phrase on the cube.

Cognitive development	Concerns how the ways we think change over time – Piaget believed that children's thinking is very different from adults' (not less thinking, but completely unlike).
Schema	A mental structure that contains a 'package' of knowledge about one aspect of the world – a mental representation of the world that becomes more complex as we develop, through assimilation and accommodation.
Assimilation	We add new information to an existing schema. The schema becomes more complex but does not change fundamentally.
Accommodation	New information about the world is very different from existing schema, so the schema has to change drastically or a new one is created.
Biased sample of children	The children in Piaget's studies were middle-class and from 'academic' families. They may not be representative of most children, so Piaget's findings are not universal.
Real-world application	Piaget's theories have been applied in classroom situations, so that learning has become more activity based, leading to better outcomes for children.

Classic study mix-up

Suggested answer

Here is a typical 9-mark question.

Describe a study that investigated Piaget's theory of conservation.

Below are some sentences about the study by McGarrigle and Donaldson. You can use them to help you answer the exam-type question above, but they have become mixed up.

Put the numbers of the sentences in the right boxes below so that the answer makes sense.

Aim	Method	Results	Conclusion
4	8, 10, 6, 2	1, 9, 11	3, 7, 5

1. When the researchers deliberately changed one of the rows, 41% of the children were able to conserve.

2. While the naughty teddy was playing, he 'messed up' one of the rows.

3. Piaget was right on the issue of age-related changes in conservation, but he was wrong about the age that conservation develops.

4. McGarrigle and Donaldson intended to find out if children's ability to conserve depended on whether or not a row of counters was deliberately changed.

5. This showed that Piaget's method of testing children limited what they could do.

6. Each child had to answer the following question before and after the teddy appeared: 'Is there more here or more here or are they both the same number?'.

7. Piaget also underestimated young children's thinking abilities.

8. The participants were children aged between four and six years.

9. When the row was changed accidentally (by naughty teddy), 68% of the children could conserve.

10. The researchers showed the children a 'naughty' teddy bear along with eight counters split into two rows of four.

11. The researchers also found that older children gave more correct answers than younger children.

Unjumble the AO3

There is an evaluation of Piaget's conservation theory lurking somewhere in the following sentences.

First, put the sentences together correctly (the first half is in the first column, the second half is in the second column).

Then, take the completed sentences and put them together into three elaborated evaluation points of three sentences each.

4. One weakness is that the children in the sample …	**G.** … were from a narrow range of ages and just one city in the UK.
1. This means that how the children performed on the conservation task …	**C.** … might not be how all children would perform in this situation.
8. This is a weakness because the age-related changes …	**I.** … were unclear given the narrow range.
6. Another weakness is that the children might not have noticed …	**D.** … naughty teddy 'accidentally' changing one of the rows.
2. For example, Moore and Frye showed that if naughty teddy took a counter away …	**H.** … the children still said that the rows were the same.
9. This is a weakness because it means the children were not actually conserving but instead …	**E.** … they were just distracted.
5. A strength of the study is that it challenges …	**F.** … Piaget's theory of conservation.
7. The procedure that McGarrigle and Donaldson used suggests that …	**A.** … Piaget's original study confused young children.
3. This is a strength because the study helped to …	**B.** … refine and progress research into children's conservation abilities.

AO1 – Fill in the blanks

Fill in the blanks in the following description of egocentrism and Hughes' study. The words are given below if you get stuck, but try and do the activity without them first.

The term egocentrism refers to seeing the world only from your own *viewpoint*.

Piaget used the three *mountains* task to show that children are egocentric in their thinking up to the age of *7* years. However, Hughes thought that Piaget's task was hard for young children to *understand*.

The children in his study were aged between 3½ and *5* years. They saw a simple model with two intersecting *walls* and had to hide a boy doll from two *policeman* dolls. Hughes found that *90%* of the children could successfully complete this task.

Hughes then used more complex models with 5 or 6 walls. *60%* of three-year-old children and 90% of four-year-olds were able to hide the boy doll.

Hughes concluded that children as young as *4* years are mostly not egocentric in their thinking. This meant that Piaget *underestimated* younger children's thinking abilities.

90% 5 viewpoint policeman 4 understand 7 underestimated walls maintains 60%

Evaluate with trigger phrases

Suggested answer

Here are some 'trigger' phrases related to Piaget's theory of egocentrism. The first thing to do is decide which phrases go together by putting them into pairs in the first two columns of the table.
Then write a sentence in column 3 for each pair without looking at your notes or elsewhere on the previous page.
Finally, write a further sentence in column 4, to explain why your first sentence is a strength/weakness.

More realistic	*Children were able to understand the task.*	*The task of hiding the policeman doll made sense to children because they play with dolls a lot.*	*This is a strength because the task was a realistic test of children's abilities compared with Piaget's mountains task.*
Effects of expectations	*What researchers thought might happen affected children's behaviour.*	*The researchers could have communicated their expectations to the children in the task unintentionally.*	*This is a weakness because it means the task would lack validity because it would not be a genuine test of egocentrism.*
Challenges Piaget	*The findings were different from Piaget's original results.*	*Piaget's task confused the children because they did not understand it properly.*	*This is a weakness of Piaget's theory because it suggests that the theory is not necessarily an accurate explanation of egocentrism.*

What researchers' thought might happen affected children's behaviour

The findings were different from Piaget's original results

Challenges Piaget

Children were able to understand the task

More realistic

Effects of expectations

True or false?

Suggested answer

Here are some sentences about Piaget's theory of cognitive development. Indicate whether you think each one is true or false. For the false statements, write down the true versions in the spaces provided.

		True or false?	
1.	Piaget believed there are five stages of cognitive development.	✗	There are four.
2.	Children all over the world pass through the stages in the same order.	✓	
3.	The first stage of cognitive development is the concrete operational stage.	✗	Sensorimotor stage is first.
4.	In the sensorimotor stage, children relate what they see and hear to movement.	✓	
5.	Object permanence develops in the formal operational stage.	✗	It develops in the sensorimotor stage.
6.	The pre-operational stage takes place between about two and seven years.	✓	
7.	Children develop the ability to conserve during the sensorimotor stage.	✗	This develops in the concrete operational stage.
8.	Egocentric thinking is closely associated with the formal operational stage.	✗	It is associated with the pre-operational stage.
9.	Formal operational thinking develops before concrete operational thinking.	✗	Concrete operational thinking develops before formal.
10.	In the concrete operational stage, children can think logically about objects that are not present.	✗	They can think logically only about objects that are physically present.
11.	Children in the formal operational stage can think in abstract terms.	✓	
12.	Children in the formal operational stage focus more on the content of an argument than its form.	✗	They are no longer distracted by the content of an argument.

Match the evaluation sentences

Match up the sentences to make three full evaluation points of three sentences each. Fill in the missing information.

5. A weakness of Piaget's theory is that he *underestimated* children's real cognitive abilities.

1. For example, other studies (such as McGarrigle and *Donaldson*) have found that younger children are able to *conserve* number and have less egocentric thinking.

3. This is a weakness because it suggests that some thinking develops *earlier* than Piaget believed.

8. Another *weakness* is that Piaget also sometimes overestimated what children can do.

9. For example, he believed that *abstract* reasoning is possible at age 11, but other studies (e.g. Wason's card task) have shown this is not true.

4. This is a *weakness* because not all children's thinking is as developed as Piaget suggested.

6. One strength is that Piaget was able to show that children's thinking changes with *age*.

7. Piaget was *wrong* about exactly when changes occur, because research shows he over- and underestimated children's abilities – but the differences are real.

2. This is a strength because it means the underlying *principles* of the theory are valid.

Answer for Wason's card task on page 57 is A and 7.

Be thorough

Here is typical 9-mark question: Describe and evaluate the role of Piaget's theory in education. *[9 marks].*
Plan a THOROUGH answer in the table below by responding to the statements in each box.

Suggested answer

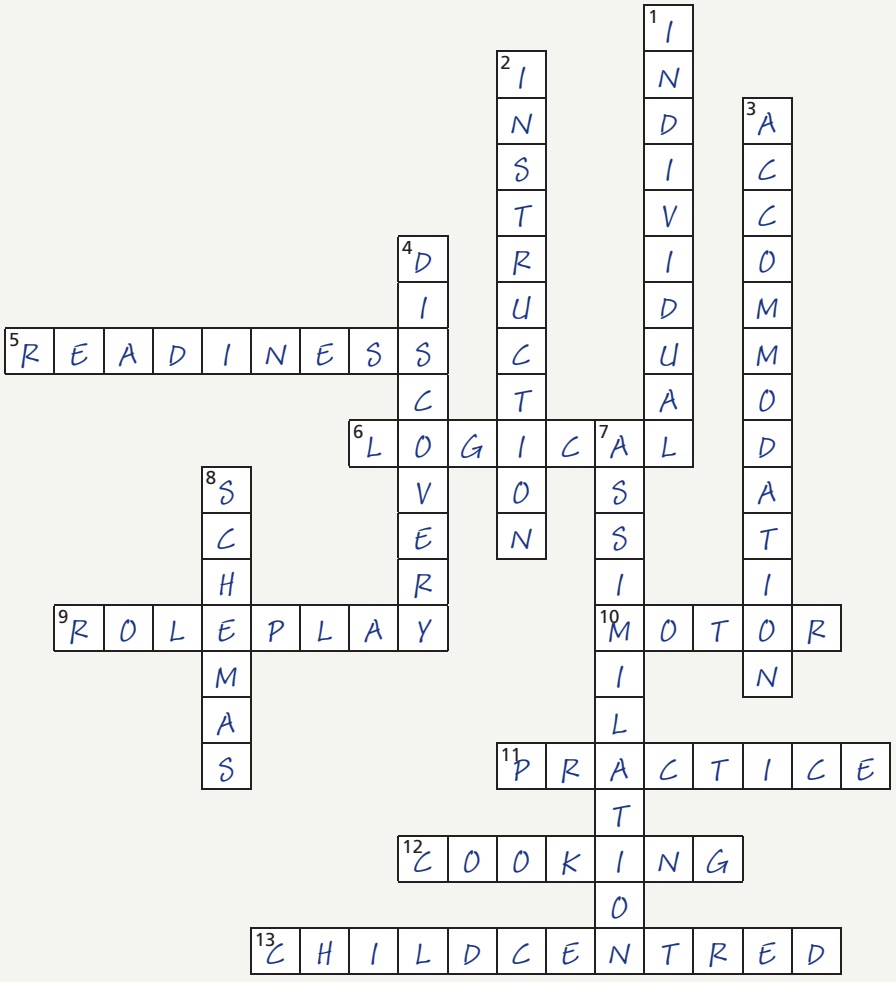
In your own words, summarise the theory in eight sentences, each sentence should have some detail and be about 10 words long.

- *Piaget believed that children have to be biologically and cognitively ready to learn.*
- *Children need to learn independently by discovery rather than learning things 'parrot fashion'.*
- *Teachers should plan lessons to encourage this.*
- *This is partly because children develop cognitively at different rates.*
- *For example, children in the sensorimotor stage should be given a rich and stimulating environment.*
- *In the pre-operational stage, activities such as role play can reduce egocentric thinking.*
- *In the concrete operational stage, children should learn to manipulate physical objects (e.g. in cooking).*
- *Children in the formal operational stage should conduct scientific experiments to promote logical thinking.*

Suggested answer continues on next page

Crossword

Complete the crossword to see how familiar you are with terms relating to the educational applications of Piaget's theories.



DOWN

1. Learning should be tailored to the I_____. (10)
2. Sometimes, direct I_____ is better than discovery learning. (11)
3. One of the ways thinking develops: A_____. (13)
4. The type of learning Piaget was keen on: D_____. (9)
7. The other way thinking develops: A_____. (12)
8. Mental structures are called S_____. (7)

ACROSS

5. Children can't learn until this happens R_____. (9)
6. L_____ thinking develops in the formal operational stage. (7)
9. Teachers could use R_____ P_____ to reduce egocentric thinking in the pre-operational stage. (4,4)
10. M_____ co-ordination develops in the sensorimotor stage. (5)
11. Children don't have to be ready to learn, they can improve through P_____. (8)
12. Good activity for concrete operational stage, C_____. (7)
13. Education became much more C_____ C_____ thanks to Piaget. (5,7)

Continued from previous page

Explain a strength of the theory in three sentences – Point / Example / Conclusion

Point – *Piaget's theory has had a positive effect on teaching and learning in schools.*

Example – *For example, learning includes much more activity than it once did, and the focus of teaching is on the individual child (child-centred).*

Conclusion – *This is a strength of Piaget's theory because it has led to more effective ways of learning that benefit children.*

Explain a weakness of the theory in three sentences – Point / Example / Conclusion

Point – *Piaget's theory suggests that practice should not improve performance.*

Example – *In fact their thinking can develop at an earlier age than expected if they are given enough practice on a task (Bryant and Trabasso).*

Conclusion – *This is a weakness because it suggests that children don't have to be 'ready'.*

Explain a weakness of the theory in three sentences – Point / Example / Conclusion

Point – *Research shows that discovery learning is not always the most effective way to learn.*

Example – *For example, English, maths and reading may be better taught through formal (traditional) methods, according to Bennett.*

Conclusion – *This is a weakness because it suggests that Piaget may have been wrong in encouraging discovery learning in all circumstances.*

Using examples to boost your AO1

Suggested answer

Giving examples is a great way to add detail to your descriptions. In the boxes below, write down definitions of fixed and growth mindsets. Add examples to take your definitions further, including examples of how people with each kind of mindset deal with failure. Try to think of different examples from the ones on the previous page.

	Definition	Example
Fixed mindset	*Believe that skill or talent is something you are born with so there is no point in making much effort to improve.*	*Students who are happy when they are doing unchallenging work because they can be successful at it, but give up at the first obstacle.*
Growth mindset	*Believe that skills and talent are the outcome of hard work and effort, so you are motivated to keep improving.*	*Students who view mistakes as something to learn from that lead to greater success (e.g. in answering exam questions for homework).*
Dealing with failure	*Respond to failure by feeling bad or with a 'couldn't care less' attitude, both of which demotivate them further.*	*Respond to failure by accepting it as a normal part of learning, which can motivate them to try harder.*

AO3 Match up

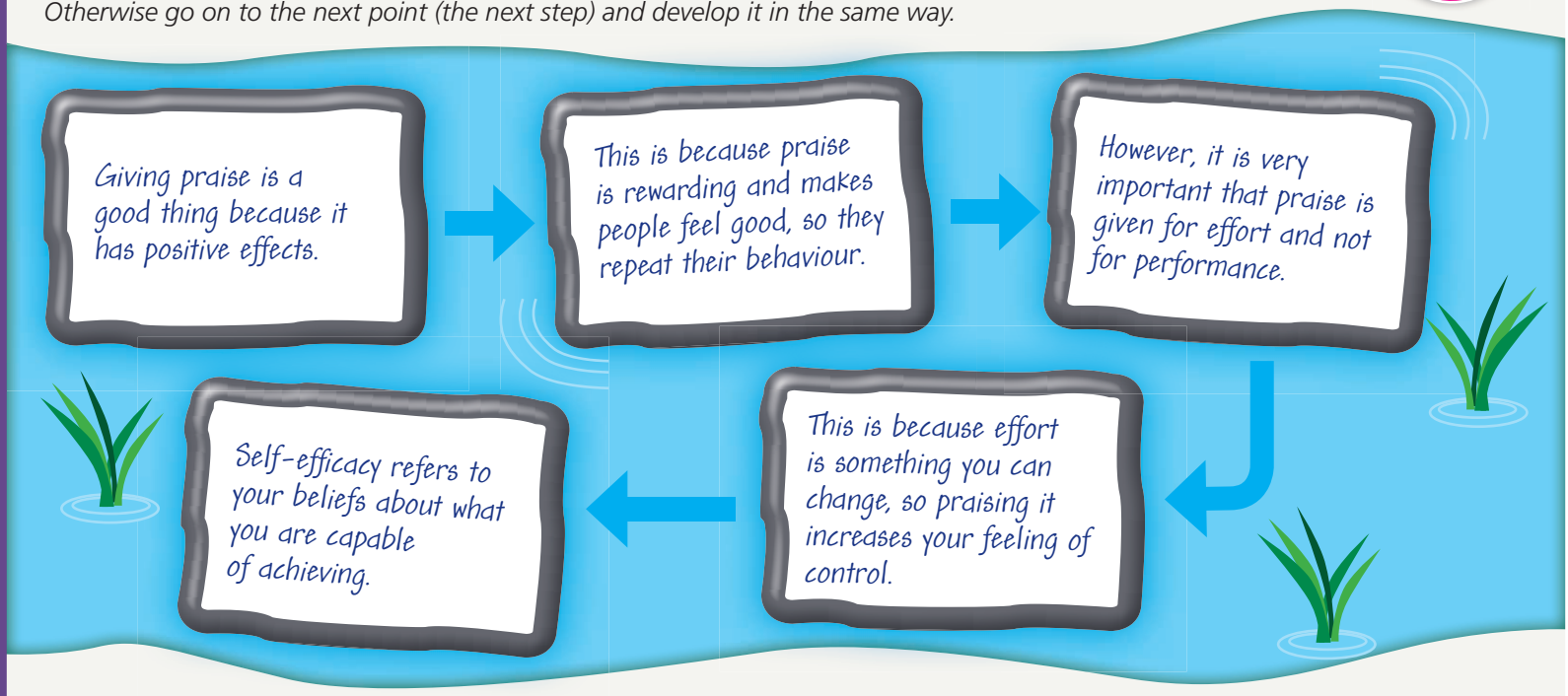
Work out which statements in the first column go with the statements in the second column.

1. Dweck's theory encourages us to praise effort but this can backfire.	**E.** Doing this means that people are still working for the approval of others.
2. Dweck's theory has applications in the real world.	**D.** The concept of mindsets has been used in schools and organisations to improve performance.
3. There is some research evidence that supports Dweck's theory.	**F.** Studies show that a growth mindset can lead to better grades.
4. It is better to teach people to view failure as a lack of effort and not a lack of talent.	**C.** Taking this approach can help motivate people to make greater efforts in the future.
5. A growth mindset is supposed to develop independent behaviour.	**A.** Unfortunately this can have the opposite effect of discouraging the behaviour the theory is trying to promote.
6. Dweck carried out a study to develop a growth mindset in seventh-graders.	**B.** These children achieved more than children who were just taught how to improve their memories.

AO1 – Step-by-step

Let's try and develop your AO1 for this topic step-by-step. Start by writing the basic descriptive point you want to make (in the first step). Then try adding a little bit more detail in the next step – explain what you mean, or use an example to illustrate the point you have made. If there is something else you can add to the point, then do so. Otherwise go on to the next point (the next step) and develop it in the same way.

Suggested answer



Elaborate your evaluation

Don't waste your AO3 points. Make the most of them by elaborating – develop and explain them fully, just like we do in this book. You can do this in this activity by using the trigger phrases to help you construct an evaluation. Try to do this without just copying from the book. The first one has been done for you.

Suggested answer

1. A weakness Praise destroys internal motivation	*Using praise …* … is not always a good thing because sometimes it can backfire.	*Lepper …* … showed this when he found that children who were praised for their performance on a task showed less interest in it.	*This suggests that …* … praise can have the opposite effect to the one intended and be demotivating.
2. A strength *Low self-efficacy can lower performance*	*Support comes from …* *… some research studies into what is known as the stereotype effect.*	*For example, Steele and Aronson …* *… did one study that found lower IQ scores from African-American students when they had to state their race before taking a test.*	*This suggests that …* *… self-efficacy theory is correct, because the students' performance was affected by their expectations.*
3. Another strength *Criticise effort instead of praising performance*	*Understanding rewards …* *… is a strength because it can help to explain the value of praise.*	*For example, Dweck …* *… showed that students who were criticised for their effort performed better on a test than students who were praised.*	*This shows that …* *… praise is effective but it depends on the type of praise given, so we have to understand it better.*

Fake learning styles news

Suggested answer

Here are some fake news headlines for you. You need to rewrite them so they are true statements about learning styles. Once you've done that, explain the headline by writing the first sentence of the imaginary article that would appear underneath it.

Fake news title	Revised 'true' version	The first sentence of the imaginary article
1. Everyone learns in the same way, claim psychologists.	People learn best in different ways, psychologists have shown.	There are three main ways people learn – verbally, visually and kinaesthetically, and people differ in which one they prefer.
2. Verbalisers like visual images, argue teachers.	Verbalisers prefer to learn through words, say teachers.	Verbalisers are people who like to learn by hearing and speaking sounds, and reading and writing words.
3. Verbalisers 'hands on', suggest scientists.	It's kinaesthetic learners who are 'hands on', claim scientists	Kinaesthetic learners prefer to learn through activity, by doing things, physically exploring and manipulating objects.
4. Good evidence for learning styles, say learning styles fans.	Evidence shows learning styles fans wrong.	People might have different learning preferences but these preferences don't improve learning, according to Pashler et al.

You are the teacher

Suggested answer

Imagine you are a teacher for a minute. In each of your classes you have students with different learning styles. You have to plan your lessons so that each learning style is catered for. In this activity you will be delivering a lesson on the contents on this topic. Complete the table by explaining how you would do this for each learning style – what tasks could you set to match the content to the learning styles? Be as specific and detailed as possible.

In the third column, explain why this would help the students with each learning style.

At the end of this activity, evaluate by explaining two reasons why there is probably no need for you to go to all this trouble after all.

Verbaliser	Provide any tasks that involve words, e.g. lectures, presentations, verbal feedback, hearing instructions, group discussions, making notes, reading tasks.	This would help because verbalisers prefer to learn through words – listening to them, speaking, reading and writing them.
Visualiser	Provide tasks that involve visualising the material, e.g. diagrams, flowcharts, charts, mind maps, converting words into pictures, watching demonstrations.	This would help because visualisers prefer to learn through looking at and creating visual images and seeing the spatial relationships between elements.
Kinaesthetic learner	Provide tasks that involve physical movement and manipulation, e.g. standing, touching objects, imitating practical activities.	This would help because kinaesthetic learners prefer to learn through 'hands on' experience of the physical world.
Evaluation	1. The evidence for the effectiveness of learning styles is very weak – most of the evidence is against the idea that matching tasks/activities to different learning styles can improve performance. 2. Even if learning styles did work, there are too many of them to be practical in classroom situations (e.g. Coffield et al. identified 71 types). More than three or four in a classroom would be impossible to manage.	

Willingham word search

There are ten words related to Willingham's learning theory for you to find in the grid below. They could be vertical, horizontal or diagonal (but not backwards).

WILLINGHAM

NEUROSCIENCE

PRAISE

CUES

SELF-REGULATION

BRAINWAVES

MARSHMALLOW

DYSLEXIA

EVIDENCE

EDUCATION

D	S	W	J	P	C	I	J	J	P	O	D	R	Z	Q
H	Y	E	N	I	Z	S	W	D	Y	Q	V	G	I	M
W	E	B	L	E	O	U	A	X	M	L	G	V	E	G
W	I	D	R	F	U	A	E	R	R	S	Q	U	V	Z
K	A	L	U	A	R	R	S	F	A	V	A	D	I	S
D	H	Y	L	C	I	E	O	L	X	N	P	W	D	N
Y	M	J	P	I	A	N	G	S	F	Q	Y	T	E	I
S	H	B	S	R	N	T	W	U	C	H	V	M	N	S
L	Q	U	N	L	A	G	I	A	L	I	T	L	C	J
E	G	I	T	L	C	I	H	O	V	A	E	Y	E	K
X	W	B	Z	Z	V	C	S	A	N	E	T	N	J	Q
I	X	J	S	Y	H	U	O	E	M	D	S	I	C	P
A	T	C	T	Q	Z	E	C	Y	H	S	S	F	O	E
N	W	R	M	H	Y	S	T	U	O	U	Z	X	Z	N
B	G	A	Z	M	A	R	S	H	M	A	L	L	O	W

Visualising Willingham

Suggested answer

Even if there is no evidence for learning styles, there's no doubt visual images can help you to learn. So for this activity, take each element of Willingham's theory and turn it into an image (preferably a memorable one), using the frames below.

Things that your pictures might be related to ...

PRAISE	MEMORY	SELF-REGULATION	NEUROSCIENCE
Surprise! Praise is more effective if it is unexpected.	*We remember better if we have the right cues. Practise recalling stuff.*	*Marshmallow test! Controlling your own behaviour helps you achieve.*	*Brain waves differ between people with and without dyslexia.*

Give the IV and DV

Suggested answer

Here are some hypotheses for potential psychology studies. Write down the levels of the IV and DV as precisely as possible (don't just repeat the wording in the hypothesis where you can avoid it). We have done the first two for you.

	IV	DV
1. Drug A affects memory.	Presence or absence of Drug A.	Amount remembered.
2. Bulls charge more often when presented with a red rag than when presented with a blue rag.	Whether a red rag or a blue rag is shown.	Number of charges.
3. First children learn to speak earlier than second children.	*Birth position in family – first or second.*	*Age at which first word spoken.*
4. Men drive faster than women.	*Gender – male or female.*	*Speed of driving.*
5. Lack of sleep affects learning in ten-year-old boys.	*8 hours or 6 hours sleep.*	*Number of items remembered.*
6. A baby under eight months of age will not search for a hidden object.	*Age of baby, under or over eight months.*	*Whether or not searching occurs.*
7. Social class affects IQ scores.	*Middle class or working class.*	*Score on IQ test.*
8. Time of day affects alertness.	*Morning or afternoon.*	*Level of alertness.*
9. People learn fewer words in silent conditions than in noisy ones.	*Whether conditions are silent or noisy.*	*Number of words learned.*
10. Handled rats learn a maze faster than do non-handled rats.	*Whether rats are handled or not handled.*	*Time taken to learn a maze.*

Directional or non-directional?

Suggested answer

Here are some hypotheses – some are directional and some non-directional. Identify which is which. To extend this activity, rewrite the directional hypotheses to make them non-directional (and the non-directional ones to make them directional).

Hypothesis	D or ND?	Rewrite
1. Alcohol affects reaction time.	*ND*	*People who drink more alcohol have a slower reaction time than people who drink less.*
2. Men who have beards are perceived as older than clean-shaven men.	*D*	*Having a beard affects how old men are perceived to be.*
3. Boys are more aggressive than girls.	*D*	*There is a difference between boys and girls in how aggressive they are.*
4. Watching tropical fish helps you relax.	*D*	*Watching tropical fish has an effect on relaxation.*
5. The faster you type, the more mistakes you make.	*D*	*The number of mistakes you make is affected by your typing speed.*
6. Individuals are more likely to conform when in groups of five than when in pairs.	*D*	*There is a difference in conformity level between groups of five people and groups of two people.*
7. Anxiety affects the level of adrenaline in the blood.	*ND*	*People who have high anxiety levels have more adrenaline in their blood than people with lower anxiety levels.*
8. People's running speed will be affected by whether or not they have an audience.	*ND*	*People will run faster when they have an audience than when they do not.*
9. Wearing make-up has an effect on how attractive a person is rated to be.	*ND*	*People wearing make-up will be rated as less attractive than people not wearing make-up.*

True or false?

What do you know about experiments? Find out by identifying which of the following statements are true and which are false. For the false ones, write them so that they are true (and briefly explain why).

Suggested answer

		True or false?	
1.	Experiments usually produce qualitative data.	✗	*They usually produce quantitative data.*
2.	All experiments have an IV and DV.	✓	
3.	Laboratory experiments are not very good at controlling extraneous variables.	✗	*Laboratory experiments are the best type of experiment for controlling variables because of the environment.*
4.	It is easier to replicate a field experiment than a laboratory experiment.	✗	*It is easier to replicate a laboratory experiment because procedures are more likely to be controlled.*
5.	It is easier to generalise results from a laboratory experiment than a field experiment.	✗	*It is generally harder to generalise results from a laboratory experiment because participants are aware they are being studied.*
6.	The experimenter manipulates the IV in a field experiment.	✓	
7.	It is harder to show cause-and-effect in a laboratory experiment than a field experiment.	✗	*It is easier in a laboratory experiment because extraneous variables are easier to control and don't affect the DV.*
8.	Participants always give their informed consent in field experiments.	✗	*They do not always give consent because sometimes they may not be aware they are taking part.*
9.	Natural experiments always take place in real-life situations.	✗	*Not always because they often take place in the laboratory.*
10.	The most commonly used type of experiment in psychology is the natural experiment.	✗	*The most commonly used type is laboratory because it is easier to organise.*

What's the difference?

There are three types of experiment and they have some important differences. But what are they? There are four features identified in the table. Briefly explain how each one applies to the types of experiment indicated. Then finally explain what the difference is between the two (that's the hard bit).

Suggested answer

1. Allocation to conditions	In a lab experiment … *the researcher can allocate participants randomly to the conditions of the IV.*	In a natural experiment … *the IV occurs anyway so the researcher cannot allocate participants to conditions.*	So the difference is … *the researcher has no control over participant variables in a natural experiment.*
2. Control of EVs	In a lab experiment … *the experimenter generally has a high level of control over all variables.*	In a field experiment … *the researcher may be able to control some EVs but not others.*	So the difference is … *the amount of control over EVs which affects validity.*
3. Standardised procedures	In a field experiment … *the researcher can use some standardised procedures.*	In a natural experiment … *procedures can be highly standardised when the experiment takes place in a lab.*	So the difference is … *the researcher can have more control over procedures in a natural experiment.*
4. Replication	In a lab experiment … *the researcher can replicate the study because procedures are highly standardised in a controlled setting.*	In a field experiment … *the researcher can replicate some aspects of the study because only some procedures can be standardised in a real-life situation.*	So the difference is … *it is easier to replicate a laboratory experiment than a field experiment.*

Four-column match-up

Match up the statements across the four columns.

Independent groups	(3) Different groups of participants for each level of the IV.	(8) Participant variables are a problem.	(11) A solution to this problem is random allocation to conditions.
Repeated measures	(1) All participants carry out both conditions of the IV.	(7) This design uses the fewest participants.	(12) Each participant acts as their own 'control'.
Matched pairs	(4) Researcher identifies relevant variables that could affect the DV.	(6) Each participant is 'linked' to another across both conditions.	(9) This design involves the most time and effort.
Order effects	(2) A problem with repeated measures.	(5) An example of this problem is a practice effect.	(10) Solved by counterbalancing.

Which would you choose?

For each of the studies in the table, decide which experimental design would be used – independent groups, repeated measures or matched pairs. Then briefly explain why. Sometimes more than one design might be appropriate – it all depends on your explanation.

Suggested answer

A study to …	Which would you choose?	Why?
1. … see if there is a difference in the ability of grey and white rats in learning to run a maze.	*Independent groups*	*Two separate groups of rats – grey and white.*
2. … investigate whether a twin born first is more confident than a second-born twin.	*Matched pairs*	*Twins are 'natural' matched pairs.*
3. … see if watching violent television programmes is likely to make children aggressive.	*Repeated measures or independent groups or matched pairs*	*Involves testing same group of children before and after watching violent TV to assess change in behaviour.* *Or compare two groups of children, one watches violent programmes and the other watches non-violent.* *They could be matched.*
4. … investigate whether people are more likely to make a risky decision when they are in a group than when they are alone.	*Repeated measures or independent groups or matched pairs*	*Same group of people tested on their own and then tested again in a group.* *Test one set of participants alone and one in groups.* *They could be matched.*
5. … assess the effectiveness of a treatment for fear of spiders, comparing a treatment group with a non-treatment group.	*Independent groups or matched pairs*	*Two separate groups of people – either getting treatment or not.* *Would be matched pairs if needed to match participants on relevant variables (e.g. severity of fear).*
6. … see if the sex of a child affects how much rough and tumble play they engage in.	*Independent groups*	*Children will be either male or female – two groups.*
7. … assess whether CBT or antidepressant medication is a more effective treatment for depression.	*Independent groups or matched pairs (or repeated measures)*	*Two separate groups of people – getting CBT or antidepressant medication.* *Again, matched pairs if matching participants on relevant variables such as severity (or gender, etc.).* *(At a stretch this could be repeated measures if some people had CBT first and others had antidepressant medication first, to act as a counterbalance.)*
8. … see if a list of words organised into categories is better recalled than a list of randomly arranged words.	*Independent groups or repeated measures or matched pairs*	*Two separate groups given either categorised words and random words.* *They could be matched.* *Would be repeated measures if same group did both lists – but then you would need two different lists with different words to avoid practice effect.*
9. … investigate whether students are more alert in the morning or the afternoon.	*Independent groups or repeated measures or matched pairs*	*Could compare two separate groups – one being tested in the morning and one in the afternoon.* *They could be matched.* *Would be repeated measures if testing the same students twice – but then order effects a real problem.*

Sampling methods wordsearch

There are ten words related to sampling methods for you to find in the grid below. They could be vertical, horizontal or diagonal (but not backwards).

POPULATION

SAMPLE

BIAS

REPRESENTATIVE

GENERALISATION

RANDOM

OPPORTUNITY

SYSTEMATIC

STRATIFIED

PROPORTION

W	Y	D	W	M	B	J	P	S	G	A	F	P	U	Q
C	W	A	O	Y	G	F	O	R	I	J	W	S	T	U
R	E	P	R	E	S	E	N	T	A	T	I	V	E	Y
R	U	L	T	L	M	T	C	G	L	L	K	P	R	S
B	S	Q	P	R	O	P	O	R	T	I	O	N	N	Y
I	A	P	O	P	P	O	R	T	U	N	I	T	Y	S
A	M	A	O	M	M	I	S	M	V	G	J	R	W	T
S	P	R	N	P	D	O	F	E	I	W	E	D	Y	E
T	L	A	K	Z	U	B	I	B	E	L	G	P	D	M
G	E	N	E	R	A	L	I	S	A	T	I	O	N	A
F	S	D	S	V	K	H	A	F	W	M	T	G	N	T
C	V	O	M	N	Y	K	N	T	T	X	C	Z	M	I
W	Z	M	K	S	T	R	A	T	I	F	I	E	D	C
T	I	N	P	E	P	I	Q	H	I	O	C	W	X	J
T	G	K	P	W	Z	X	G	R	E	C	N	E	X	H

Draw your sample (geddit?!)

Suggested answer

Drawing a picture is a really good way of helping you to remember the different sampling methods. Think about the main features of each method, and then have a go at illustrating them with a picture.

Another good way to remember something is to create a mnemonic – something that helps memory. Take the first letter of each method – R O S S – and try to create a memorable sentence of four words. Here's a suggestion: Really Orange Satsumas Stink. But you can do much better than that (make it rude – it usually helps).

Things that your pictures might be related to ...

RANDOM	OPPORTUNITY	SYSTEMATIC	STRATIFIED
Every member of the target population has an equal chance of being selected.	The researcher approaches anyone who happens to be around at that time and in that place.	The researcher selects every nth (10th, 5th, 100th, whatever) name from a list of the target population.	The target population is divided into subgroups ('strata') before a sample is randomly selected from each.

Broken ethics

Below are some sentences about the ethical considerations in psychology. They have become broken and muddled up, but you can put them back together again by matching the first half of each sentence in the left-hand column with the second half in the right-hand column.

1. Ethical issues arise because …	**J** … there is a conflict between participants' well-being and researchers' desire for useful findings.
2. Getting informed consent from participants means …	**F.** … giving them important information at the start of the study.
3. Even if participants consent to take part …	**A.** … they have the right to withdraw at any time.
4. It is ethically acceptable to deceive participants …	**H.** … as long as the benefits of the study justify it.
5. Protecting participants from physical and psychological harm includes …	**C.** … avoiding causing them stress and embarrassment.
6. Participants can be observed in some public places but …	**I.** … they also have a right to privacy.
7. The data provided by participants should be …	**E.** … protected and kept confidential.
8. The British Psychological Society …	**G.** … produces a code of conduct for psychologists in the UK.
9. Getting participants to sign a form at the start of the study …	**D.** … is one way of dealing with the issue of consent.
10. If participants are deceived …	**B.** … they should be fully debriefed at the end of the study.

Ethical mnemonic

There are a few ethical issues for you to remember, so this is an ideal topic for a mnemonic. The first table helps you to do this. Take the first letter of each issue and create a memorable sentence (or change the order if it helps).

Then have a go at the mini quiz below the first table.

Suggested answer

Consent	**C**	*Cloudy*
Deception	**D**	*Demons*
Protection	**P**	*Prefer*
Privacy	**P**	*Phallic*
Confidentiality	**C**	*Cushions*

Memorable sentence is:

Cloudy demons prefer phallic cushions

Give two ways to …	
… get consent.	*1. Participants sign a form at the start of the study.* *2. They sign a form at the end of the study (retrospective).*
… protect participants from harm.	*1. Remind them of their right to withdraw (themselves and their data).* *2. Provide full debriefing (and counselling if necessary).*
… ensure confidentiality.	*1. Keep data safe.* *2. Keep data anonymous – always use numbers instead of names.*

Self-report anagrams

Here are nine anagrams of words related to this topic. There are some clues to help you if you need them.

1.	UNCUREDSTRUT NEWERVISIT	UNSTRUCTURED INTERVIEWS	Interviewer has a general aim but not many prepared questions.
2.	MIES-DUSTRRECTU	SEMI-STRUCTURED	A combination of of two kinds of interview.
3.	THISGIN	INSIGHT	Interviews provide _____ into thoughts and feelings.
4.	SIEVENITS	SENSITIVE	If the topic is _____, an interview could be a problem.
5.	SENORITASEQUIN	QUESTIONNAIRES	A self-report method that isn't an interview.
6.	NOPE NOSEQUITS	OPEN QUESTIONS	People can answer these as they wish.
7.	QUIETLATVIA	QUALITATIVE	The kind of data produced when people express themselves in words.
8.	EASINGLIERATONS	GENERALISATIONS	These are possible because questionnaires are sent out to many people.
9.	OILSAC BIRDIESITALY	SOCIAL DESIRABILITY	When people give you the answers they think make them look good.

Which is best?

First of all, identify a similarity and a difference between interviews and questionnaires, following the headings in the table (you can use a structured or unstructured interview).

Then explain which method would be best to use in the scenarios provided below.

Suggested answer

An interview … *asks questions that require people to respond on a scale (e.g. from 1 to 10) – this is a structured interview.*	A questionnaire … *asks people to tick boxes, circle points on a scale, choose between a limited number of responses (closed questions).*	So the similarity is … *They both may collect quantitative data.* *They are both self-report methods of collecting data.*
An interview … *asks people to talk about their thoughts and feelings.* *… can be adapted after the participant gives an answer.*	A questionnaire … *asks people to write down responses about their thoughts and feelings.* *… has a fixed set of questions.*	So the difference is … *One involves saying answers out loud where the other is in written form.* *Interviews are more adaptable than questionnaires.*

Scenario	*Interview or questionnaire?*	*Why?*
Finding out the difference in moral attitudes between males and females.	*Questionnaire*	*This could be seen as quite a sensitive issue which people might prefer to respond to anonymously on paper rather than in a face-to-face interview.*
Comparing the weekly average calorie intake for teenagers and over 60s.	*Questionnaire*	*A questionnaire would provide a lot more data for the researcher to analyse than interviews.*
Collecting eyewitness testimony following an accident in school.	*Interview*	*The interviewer can use follow-up questions to clarify or get more information, which can't be done with a questionnaire – could be crucial in this situation.*

Put it right

The passage below is a description of the observation method. Unfortunately, eight mistakes have crept into it. Your task is to identify the errors and correct them.

In an observation study a researcher watches or listens to participants and records data. There are several different types of observation.

For example, ~~artificial~~ naturalistic observation takes place in a situation where the behaviour being observed would normally occur. The observer makes ~~an~~ no attempt to alter the environment. On the other hand, ~~Milgram's~~ Zimbardo's prison study is an example of a controlled observation.

In ~~overt~~ covert observation, participants are not aware they are being observed and their behaviour ~~ignored~~ recorded. But in ~~covert~~ overt observation, participants know in advance they are being observed.

In participant observation, the observer is ~~not~~ part of the group she or he is studying. The participants might know this (overt) or they might not (covert). In non-participant observation the researcher stays apart from the people they are studying.

The observer breaks target behaviour down into ~~participants~~ categories. These must be observable and obvious with no overlap so the behaviour can be counted each time it happens.

Observe the differences

For each observational study in the table, indicate what type you think it is.
But beware, for each study there are actually three answers (for example it could be non-participant, controlled and covert). Give a brief explanation of your response.

Suggested answer

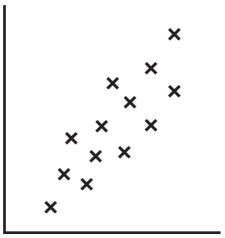
Study	Type(s)?	Why?
1. A researcher secretly joins a religious cult to see if people are being brainwashed.	Participant, naturalistic and covert.	The researcher is part of the group, in their usual situations, but they don't know s/he's a researcher.
2. A researcher watches primary school children in a special playroom with the same toys each time through a two-way mirror to investigate co-operation.	Non-participant, controlled and covert.	The researcher is apart from the children, it's in a controlled environment and the children can't see him/her.
3. A psychologist observes the crowd at a football match using footage from CCTV recordings. These were recorded by cameras that were obvious to the people in the crowd.	Non-participant, naturalistic and overt.	The psychologist was never part of the crowd, the situation is not controlled/it is the fans' usual surroundings and the fans are aware of the CCTV cameras.
4. A researcher observes student behaviour in class by enrolling on a psychology degree course and pretending to be a mature student.	Participant, naturalistic and covert.	The researcher joins in with the students, in 'natural' or usual situations but they don't know his/her real purpose.
5. The head of a psychology department observes an A level class by watching the lesson at an agreed time, sitting at the back of the room.	Non-participant, naturalistic and overt.	If the head does not join in, then it is non-participant (otherwise participant). It is a 'natural' situation for the students, and they know s/he is there.
6. With the permission of the headteacher, two psychologists observe children in a local school playground, to measure the time they spent in various play activities.	Non-participant, naturalistic and covert.	The psychologists are apart from the children, it is not a controlled situation and the children do not know they are being observed.

Positive or negative?

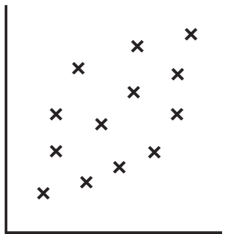
Can you tell the difference between a positive and a negative correlation? Identify which is which in the table below left. In the space on the right, roughly sketch four scattergrams as indicated in the boxes.

	Positive or negative
1. The hotter the temperature, the fewer clothes people wear.	*Negative*
2. The fewer sweets you eat, the fewer fillings you have.	*Positive*
3. The more people exercise, the less their risk of heart disease.	*Negative*
4. The fewer hours of daylight, the more depressed people there are.	*Negative*
5. The more anxious students are, the worse they do in exams.	*Negative*
6. The more hungry you are, the more attractive food looks.	*Positive*

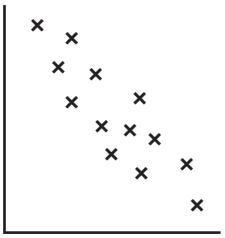
Strong positive



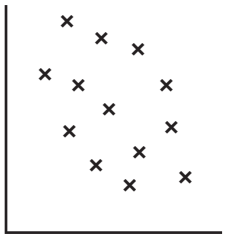
Weak positive



Strong negative



Weak negative



The big fight: Experiments vs Correlations

Suggested answer

Students sometimes get experiments and correlation studies mixed up, but it is important to know the difference. So for each study below, decide whether it is an experiment or a correlation, and give a brief explanation of your choice.

Study	Experiment or correlation?	Why?
1. A psychologist investigated the relationship between spatial awareness and driving skill in sixth-form students. Each student gave scores on a spatial awareness test and a rally-driving computer game.	*Correlation*	*Each student provides two scores which can be correlated to see if there is a relationship between them.*
2. A study investigated whether men or women are better at remembering mobile phone numbers.	*Experiment*	*This is a 'comparison study' looking at a difference between two groups of people.*
3. Some students conducted a study to investigate whether finding a romantic partner through a social network site is more successful than finding one through a 'lonely hearts' column of a local newspaper.	*Experiment*	*Another comparison is being made here between two conditions of a variable (social network site and lonely hearts column).*
4. A psychologist tested the hypothesis that 'the number of times people attend the cinema in a year is related to performance on a questionnaire about film knowledge'.	*Correlation*	*The psychologist measured two variables, getting two 'scores' from each participant that s/he then correlated.*
5. A researcher conducted a study to see if time of day affects ability to remember.	*Experiment*	*Students' ability to remember would be compared between morning and afternoon (for example) to see if there is a difference.*
6. A psychologist looked at how people's mood affected how long they chatted to the checkout operator in a shop. Previous research showed that people in a good mood chat longer than people in a bad mood.	*Experiment or Correlation*	*This is about a difference between feeling in a good or bad mood and the effect it has on chat time. Or could do a correlation if you had a mood score.*

Fill in the blanks

Fill in the blanks in the following description of case studies. The words are given below if you get stuck, but try and do the activity without them first.

A case study is an in-depth investigation of a single *person*, group, event or organisation. It is flexible because it can be used to study people going through *everyday* experiences, someone who is *unusual* or an unexpected event.

Case studies produce mostly *qualitative* data because people express their experiences in words. They often include *interviews* with the individual and/or their family and friends. However, it is possible to collect quantitative data, for example by using *questionnaires* or tests.

An unusual feature of case studies is that they are often *longitudinal*. This means they take place over a period of time, sometimes many years. Therefore they are ideal for studying the processes of *development* and change.

One strength of case studies is that they often do not have a specific *aim* so are flexible. However, a weakness is that the focus on one person makes it hard to *generalise* findings to the wider population.

longitudinal interviews questionnaires person unusual generalise everyday qualitative development aim

Strengths and weaknesses trigger phrases

Here are some 'trigger' phrases related to the strengths and weaknesses of case studies. The first thing to do is decide which phrases go together by putting them into pairs in the table. Then write a sentence explaining each pair of statements (or giving an example) without looking at your notes or elsewhere on the previous page.

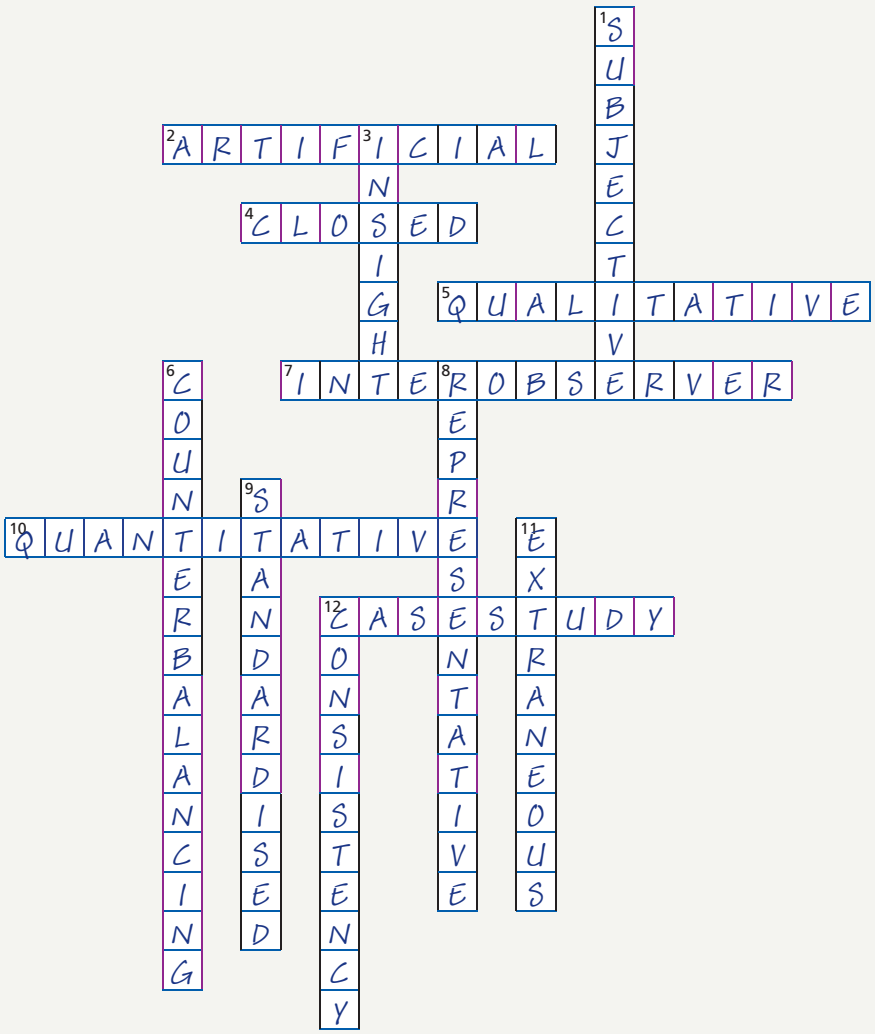
6. No specific aim.	3. Researcher is more open-minded.	Researcher can be flexible and not tied by what they hope to find out – increases validity.
8. Can study rare behaviour.	5. Good for when experiment can't be used.	Gives more insight into behaviour that cannot be studied using other methods.
4. Just one person, event, etc.	1. Hard to generalise findings.	May not tell us about people, events, etc., beyond the one in the study – reduces validity.
2. Researcher is subjective.	7. Open to bias.	Researcher's interpretation of the case may not be accurate – conclusions lack validity.

Suggested answer

1. Hard to generalise findings.
2. Researcher is subjective.
3. Researcher is more open-minded.
4. Just one person, event, etc.
5. Good for when experiment can't be used.
6. No specific aim.
7. Open to bias.
8. Can study rare behaviour.

Crossword time

Complete the crossword to see how familiar you are with terms relating to reliability and validity.



DOWN

1. Case studies rely on S_____ interpretation. (10)
3. Case studies give us I_____. (7)
6. A solution to order effects, C_____. (16)
8. Samples are more valid if they are R_____ of the population. (14)
9. Procedures are more reliable when they are S_____. (12)
11. These uncontrolled variables reduce validity of field experiments, E_____. (10)
12. This is another word for reliability, C_____. (11)

ACROSS

2. A_____ tasks reduce validity. (10)
4. This type of question is quite reliable, C_____. (6)
5. Methods producing Q_____ data are less reliable. (11)
7. The kind of reliability you need with two people watching, I_____. (13)
10. Methods producing Q_____ data tend to be more reliable. (12)
12. A method that investigates a single person/event, C_____ S_____. (4,5)

Reliability instant messaging

Two students are having an instant messaging conversation about the finer points of reliability. Some of the conversation has gone missing, but fortunately you are on hand to fill in the gaps. [You can have a similar conversation about validity.]

Three-column match-up

Link the terms in the left-hand column to the statements in columns 2 and 3.

Quantitative data	(3) Usually in the form of numbers.	(8) Relatively easy to analyse, convert to graphs and use to compare groups.
Qualitative data	(1) Produced when people use their own words to express their thoughts and feelings.	(5) Difficult to analyse and summarise, leaving room for subjective interpretation.
Primary data	(4) First-hand data obtained by research specifically for the project/study.	(6) The kind of data that exactly matches the aims of a study.
Secondary data	(2) From sources such as other research studies and government publications.	(7) Convenient because it has already been checked/ verified by someone else.

One to another

Do you know the differences between quantitative and qualitative data?
Find out by reading the descriptions below of data collected in six studies.
For each study identify the type of data collected.
Then suggest what data could be collected instead.

Suggested answer

Data description	Quantitative or qualitative data?	How could the other kind of data be collected instead?
1. Steve is interested in the career ambitions of his classmates. He asks them to discuss what jobs they might like to do and why.	*Qualitative*	*He could list various jobs and ask everyone to tick the jobs they would like to do. Therefore he would have a numerical figure for each job.*
2. In a study of attractiveness, Harsa asks what qualities (such as kindness) make you fancy someone.	*Qualitative*	*She could provide a list of qualities and ask her participants to rate each one on a scale of 1 to 10.*
3. On a questionnaire Alistair asks how many people go to the cinema more than once a week.	*Quantitative*	*He could use open questions to ask people to explain the reasons why they go to the cinema.*
4. Jon loves football but thinks it has a bad reputation. He asks his classmates for their opinion of players' behaviour on the pitch.	*Qualitative*	*He could ask his classmates closed questions about specific behaviours, for example 'What do you think of diving as a sport?' Each time Jon could provide a fixed set of responses.*
5. Lucy counts how many items on a conveyor belt people can remember.	*Quantitative*	*She could interview people and ask them to describe the methods they use to try to remember things.*
6. During her work placement at a nursery, Ellie counts the number of boys and girls who play with building blocks.	*Quantitative*	*Ellie could instead observe the children and keep a note of the type of things boys and girls construct (cars, buildings, etc.).*

Descriptive statistics unjumble

There is some useful information about descriptive statistics in the following sentences, but it has become jumbled up. Put the sentences together correctly (the first half is in the first column, the second half is in the second column).

1. The range tells us …	**D.** … how spread out (or close together) the data are.
2. The range is calculated by …	**C.** … subtracting the lowest score from the highest.
3. The term average is …	**H** … another term for measure of central tendency.
4. A strength of the mean is that it is …	**A.** … the most sensitive measure because it uses all the data values.
5. A strength of the median is that it is …	**G.** … relatively unaffected by extreme scores.
6. The mode is …	**E.** … the most common score in a set of data.
7. The name given to a symmetrical bell-shaped curve is …	**F.** … the normal distribution.
8. The type of graph where the bars could be placed in any order is …	**B.** … a bar chart.

Right or wrong?

Indicate which of Rudi's and Trudi's decisions (in italics) are right and which are wrong. Briefly explain your responses in the third column.

Suggested answer

1. Rudi gave a memory test to ten of his friends. Their scores were 4, 6, 7, 10, 11, 14, 16, 17, 17, 20 *He calculated a mean score of 12.2.*	Right	All the scores added together = 122 and divided by 10.
2. *He also calculated the mode to be 16.*	Wrong	The mode is 17.
3. *He calculated the median as 11.*	Wrong	The median is (11 + 14) / 2 = 12.5.
4. *Finally Rudi calculated the range as 16.*	Right	20 – 4 = 16.
5. Rudi wondered which graph would be best to display his results. *He decided on a scatter diagram.*	Wrong	This is not a correlation. The best choice would be a histogram because test scores are continuous.
6. Trudi tested the cognitive development of 100 children of different ages. *She found that 22 were at the sensorimotor stage of development, 46 were at the preoperational stage, 24 were at the concrete operational stage, and 8 were at the formal operational stage.* She wondered what size of frequency table to use to display her results. *She chose a table 1 row by 4 columns.*	Wrong	There are 4 categories – the different stages of cognitive development. But you also need a row for the names of the stages.
7. She also thought about which graph would be best to present the figures. *She decided on a bar chart.*	Right	The data are in the form of frequencies and the stages are categories, so not continuous.

Sensorimotor	Preoperational	Concrete operational	Formal operational
22	46	24	6

Maths quiz

1. Express a quarter as a percentage.	25%
2. Convert 0.65 to a fraction.	65/100 = 13/20
3. What was the highest common factor to use for the previous question?	5
4. In a study, 14 participants are women and 26 are men. Express the proportion of women to men as a ratio (suitably reduced).	14 : 26 7 : 13
5. In the study above, what fraction of the total participants are men?	26/40 = 13/20
6. In a study to investigate the capacity of short-term memory, six participants remembered 7 words, three remembered 6 words and one remembered 9. What is the mean number of words remembered?	6 x 7 + 3 x 6 + 9 = 69 6 + 3 + 1 = 10 The mean is 69/10 = 6.9
7. Jon recorded the ratio of black to white mice in his study as 6:2. Reduce this ratio.	3 : 1
8. Round off the following numbers to 2 significant figures: **a)** 6.459 **b)** 0.00186 **c)** 38,755	(a) 6.5 (b) 0.0019 (c) 39,000
9. Asif's scores showed a normal distribution. Was the mode higher or lower than the mean or the same as it?	Same
10. What is the range of the following numbers? 10, 12, 12, 14, 16, 27, 28, 36, 39, 41, 45, 49, 52	52 – 10 = 42
11. In a survey, Sabiha asked a group of participants to classify themselves as being from one of 5 regions of the country. What measure of central tendency should she use with this information?	Mode
12. A health psychologist collected data on the number of calories eaten by participants. She expressed these in blocks of 0-499, 500-999, etc. What type of graph should she use?	Histogram (because the x axis would be continuous data).

Computation true or false?

Indicate which of the statements in italics are true and which are false. For the false statements, give the correct answer.

Suggested answer

		True or false?	
1.	75% of people are on Facebook. So ¾ of people are on Facebook.	✓	
2.	In a study of perception: 65% of the participants said their favourite visual illusion was the Ponzo illusion, 15% said it was the Müller-Lyer, the rest said it was Rubin's vase. So one-third (1/3) said their favourite was Rubin's vase.	✗	20% or one-fifth (1/5) said it was Rubin's vase.
3.	The ratio of men to women in a care home is 1:3. There are 16 men. So there are 32 women.	✗	This ratio would be 1:2. A 1:3 ratio would mean there were three times as many women, 48 women.
4.	A rat ran a maze in exactly 27.696 seconds. Another ran it in 22.385 seconds. So the difference between them is 5.3 seconds to two significant figures.	✓	27.696–22.385 = 5.311 5.3 to two significant figures
5.	There could be 86,000,000,000 neurons in the human brain. So this is 8.6×10^8 neurons.	✗	It is 8.6×10^{10}.

Classic study mix-up

Suggested answer

Exam style question: Describe Asch's study of conformity. *[6 marks]*

Here are some sentences relating to Asch's study. They could be useful to answer the exam-type question above, but they have become mixed up.

Put the numbers of the sentences in the right boxes below, in the order that makes the most sense.

Aim	Method	Results	Conclusion
4	10, 5, 1, 12, 7, 6, 9	2, 11	8, 3

1. Each group included just one genuine participant – the others were all confederates.

2. Genuine participants gave the wrong answer 1/3rd of the time on the critical trials.

3. As most participants did not conform most of the time, there was also a high level of independent behaviour.

4. Asch wanted to investigate participants' responses in an unambiguous situation.

5. The participants were tested in groups of between seven and nine people.

6. Each participant had to choose the comparison line that matched the length of the standard line.

7. One card showed a standard line and the other card showed three comparison lines.

8. The findings show that people are influenced to conform to the majority by group pressures.

9. 12 of the 18 trials were critical – confederates all chose the same incorrect line.

10. The participants were 123 American male students.

11. 25% of the participants never agreed with the confederates.

12. Each group was shown two cards alongside each other.

Elaborate your evaluation

Suggested answer

Make the most of your AO3 points by elaborating them – extend, develop and explain them thoroughly, just like we do in this book. Use the trigger phrases in the table below to help you construct an elaborated evaluation of Asch's study.

One weakness	Asch's study is called a 'child of its time' because … *the findings reflected conformity in 1950s America.*	For example, when Perrin and Spencer replicated the procedure … *they found just one example of conformity in 396 trials in UK participants in 1980.*	This suggests that … *the conformity effect that Asch found is not consistent over historical time.*
Another weakness	Asch's participants had to … *perform a trivial task (judge the length of a line) in a group of strangers.*	This is artificial because … *the task and situation do not reflect everyday life conformity experiences.*	This means that … *the findings do not explain conformity in serious real-world situations.*
A further weakness	Asch's research only applies to one type of culture because … *it was conducted in an individualist culture (the USA) and not a collectivist one.*	For example, other studies in collectivist cultures (China) … *have produced higher conformity rates than Asch found (Bond and Smith).*	This suggests that … *we cannot generalise Asch's findings to collectivist cultures.*

Fill in the AO1

Fill in the blanks in the following description of social and dispositional factors in conformity. The words are given below if you get stuck, but try and do the activity without them first.

One social factor affecting conformity is group size. The bigger the group, the *more* pressure there is on the individual to conform. For example, in Asch's study conformity was *13.6%* when there were two confederates. When there were three confederates conformity was *31.8%*. Having more than *three* confederates made little difference to the conformity rate.

A second social factor is *anonymity*. For example, when participants were allowed to write their answers down, conformity was *lower*.

A third social factor is *task* difficulty. Asch found that conformity *increased* when he made the comparison lines more similar to the standard line.

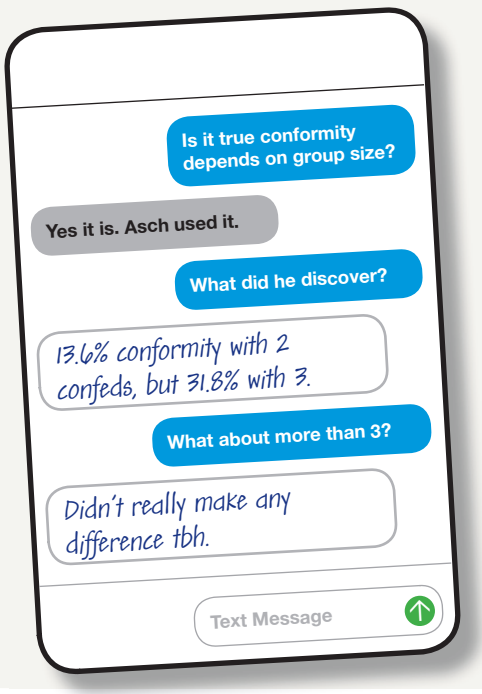
One dispositional factor is personality. For example, *internal* locus of control is linked to *lower* conformity. Burger and *Cooper* asked participants to rate cartoons. They found that participants who were internals disagreed with a *confederate's* ratings.

Another dispositional factor is *expertise*. People who have more knowledge are usually *less* likely to conform. Lucas *et al*. found that maths experts did not conform to other people's answers to maths problems.

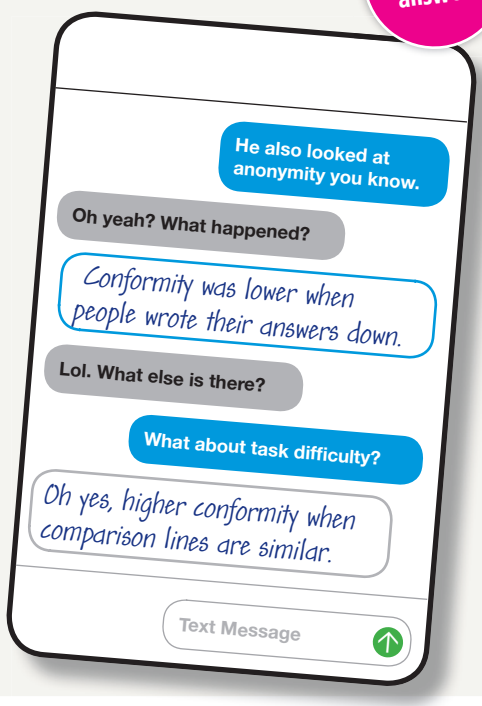
task
internal
lower
less
31.8%
more
anonymity
confederate's
13.6%
expertise
increased
three
lower
Cooper

Instant messaging evaluation

Two students are having an instant messaging conversation about factors affecting conformity. There are some gaps in the conversation which you can fill in.



Suggested answer



Milgram true or false

In the table are some sentences about Milgram's study. In the middle column indicate which you think are true and which are false. For each false statement, write down the true version in the third column.

Suggested answer

		True or false?	
1.	Milgram wanted to investigate conformity to the majority.	✗	He wanted to investigate obedience to authority.
2.	The participants were all males.	✓	
3.	The participants were selected by random sampling.	✗	They were volunteers (self-selecting).
4.	The 'teacher' in the study was actually a confederate.	✗	It was the 'learner' who was the confederate.
5.	The learner was given an electric shock whenever they made a mistake on a task.	✗	The learner never received an electric shock (although the true participants thought they did).
6.	The highest shock available was 450 volts.	✓	
7.	Ten participants disobeyed when the learner banged on the wall.	✗	It was five participants (12.5%).
8.	65% of the participants gave the highest possible shock.	✓	
9.	Five participants had seizures because of the stress.	✗	It was three participants.
10.	The results showed that how obedient you are depends on your personality.	✗	The results showed that personality (dispositional) factors were less important than situational factors.

Milgram for a day

Suggested answer

Imagine Stanley Milgram is with you now. What would you say to him to criticise his study? In the left-hand column write down three things you would say to criticise what he did. In the right-hand column write down what he might say in defence.

Alternatively, if you are working on your own, you can still do this activity. List on the left three key weaknesses of the study and on the right provide answers as if you were Milgram.

Criticism	Milgram's defence
1. The participants didn't really believe the shocks were real did they? It's so obvious that you wouldn't be asked to actually hurt someone. They were just going along with it because they didn't want to spoil the study, weren't they?	Maybe a few of the participants realised the shocks were fake but most of them thought they were real. You can tell from their reactions. They were stressed out because they really thought they were inflicting pain.
2. There are massive ethical problems with the study aren't there? I mean, just look at the stress and upset the procedure caused the participants. They must have experienced some psychological harm from being in your study surely?	Well I did everything I could to make sure they were OK. They all had a proper debriefing at the end. And I reunited them with the learner, so they could see he was OK. Anyone who was distressed could have follow-up counselling.
3. You also lied to your participants, didn't you? They thought they were the 'teacher' by chance and they did the study thinking the shocks were real and they were inflicting pain.	Sometimes in psychology you have to deceive your participants a little bit if you want to find out anything interesting. If they knew everything was faked then they wouldn't behave naturally, so there would be no point.

Put it right

Below is a description of Milgram's agency theory. Sadly, it contains nine mistakes. Your task is to identify the errors and correct them.

Milgram devised his agency theory to explain ~~conformity~~ *obedience*. It is a theory about the influence of ~~personality~~ *social* factors and the power other people have over us.

Usually we are in an ~~agentic~~ *autonomous* state in which we can make our own choices. We behave independently and take responsibility for our actions. But sometimes we switch to an ~~autonomous~~ *agentic* state in which we follow the orders of another person. We see this person as an authority figure and give up our sense of personal responsibility.

The change from an autonomous to an agentic state is called an agentic ~~switch~~ *shift*. The agentic ~~switch~~ *shift* occurs because we live in a society which is ~~equal~~ *hierarchical*. This means that we all agree that some people should have authority over us. These people are entitled to expect ~~conformity~~ *obedience* from us. We learn to respect the social hierarchy through a process of ~~inheritance~~ *socialisation* as children. For example, we obey parents and teachers from an early age.

Writing thoroughly

Here is a typical 9-mark exam question:

Describe and evaluate Milgram's agency theory of social factors affecting obedience. *[9 marks]*

Plan an answer by completing the table below.

For the describe part, identify 4 key points (each in a different colour):	For the evaluate part, identify 3 points:
1. *Agency – refers to agentic and autonomous states.*	**1.** *Research support – Blass and Schmitt.*
2. *Authority – agentic shift occurs.*	**2.** *Not 100% obedience – incomplete theory.*
3. *Culture – socialisation into hierarchy.*	**3.** *Obedience alibi.*
4. *Proximity also important.*	

Suggested answer

Now use the framework above to write out your essay in full. Use the same colours to write out each description point. For AO1, add as much detail to your description as you can (use examples or explain things). For AO3, practise developing and explaining further any strength or weakness you write – you should never be satisfied with just one-sentence evaluations.

According to Milgram, we are in an autonomous state when we freely make our own choices. However, we are in an agentic state when we follow orders and give up personal responsibility. When we perceive someone as a figure of authority, we may switch from an autonomous state to an agentic state (the 'agentic shift') and become obedient. We are part of a social hierarchy in which we agree that some people should have more authority. The culture socialises us as we grow up to respect the hierarchy. Milgram also showed that obedience depends on proximity. The 'teacher' was less obedient when they were physically closer to the 'learner'.

A strength is that there is research support for the theory. Students in Blass and Schmitt's study tended to blame the experimenter rather than the teacher for the harm to the learner. The theory is right in predicting that the students recognised that the experimenter's authority was the cause of obedience.

A weakness is that 35% of Milgram's participants disobeyed, so there was not 100% obedience. This means the theory cannot explain all obedience in terms of social factors.

Another weakness is that the theory gives people an 'alibi' for destructive obedience. For example, many Nazi officers said they were 'only obeying orders' but they were doing more than that. The theory is potentially dangerous because it provides an excuse for evil behaviour.

AO1 Adorno broken sentences

There is some useful information about Adorno's theory in the following sentences, but it has become jumbled up. Put the sentences together correctly (the first half is in the first column, the second half is in the second column).

1. Adorno's theory explains obedience …	**D.** … in terms of someone's authoritarian personality.
2. People with an authoritarian personality …	**C.** … have excessive respect for authority.
3. They look down on people they believe have …	**H.** … inferior social status.
4. Authoritarian people do not like …	**J.** … change.
5. In terms of cognitive style, their way of thinking is …	**B.** … rigid and 'black and white'.
6. The origins of authoritarian personality are …	**I.** … found in childhood.
7. Parents are overly strict and give their children …	**A.** … only conditional love.
8. In childhood, people who develop an authoritarian personality feel …	**F.** … hostility towards their parents.
9. The hostility cannot be expressed directly so it is …	**G.** … displaced onto people of inferior social status.
10. Freud believed scapegoating …	**E.** … relieved anxiety and hostility.

Match-up the AO3

Fill in the missing information.
Match up the sentences to make three full evaluation points of three sentences each.

5. A weakness of Adorno's theory is that it was based on a *flawed* questionnaire.	**2.** This is because there is a *response* bias in the F-scale – if you answer '*yes*' to all the items you get a high authoritian score.	**7.** This means the *validity* of the theory is low because it lacks research support.
9. Another weakness of Adorno's theory is that the evidence it is based on is *correlational*.	**1.** Because of this, it is not possible to claim that an authoritarian personality *causes* people to be more obedient.	**6.** This is a weakness because it means other *factors* could explain the link between authoritarian personality and obedience.
8. A further weakness of Adorno's theory is that it cannot explain all examples of *obedience*.	**3.** For example, millions of people in Nazi *Germany* behaved very obediently even though they had *different* personalities and upbringings.	**4.** This means that *social* factors affect obedience as well as dispositional ones.

Classic study true or false

Here are some sentences about Piliavin et al.*'s subway study. Identify which are true and which are false. You can rewrite the false ones to make them correct.*

Suggested answer

		True or false?	
1.	Bystander behaviour refers to how the presence of other people increases the chances of a victim being helped.	✗	*It is about how presence of other people reduces the chances of helping.*
2.	Piliavin *et al*. wanted to study bystander behaviour in a fully controlled situation.	✗	*They studied it in the natural setting of a subway train carriage.*
3.	The person who collapsed was a male confederate.	✓	
4.	The confederate sometimes appeared to be drunk and sometimes to be disabled.	✓	
5.	There were 100 trials in total.	✗	*There were 103 trials.*
6.	There was one observer in the carriage to record behaviour.	✗	*There were two observers.*
7.	The 'drunk' victim was more likely to be helped than the 'disabled' victim.	✗	*The drunk victim was less likely to be helped than the disabled victim.*
8.	The victim was just as likely to be helped in a crowded carriage as in one with few people.	✓	
9.	The researchers concluded that the most important influence on helping was the number of people present.	✗	*The most important influence was the characteristics of the victim.*

Classic study anagrams

Time to unjumble these words relating to the classic study on this spread. Can you do it without looking at the clues in the right-hand column?

1.	BRATSDENY AVIBEHOUR	*BYSTANDER BEHAVIOUR*	Another term for what onlookers do.
2.	VINIPLIA	*PILIAVIN*	He and she did the study.
3.	SAWBUY RANIT	*SUBWAY TRAIN*	The procedure took place on this.
4.	KNURD	*DRUNK*	The victim was sometimes in this state.
5.	BALDSIDE	*DISABLED*	The victim sometimes carried a cane so appeared _____.
6.	DEFEATCRONE	*CONFEDERATE*	Someone working for the researchers, pretending to be a victim.
7.	CIGAREAR	*CARRIAGE*	The train was made up of several of these.
8.	CITVIM	*VICTIM*	The person who needed help.
9.	MERCYGENE	*EMERGENCY*	The type of situation the researchers created.
10.	TEQUILAVITA	*QUALITATIVE*	Type of data collected by the observers.

Using examples for detailed AO1

You can add detail to your descriptions by using examples. To practise this, start by writing definitions of the social/dispositional factors in the left-hand column in the table below.

Then add examples to explain your definitions further in the right-hand column. Use examples from the previous page, but write them in your own words.

Suggested answer

The presence of others is a social factor affecting prosocial behaviour. The bystander effect … *occurs in an emergency situation where the more people present means it is less likely the victim will get help.*	Darley and Latané investigated this by … *asking people to discuss an issue with others (confederates) over an intercom – one of them had a seizure and requested help.* They found that … *85% of participants reported the seizure when they thought they were alone, but only 31% when they thought other people were present.*
Another social factor is the cost of helping, which means … *we decide whether or not to help depending on the balance of costs and rewards.*	The costs of helping include … *potential physical risks (e.g. assault, injury) and psychological risks (e.g. humiliation, embarrassment) to yourself.* The costs of not helping include … *feelings of guilt, shame and self-blame because you have ignored another person who needs your help.*
Similarity is a dispositional factor that affects prosocial behaviour. This means … *you are more likely to help a victim if you identify with them because you share certain characteristics.*	Levine *et al*. investigated this and found that … *Manchester United fans were more likely to help someone wearing a Manchester United shirt than a Liverpool shirt.*

AO3 Prosocial unjumble

In the following sentences you will find an evaluation of social and dispositional factors in prosocial behaviour.

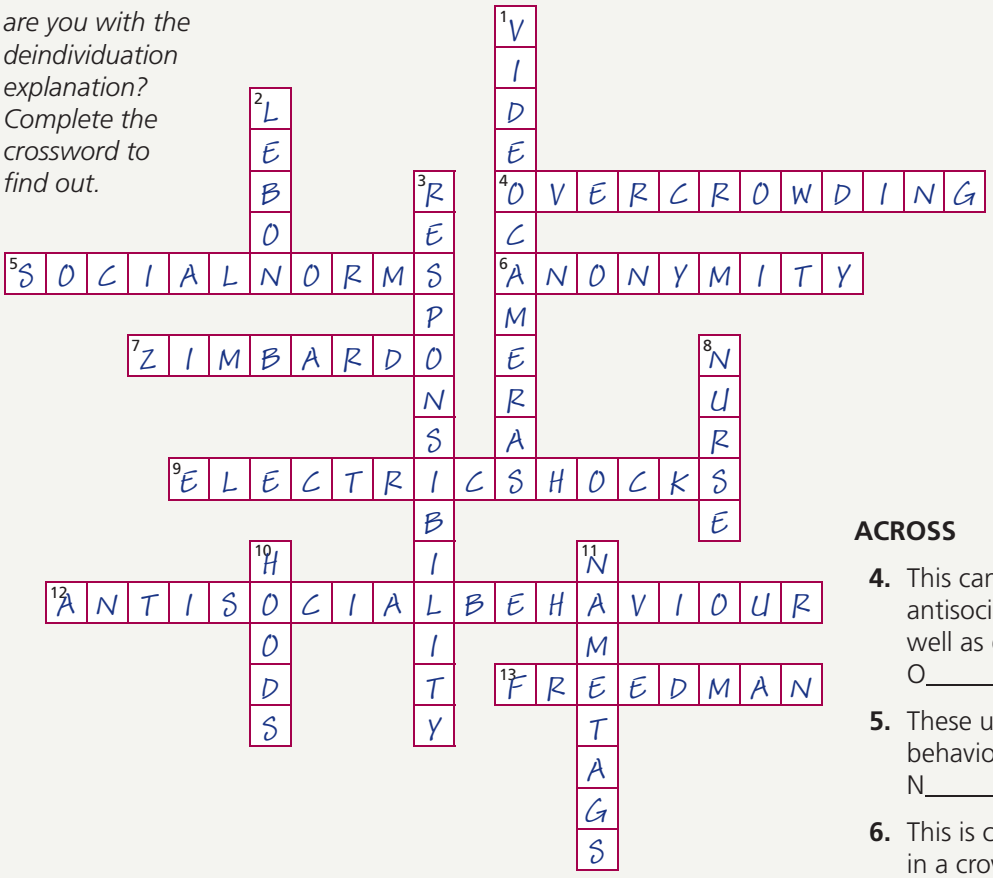
First, put the sentences together correctly (the first half of each sentence is in the first column, and the second half is in the second column).

Then, once you have nine complete sentences, put them together into three elaborated points of three sentences each.

5. A weakness is that the cost of helping depends on …	B. … how the bystander interprets the situation.
3. For example, Shotland and Straw found that …	A. … 65% of onlookers intervened in an argument between a man and a woman when the woman shouted, 'I don't know you', but only 19% intervened when she shouted 'I don't know why I married you'.
2. This shows that there is more to the decision to help than …	I. … just weighing up costs and rewards.
9. A weakness is that similarity is …	F. … not enough on its own to guarantee helping.
1. For example, social factors such as high costs and an ambiguous situation can lead to...	D. … no helping taking place, even if the victim and bystander are similar.
7. This is a weakness because other factors (especially social ones) …	C. … can outweigh the role of similarity in the decision to help.
8. A weakness is that some research shows that expertise …	E. … makes little difference.
6. For example, Shotland and Heinold found that …	H. … people with Red Cross training were no more likely to help a bleeding victim than people with no training.
4. This means that social factors may be …	G. … more important influences on prosocial behaviour than dispositional factors such as expertise.

Crossword time

How familiar are you with the deindividuation explanation? Complete the crossword to find out.



DOWN

1. Using these can control crowd behaviour. V_____ C_____ (5,7)
2. He was first to suggest being in a crowd can lead to anti-social behaviour. L_____ B_____ (2,3)
3. Being in a crowd can make us lose our sense of this. R_____ (14)
8. Some participants were dressed in this uniform in the study. N_____ (5)
10. Participants in the deindividuated group wore these. H_____ (5)
11. Individuated participants wore these. N_____ T_____ (4,4)

ACROSS

4. This can cause antisocial behaviour as well as deinvidiuation. O_____ (12)
5. These usually rule our behaviour. S_____ N_____ (6,5)
6. This is created by being in a crowd. A_____ (9)
7. He carried out the study. Z_____ (8)
9. These were fake in the study. E_____ S_____ (8,6)
12. Caused by anonymity. A_____ B_____ (10,9)
13. He investigated stress and crowding. F_____ (8)

AO3 – Fill in the blanks

Complete the passage by filling in the missing words from this evaluation of the deindividuation explanation. Try to complete the activity without referring to your notes or this spread. The words you need to choose from are on the right if you really get stuck.

A weakness is that antisocial behaviour is not always the outcome of *deindividuation*. Johnson and *Downing* found that participants dressed in a *nurse's* uniform gave fewer and lower electric shocks than people dressed in a KKK outfit. This shows that deindividuation can lead to prosocial behaviour when people take on prosocial *norms*.

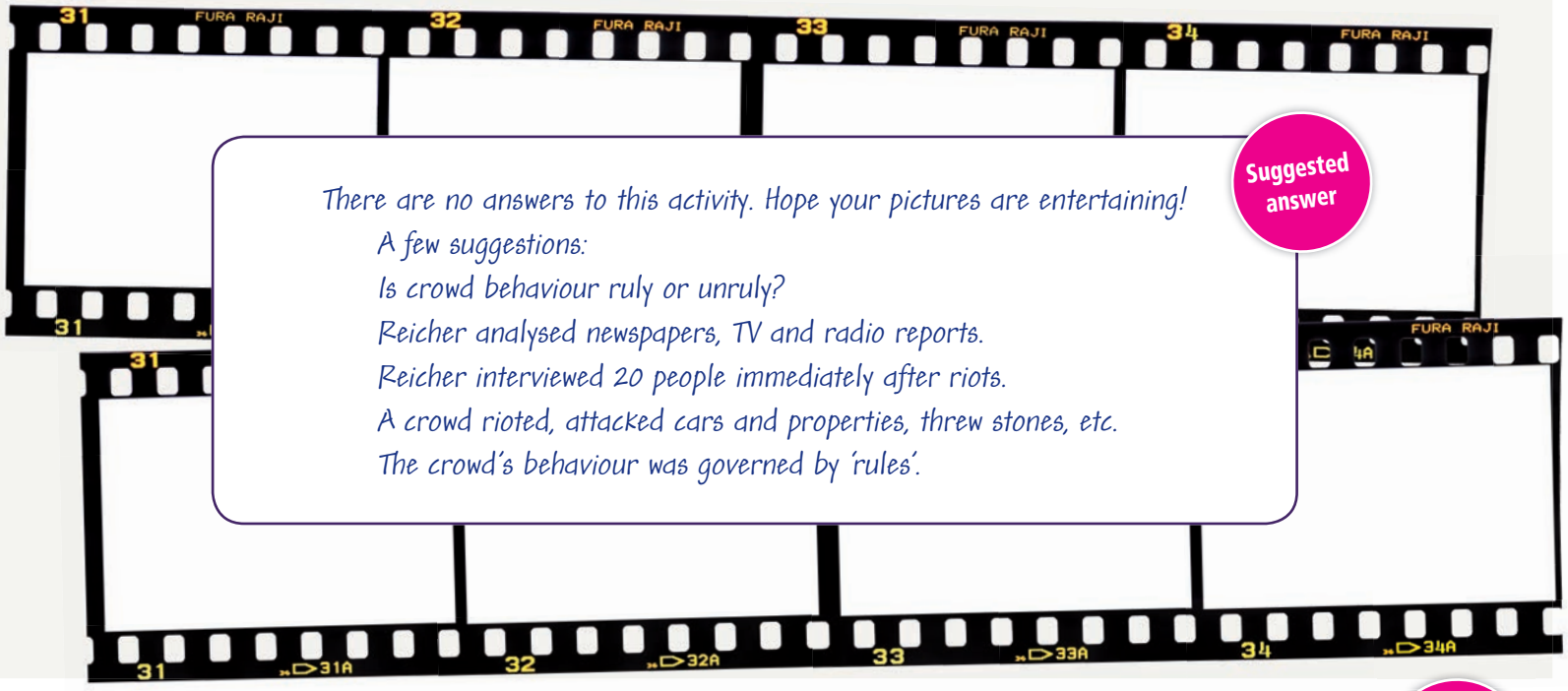
A strength is that deindividuation can help us to manage *crowd* behaviour. For example, using video cameras at sporting events can increase people's *awareness* of their own behaviour. This is a strength because it is a real-world *application* that can reduce the aggression of crowds.

A weakness is that there are alternative theories. For example, *Freedman* showed that when animals are crowded together they become *stressed* and behave aggressively. This is a weakness because deindividuation may not be enough on its own to explain *antisocial* behaviour.

awareness
nurse's
antisocial
Downing
Freedman
application
deindividuation
stressed
crowd
norms

Storyboarding the case study

Using visual images can be useful, because converting the details of a study into a picture helps you process the meaning of the information. This makes it easier to remember. Try to outline Reicher's case study in pictures. Take the main elements of the study and represent them with drawings, like a film director might do with a 'storyboard', a series of images that tell the story of the film (or study) from start to finish. Here's a template to help you along.



Suggested answer

There are no answers to this activity. Hope your pictures are entertaining!

A few suggestions:

Is crowd behaviour ruly or unruly?

Reicher analysed newspapers, TV and radio reports.

Reicher interviewed 20 people immediately after riots.

A crowd rioted, attacked cars and properties, threw stones, etc.

The crowd's behaviour was governed by 'rules'.

Evaluate with trigger phrases

On the right are some 'trigger' phrases related to the case study in crowd and collective behaviour. First of all, decide which phrases go together and put them into pairs in columns 1 and 2 of the table. Next, write a sentence in column three for each pair without looking elsewhere. Finally, write a further sentence in column 4, to explain why your first sentence is a strength/weakness.

3. Research support.	5. Other studies draw similar conclusions to this one about crowd behaviour.	For example, Marsh found that the violence of football hooligans stopped at a certain point.	This is a strength because it supports the view that crowd behaviour is governed and controlled by rules.
4. Methodological problem.	1. This case study uses data that is subjective rather than objective.	For example, reporters and crowd members gave eyewitness accounts, which may have been biased perspectives of the events.	This is a weakness because it means the data lack validity.
6. Real-world application.	2. The case study gives us some ideas about how riots can be policed effectively.	For example, Reicher's study shows that more police presence at riots did not reduce violence, so letting communities police themselves might be more effective.	This is a strength because it shows that psychological research can have positive and practical effects in real-life situations.

Suggested answer

1. **This case study uses data that is subjective rather than objective.**
2. **The case study gives us some ideas about how riots can be policed effectively.**
3. **Research support.**
4. **Methodological problem.**
5. **Other studies draw similar conclusions to this one about crowd behaviour.**
6. **Real-world application.**

Crowd behaviour match-up

Match up the statements across the four columns.

1. Deindividuation	**10.** Social factor	**11.** Involves loss of personal identity, awareness and responsibility.	**20.** Leads to prosocial or antisocial behaviour through adherence to group norms.
5. Social loafing	**2.** Dispositional factor	**3.** People put in less individual effort when they work in groups.	**8.** Latané *et al*. studied noises made by people in groups of six.
9. Culture	**14.** Social factor	**19.** Focus in USA and UK on individual needs, focus in China on needs of the group.	**16.** Earley found social loafing was lower in Chinese people than in Americans.
13. Personality	**6.** Dispositional factor	**7.** Includes characteristics such as locus of control.	**12.** People who are internals are less likely to be influenced by crowd behaviour.
17. Morality	**18.** Social factor	**15.** Concerns our sense of right and wrong.	**4.** People with strong moral sense are less likely to be influenced by crowd behaviour.

Collective behaviour wordsearch

There are ten words related to collective behaviour for you to find in the grid on the right. They could be vertical, horizontal or diagonal (but not backwards).

DEINDIVIDUATION
CROWD
NORMS
PROSOCIAL
SOCIAL LOAFING
INDIVIDUALIST
COLLECTIVIST
CULTURE
INTERNAL
MORALITY

D	S	A	I	Q	O	S	V	O	Y	O	H	J	U	U
H	E	O	O	R	V	M	R	T	D	T	H	B	U	C
T	S	I	C	Z	Z	W	N	S	G	Q	K	H	N	O
B	A	N	N	I	D	E	J	I	F	N	R	L	H	L
S	D	D	X	D	A	I	I	N	T	E	R	N	A	L
D	C	I	C	Q	I	L	E	Y	Z	P	P	O	L	E
P	F	V	K	U	M	V	L	C	B	Y	X	Q	A	C
R	J	I	Q	L	L	O	I	O	N	O	R	M	S	T
O	K	D	D	C	H	T	R	D	A	J	J	J	R	I
S	D	U	X	N	J	V	U	A	U	F	L	Q	V	V
O	L	A	C	A	U	R	L	R	L	A	I	Y	S	I
C	K	L	R	W	B	F	B	Z	E	I	T	N	X	S
I	E	I	O	Y	J	R	M	R	A	F	T	I	G	T
A	H	S	W	T	D	B	H	Z	L	B	P	Y	O	B
L	P	T	D	A	R	L	F	L	F	E	A	T	W	N

AO1 – Anagrams

Here are ten anagrams of words related to this topic. There are some clues to help you if you need them.

1.	ANJE TAGPIE	JEAN PIAGET	It's his theory!
2.	GIVETONIC	COGNITIVE	This is the kind of development the theory is about.
3.	SCAMSHE	SCHEMAS	Mental structures that help us learn about the world.
4.	ALGAEGUN	LANGUAGE	This develops after.
5.	GOTHHUT	THOUGHT	This develops before.
6.	PELTEDVENOM	DEVELOPMENT	Growth.
7.	STOREROOMSIN	SENSORIMOTOR	The stage in which children begin to speak.
8.	OPTIONALREAPER	PRE-OPERATIONAL	The stage in which children can talk about things that are not present.
9.	TENCEROC AIRPLANETOO	CONCRETE OPERATIONAL	The stage that occurs by about seven years.
10.	GOLILAC	LOGICAL	The kind of thinking that develops in the above stage.

Elaborate to evaluate

Here's some more practice for you at developing, extending and elaborating your AO3 points.
Use the trigger phrases in the 2nd, 3rd and 4th columns to prompt you to write some sentences and construct a thorough evaluation.

Suggested answer

A strength is that the theory is supported by evidence.	Early language … … is not random but shows patterns of understanding.	For example, … … children start talking by using two-word phrases that put two objects together (e.g. 'mummy sock').	This shows that … … Piaget was right because children understand the relationship between objects before they start using language.
A weakness is that language may come first.	Piaget's theory is challenged by … … the Sapir-Whorf hypothesis.	This argues that … … we need to have a word for an object before we can think about it, so language develops before thinking.	This suggests that … … Piaget may have been wrong because there is some evidence to support the Sapir-Whorf hypothesis (e.g. Roberson et al.).
A weakness concerns the nature of schema.	We cannot … … measure schema in a scientific way.	If we cannot measure schema … … then it is very difficult to know whether they exist in the way Piaget believed.	This suggests that … … Piaget's theory that language comes before thought may not be based on testable scientific evidence.

Fake headlines

Fake news is everywhere these days, but we're not going to stand for it. Here are some fake headlines about the Sapir-Whorf hypothesis. Rewrite them so they are true, and then write the first sentence of an imaginary article to explain the headline.

Suggested answer

Language depends on how we think, claim researchers Sapir and Whorf.	LATE NEWS: Language comes before thinking	Researchers Sapir and Whorf today sensationally claimed that we cannot think about an object or a concept unless we have words for them.
Only one version of the Sapir-Whorf hypothesis, psychologists discover.	HYPOTHESIS SHOCK: Actually more than one version, claim scientists.	It appears that there are two versions of the Sapir-Whorf hypothesis doing the rounds – conveniently called the strong and the weak.
Language determines thought, says weak version of S-W hypothesis.	WEAK WEAK WEAK: Language might have 'something to do with' thinking, says drippy hypothesis.	The weak version of the Sapir-Whorf hypothesis claims that thinking only influences language.
Strong version of S-W hypothesis much better than weak, say researchers.	'We prefer it weak, and we don't mean our tea', proclaim psychologists.	Words might affect whether we notice something or remember it, but they don't determine our thinking.

Writing thoroughly

For AO1 (on the left), describe the Sapir-Whorf hypothesis in as much detail as you can (use examples or explain things).

For AO3, practise developing and explaining further any strength or weakness you write – never write an evaluative point in just one sentence.

Complete the table by responding to the statements in each box.

Suggested answer

In your own words, summarise the theory in no more than five sentences – one for each of the main AO1 points on the previous page.	***Explain a weakness of the theory in three sentences – Point / Example / Conclusion***
Sapir and Whorf put forward a theory which states we cannot think about something if we cannot express it in language. *This means language must develop before thought.* *The strong version of this theory argues that language determines thinking and you cannot think about something unless you have a word for it.* *The weak version of the theory argues that language only influences thoughts, so language helps us to organise the world but we can still imagine things we have no words for.* *The weak version makes more sense because, if our language is limited, then our thinking will also be limited.* *(= 102 words)*	*A weakness is that the evidence the hypothesis is based on may have been exaggerated by Boas. For example, English has several different words for types of snow and Inuit languages have fewer than is often believed.* *This means that the cultural differences between languages are not great, and challenges the view that language determines thought.*
	Explain a weakness (or a strength) of the theory in three sentences – Point / Example / Conclusion
	A weakness is that some cultures may have more words for a concept but this does not prove that language develops before thought. *For example, the main reason why Inuit people have many words for snow is because this reflects their environment.* *This means that Piaget may have been correct – being able to think about the environment influences the language we use to describe it (the thinking comes first).*
	Explain a weakness (or a strength) of the theory in three sentences – Point / Example / Conclusion
	A strength is that the hypothesis can explain the link between language and intelligence. Bernstein suggested that working-class children fall behind in school because they use a restricted code of language. The limited nature of such language affects their ability to think about more complex issues. *This shows that language influences a particular type of thinking (intelligence).*

AO1 – Fill in the blanks

Fill in the blanks in the following description of how language and thought affect our view of the world. The words are given below if you get stuck, but try and do the activity without them first.

Whorf studied Native American cultures, including the Hopi. These people think about time in an unusual way. This is because their language does not distinguish between past, present and future.

Carmichael *et al*. studied how language affects recall of events. They gave two groups of participants identical pictures. But the labels given to the pictures were different for each group. The participants drew the pictures from memory. Their drawings were affected by the labels they had heard.

Brown and Lenneberg studied the Zuni people. Their language has one word for all shades of yellow and orange. They could not recognise or recall these colours as well as English speakers. The lack of words made it hard for them to distinguish between colours.

Roberson *et al*. also found that the Berinmo people found it hard to recall different colours they did not have words for.

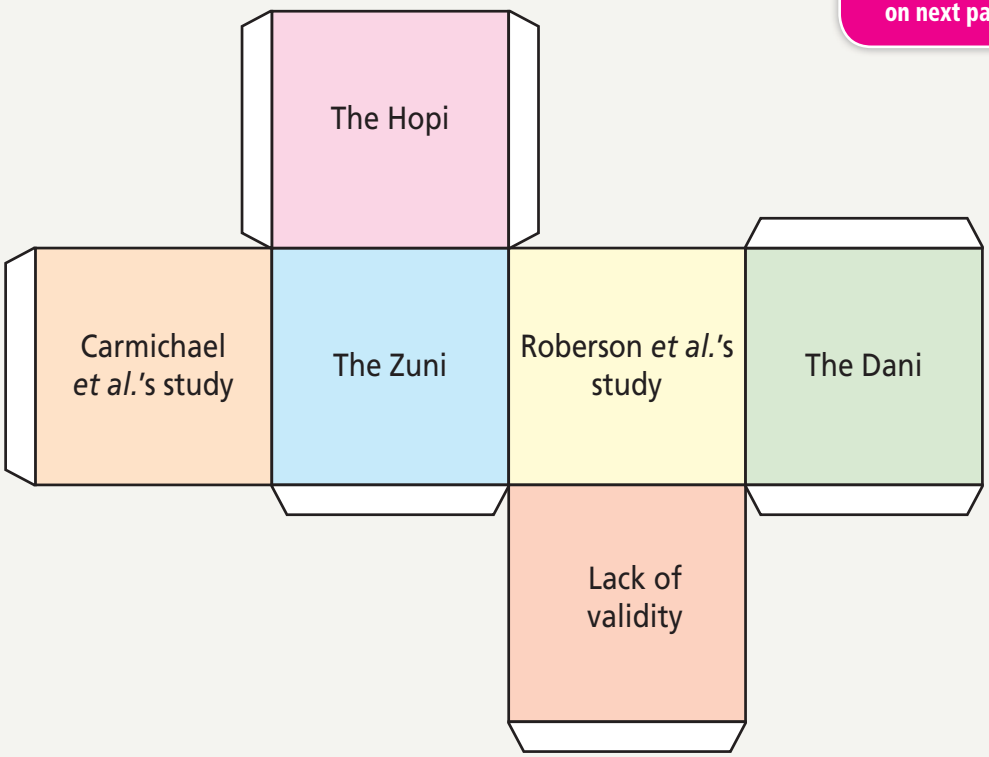
These findings all support the Sapir-Whorf hypothesis.

Lenneberg
different
one
recall
future
Berinmo
Sapir-Whorf
Hopi
time
English
memory

The view of the world cube

Make a small cardboard cube using the template on the right. Roll the cube and whichever phrase comes up, provide a detailed explanation of it. You can do this on your own, but if you're with other students you can take turns to explain to each other. Keep the explanation going until everyone understands it.

Suggested answer on next page



Suggested answer

Here are some possible explanations for each phrase on the cube.

The Hopi	Because the Hopi language does not distinguish between past, present and future, the Hopi people think about time in a different way from others.
Carmichael *et al.*'s study	Two groups of participants saw the same pictures but with different labels. They were then asked to draw the pictures from memory, and the drawings reflected the labels they had been given. Shows that language influences what we recall from memory.
The Zuni	Studied by Brown and Lenneberg who found that the Zuni use one word for shades of yellow and orange. The Zuni found it harder than English speakers to recognise and recall these colours, presumably because the lack of language affects their memory (cognition).
Roberson *et al.*'s study	The Berinmo people only have five words for colours. They found it hard to distinguish between colours. This supports the weak version of the Sapir-Whorf hypothesis.
The Dani	Heider and Olivier found that the Dani could identify colours as well as English speakers even though their language has only two words for colours. This challenges the Sapir-Whorf hypothesis.
Lack of validity	Whorf only studied one Hopi person. Carmichael et al.'s materials were ambiguous and artificial. Zuni participants may not have been able to communicate their understanding of colour.

Classic study mix-up

Suggested answer

Describe von Frisch's bee study.

Below are some sentences that will help you answer the question above. Unfortunately the sentences have become jumbled up so are in the wrong order.

Write down the right order in the boxes below so that the answer makes sense.

Aim	Method	Results	Conclusion
10	7, 13, 2	14, 9, 1, 6, 8, 3, 11, 5	12, 4

1. The bee moves around in a circle.

2. von Frisch made about 6000 observations over a period of 20 years.

3. The bee moves in a figure of 8, waggling its abdomen.

4. The bees' dances have evolutionary value because they promote survival.

5. 60% of the bees successfully located the food sources from the dances.

6. This indicates the food is less than 100 metres away.

7. von Frisch placed a food source about 10 to 20 metres from the hive.

8. Another type of dance is the waggle dance.

9. One type is the round dance.

10. von Frisch wanted to observe and describe the dance of the honey bees as a form of communication.

11. This points to the source of the pollen and the speed of the movement indicates distance.

12. Bees are able to use a complex form of communication.

13. He also placed another food source about 300 metres away from the hive.

14. von Frisch found that worker bees use two types of dance to communicate the location of pollen.

Match-up the AO3

Fill in the missing information.

And match up the sentences to make three full evaluation points of three sentences each.

8. A strength of von Frisch's study is that it had *scientific* value.	1. Before the study, people had no idea what the *purpose* of the bees' movements was.	5. This means von Frisch's research was valuable because it gave important insights into a form of animal *communication*.
6. A weakness of the study is that von Frisch did not consider the role of *sound*.	7. For example, *Esch* later found that when bees dance in silence, other bees fail to go and explore for *food*.	9. This shows that bee communication is even more *complex* because sound also plays a part.
3. Another weakness is that von Frisch did not consider other important factors.	4. For example, Gould found that bees did not respond to a *waggle* dance if the food source was in the middle of a *lake*, perhaps because they didn't like to fly over water.	2. This suggests that von Frisch's explanation is *incomplete* because it did not take account of this factor.

AO1 – Broken sentences

Below are some sentences about human versus animal communication. They have become broken and muddled up, so put them back together again by matching the first half of each sentence in the left-hand column with the second half in the right-hand column.

1. Animals use signals to warn …	**G.** … of danger.
2. Using warning signals …	**C.** … increases survival chances of members of the species.
3. Vervet monkeys use …	**F.** … different alarm calls to warn other monkeys of specific dangers.
4. Rabbits use visual signals by …	**B.** … lifting their tails and pinning back their ears.
5. Animals increase their chances …	**I.** … of reproducing by using mating displays.
6. The male peacock's spectacular tail-feather display …	**E.** … communicates his genetic fitness to attract females.
7. A rhino can spread 20 to 30 piles of dung over an area to …	**A.** … signal that it is their territory.
8. Marking territory with scents has evolutionary value because …	**H.** … it uses less energy than fighting.
9. Animals can communicate the location of …	**J.** … a food source by using signals.
10. Ants leave …	**D.** … a pheromone (chemical) trail for other ants to follow to a food source.

Explaining the differences

Suggested answer

Humans and animals both use communication, but in quite different ways. This activity helps you to explain and organise these differences to (hopefully) make them more memorable. You can do this by just completing the table.

Plan ahead and discuss future events	In humans … *language can be used to plan for the future and discuss events that have not yet happened.*	But animals … *can only communicate about things that are present (here and now) in the environment (e.g. nearby food sources or dangers).*	So the difference is … *displacement is a common feature of human language but not of animal communication.*
Creativity	Human language … *is an open form of communication because words can be combined in a vast number of ways to express our thoughts, including about abstract things that are not physically present.*	Animal communication … *is a closed system because the signals involved (e.g. sounds, gestures) can only apply to specific events and objects.*	So the difference is … *human communication is much more creative than animal communication because it can be used in a huge variety of ways.*
Single versus multiple channels	Humans … *communicate through a wide range of different forms (channels) including spoken, written and non-verbal gestures.*	Animal communication … *uses just one channel per species, for example ants use pheromones, bees use 'dances'.*	So the difference is … *human language is a much more complex form of communication than the signals animals use.*

AO1 – Eye contact wordsearch

There are ten words related to eye contact for you to find in the grid on the right. They could be vertical, horizontal or diagonal (but not backwards).

NONVERBAL
COMMUNICATION
EYE CONTACT
KENDON
CONVERSATION
TURNTAKING
CONWAY
ATTRACTION
EMOTIONS
GAZE

Evaluate with trigger phrases

Suggested answer

On the right are some 'trigger' phrases related to research into eye contact. The first thing to do is decide which phrases go together by putting them into pairs in the table. Then write a sentence in column 3, explaining each pair of statements (or giving an example) without looking at your notes or on the previous page. Finally, in column 4, write a further sentence, to explain why your first sentence is a strength/weakness.

The first one is done for you.

Explains autism.	Difficulty in communicating.	People with autism find it hard to communicate with others because they have difficulty using eye contact appropriately.	This is a strength of eye contact research because it means people with autism can be helped to develop communication skills.
Uses rating scales.	*People indicate their views of attractiveness and 'emotional intensity'.*	*Judging such things as 'attractiveness' is open to interpretation and bias, and not very objective.*	*This is a weakness of eye contact research because it suggests that the evidence may be subjective and low in validity.*
Artificial tasks.	*For example, in Kendon's study.*	*Part of Kendon's study involved participants getting to know someone else.*	*This is a weakness of eye contact research because this would not happen in everyday life, so the research lacks validity.*

People indicate their views of attractiveness and 'emotional intensity'.

Difficulty in communicating.

For example, in Kendon's study.

Artificial tasks.

Uses rating scales.

Explains autism.

Use examples to boost your AO1

Suggested answer

Using examples is a great way to add detail to your descriptions. In the boxes below, write down definitions of the four body language terms from this topic. Add examples to take your definitions further. Try to think of different examples from the ones on the previous page.

	Definition	Example
Open posture	Body language that communicates openness, warmth, approval, acceptance and willingness to listen.	Sitting with hands apart perhaps resting on the arms of the chair using hands to make friendly gestures (e.g. open palms).
Closed posture	Body language that communicates hostility, rejection, disapproval, disagreement or lack of interest.	Sitting with arms folded and fists clenched, at a slight angle to the person you are interacting with.
Postural echo	This refers to copying or 'mirroring' the body language of the person you are interacting with.	Changing body position when the other person does so (leaning, standing straight, etc.). Or copying their gestures (e.g. hand to face).
Touch	Making physical contact with the person you are interacting with.	Hugging, shaking hands, high-fiving, slapping shoulders and backs, and touching other 'safe' parts of the body.

AO3 – Fill in the blanks

Complete the evaluation by filling in the missing words. Try to avoid looking at the words below unless you get really stuck.

One strength of research is that it has practical *applications*. For example, it can help people form romantic relationships – adopt an *open* posture, echo the other person's *posture* and use (safe) touch carefully. This is a strength because it means the research has validity in the real *world*.

However, a weakness is that research studies do not have much control. For example, Fisher *et al*. could not control all the *variables* in their library study, so *touch* was not the only reason why the participants liked or disliked the librarian. This is a weakness because it means the findings of studies lack *validity*.

Another weakness is that body language research raises ethical issues. For example, it is difficult to gain informed *consent* from participants in field experiments and to carry out *debriefing*. This is a weakness because people become wary of *trusting* psychologists if their studies are unethical.

debriefing
world
touch
applications
open
trusting
validity
consent
posture
variables

Three-column AO1 match-up

Match up the statements across the three columns.

Personal space	3. This refers to the distance we prefer to maintain between ourselves and other people.	8. When this is invaded we feel uncomfortable and will move away to increase it.
Cultural differences	1. Sommer: Arab people prefer much smaller personal space than English people.	5. Collett: Arab people liked English people who stood closer and gave more eye contact.
Gender differences	4. Women interacting with other women prefer a shorter social distance than men interacting with other men.	7. Fisher and Byrne: men felt uncomfortable when personal space invaded from the front, whereas women more uncomfortable when space invaded from the side.
Status differences	2. This refers to how people vary in their position in society or the workplace, etc.	6. Zahn: people who have similar status interact more closely than people who have unequal status.

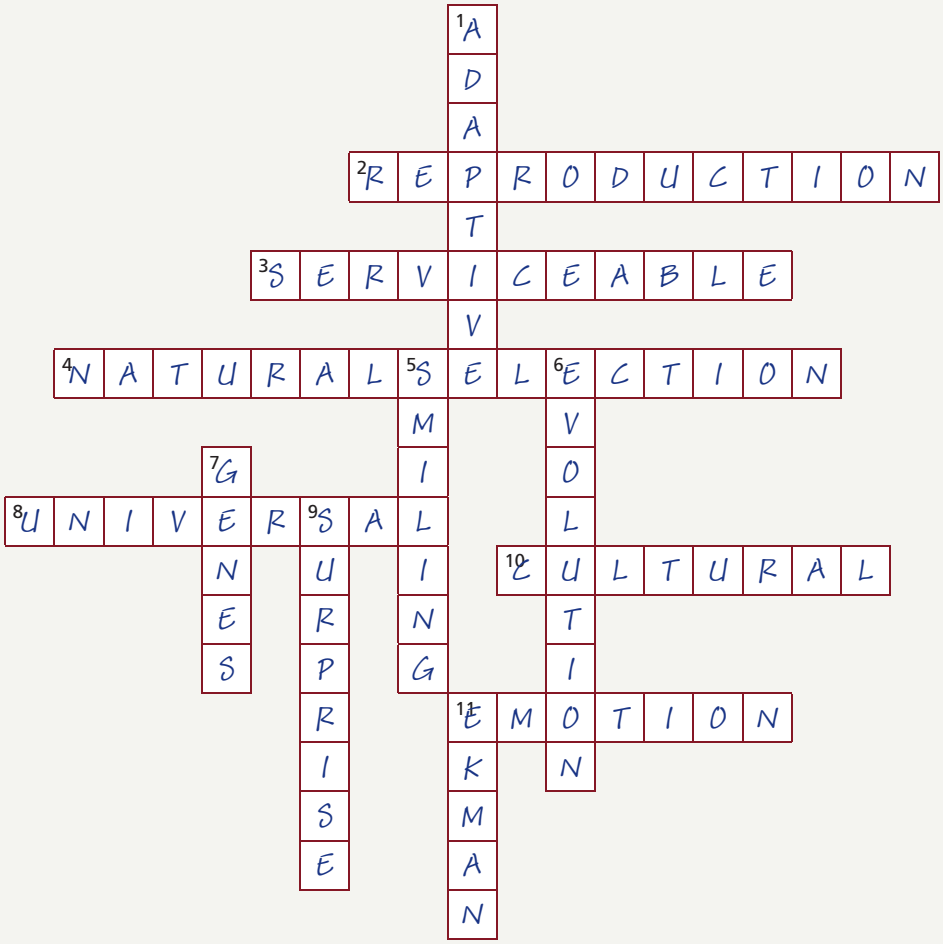
AO3 – Broken sentences

There is an evaluation of personal space research in the following sentences, but it has become jumbled up. Put the sentences together correctly (the first half is in the first column, the second half is in the second column). Then take the completed sentences and put them together into three elaborated points of three sentences each (Point / Explanation or Example / Conclusion).

4. One strength of personal space research is that …	**G.** … it has uses in everyday life.
9. For example, it is useful for doctors to know about...	**C.** … cultural differences in personal space preferences when dealing with patients.
2. This is a strength because …	**E.** … it means the research has validity in the real world.
7. A weakness of research is that it only investigates …	**I.** … the role of one factor at a time.
1. In real-life situations, personal space preferences are affected by …	**D.** … several interacting factors (e.g. culture, gender, status).
5. This is a weakness because it means that research often ignores …	**H.** … important factors, making it simplistic.
8. Another weakness is that the samples of participants in studies …	**B.** … are unrepresentative.
3. For example, participants in personal space experiments rarely reflect …	**F.** … all people within a culture, or all males and all females.
6. This is a weakness because it makes it difficult to …	**A.** … generalise the findings of studies to everyone.

Evolutionary theory crossword

Complete the crossword to see how familiar you are with terms relating to Darwin's evolutionary theory.



DOWN

1. Behaviours that protect survival of the species are A_____. (8)

5. A behaviour babies are born with. S_____. (7)

6. What Darwin's theory is all about. E_____. (9)

7. These are passed on. G_____. (5)

9. This emotion has often been studied. Well I never!! S_____. (8)

11. He identified six primary emotions. E_____. (5)

ACROSS

2. Some behaviours improve our chances of survival and R_____. (12)

3. Darwin talked about S_____ habits. (11)

4. Darwin's explanation of how evolution happens. N_____ S_____. (7,9)

8. If a behaviour is in our genes, it is U_____. (9)

10. The theory can't explain C_____ differences. (8)

11. Faces express this. E_____. (7)

AO3 – Match-up

Work out which statements in the first column go with the statements in the second column.

1. There is some research support for Darwin's evolutionary theory.	**C.** For example, the findings of the study by Ekman.
2. There are six primary emotions, including fear, disgust and surprise.	**E.** These are found in all cultures, suggesting this behaviour is innate.
3. Babies are born with the ability to smile and maintain eye contact.	**D.** These behaviours are adaptive because they promote the baby's survival, suggesting they are innate.
4. There are some cultural differences in non-verbal behaviour.	**A.** These include different preferences for personal space distances and uses of gestures.
5. Darwin's evolutionary theory has difficulty explaining these differences.	**B.** This shows that Darwin's theory does not explain all forms of non-verbal behaviour.

Put it right

The passage below is a description of the evidence that non-verbal behaviour is innate. Unfortunately eleven mistakes have crept into it. Your task is to identify the errors and correct them.

A lot of research into non-verbal behaviour has been carried out with neonates. A neonate is a ~~child aged between one and two years~~ newborn baby. If a non-verbal behaviour such as eye contact is present at birth, this means it is probably ~~learned~~ innate.

Smiling is an example of a social ~~reliever~~ releaser – these are non-verbal behaviours that encourage adults to look after babies, according to ~~Darwin~~ Bowlby. This behaviour is adaptive because if the baby is not looked after its genes will not be passed on.

~~Rosencrantz~~ Rosenstein and ~~Guildenstern~~ Oster found that young babies expressed ~~happiness~~ disgust when they were fed novel foods like citric acid (found in ~~crisps~~ lemons). This suggests that using facial expressions to communicate must be ~~learned~~ innate.

An animal is sensory deprived if it lacks the ability to ~~move~~ use a sense. Thompson found that blind and sighted children ~~differed~~ were similar in their ability to use facial expressions. This suggests that the behaviour is innate.

Evaluate with trigger phrases

There is some evidence that non-verbal behaviour is innate. And there is some evidence that it is learned. But which is which? Place the evidence into the correct columns (in any order).

Evidence it's innate	Evidence it's learned
1. Rosenstein and Oster's research.	2. Black's research into gesturing.
4. Role of social releasers (Bowlby).	3. Cross-cultural research.
6. Research with neonates.	5. Social learning theory.
8. Thompson's study with blind children.	7. Contact versus non-contact cultures.

1. Rosenstein and Oster's research. **2.** Black's research into gesturing. **3.** Cross-cultural research.

4. Role of social releasers (Bowlby). **5.** Social learning theory. **6.** Research with neonates.

7. Contact versus non-contact cultures. **8.** Thompson's study with blind children.

Classic study – true or false?

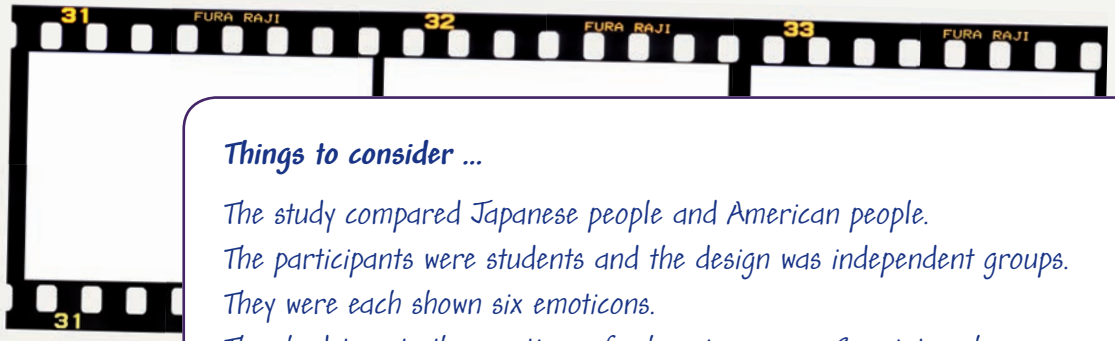
Suggested answer

Here are some sentences about Yuki's study of emoticons. Indicate whether you think each one is true or false. For the false statements, write down the true versions in the spaces provided.

		True or false?	
1.	The study involved comparing people from different cultures.	✓	
2.	Yuki wanted to investigate differences in how Japanese and American people understand body language.	✗	He wanted to investigate differences in how Japanese and American people understand facial expressions represented by emoticons.
3.	The study was an experiment using a repeated measures design.	✗	It was an experiment using an independent groups design.
4.	213 students participated in the study.	✓	
5.	The participants were shown seven different emoticons.	✗	They were shown six different emoticons.
6.	The participants rated the emoticons for anger using a 7-point scale.	✗	They rated for happiness on a 9-point scale.
7.	Japanese students gave higher scores to faces with happy eyes than American students did.	✓	
8.	Japanese students gave higher ratings to the faces with happy mouths than American students did.	✗	It was the American students who gave higher ratings to the faces with happy mouths.
9.	Yuki concluded that how we interpret facial expressions is probably due to nature rather than nurture.	✗	He concluded that interpretation of facial expressions is due to cultural norms and expectations (i.e. nurture).
10.	The study used materials that represented human faces very realistically.	✗	Emoticons are not realistic and do not represent many features of facial expression.
11.	A weakness of the study is that it only tested one emotion.	✓	
12.	The rating scale used in the study was highly valid.	✗	The scale was simplistic because it reduced a complex emotion to a single score.

Storyboarding Yuki's study

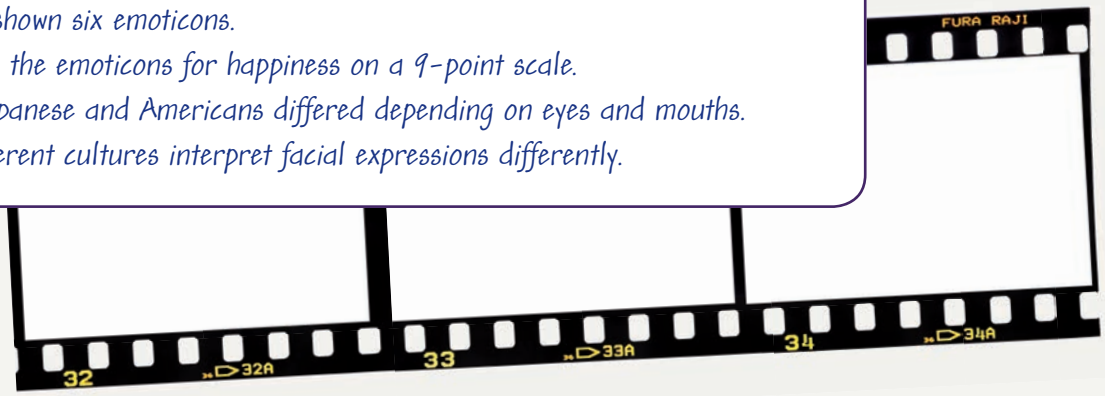
Visual images can be useful, so why not outline Yuki's study in pictures? Take the main elements of the study and try to represent them with drawings, like a film director might do with a 'storyboard', a series of images that tell the story of the film (or study) from start to finish. Here's a template to help you along.



Suggested answer

Things to consider ...

The study compared Japanese people and American people.
The participants were students and the design was independent groups.
They were each shown six emoticons.
They had to rate the emoticons for happiness on a 9-point scale.
Ratings from Japanese and Americans differed depending on eyes and mouths.
People from different cultures interpret facial expressions differently.



Nervous system match-up

Match up the statements in the three columns.

6. Central nervous system (CNS)	**5.** Consists of brain and spinal cord.	**4.** Includes centre of conscious awareness.
2. Autonomic nervous system (ANS)	**7.** Consists of sympathetic and parasympathetic branches.	**12.** Controls involuntary functions.
11. Somatic nervous system (SNS)	**1.** Receives information from sensory organs.	**3.** Sends information to voluntary muscles.
13. Brain	**8.** Has two hemispheres.	**9.** Left controls right side of body, and vice versa.
14. Spinal cord	**10.** Connects to brain via brain stem.	**15.** Important role in reflex behaviour.

Nervous system maths

Complete up the following 'equations' by filling in the blank boxes.

Nervous system	=	CNS	+	PNS		
Brain	=	**2**	×	hemispheres		
Spinal cord	=	**CNS**	–	brain		
PNS	=	ANS	+	SNS		
ANS	=	sympathetic	+	parasympathetic		

Complete the table

Match up the statements across the three columns.

Organ/function	Sympathetic response	Parasympathetic response
Heart rate	Increases	Decreases
Pupils	Dilates	Constricts
Digestion	Inhibits	Stimulates
Saliva production	Inhibits	Stimulates
Breathing rate	Increases	Decreases
Rectum	Contracts	Relaxes

Decreases Stimulates Increases Constricts Inhibits Relaxes Dilates Decreases Inhibits Increases Contracts Stimulates

Fight or flight – true or false?

What do you know about the fight or fight response? Find out by identifying which of the following statements are true and which are false. For the false ones, write them so that they are true.

Suggested answer

		True or false?	
1.	A threatening event is detected in the brain by the spinal cord.	✗	The stressor is detected by the hypothalamus.
2.	This triggers activity in the sympathetic division of the CNS.	✗	The sympathetic division of the ANS.
3.	Before the stressor, the ANS was in a parasympathetic state.	✓	
4.	Now it switches to an aroused (sympathetic) state.	✓	
5.	This triggers the adrenal glands to release the hormone insulin into the bloodstream.	✗	It is adrenaline that is released.
6.	Fight or flight occurs eventually once we decide how to act.	✗	The fight or flight response occurs automatically and immediately.
7.	Adrenaline affects the cardiovascular system, for example by decreasing heart rate and breathing rate.	✗	Heart rate and breathing rate are increased.
8.	These physiological changes prepare the body to confront the threat (fight) or provide the energy to run away (flight).	✓	
9.	After the stressor is over, the body switches from parasympathetic arousal to a sympathetic state of 'vest and detest'.	✗	It switches from sympathetic arousal to a parasympathetic state of 'rest and digest'.

Put it right

The passage below is a description of the James–Lange theory of emotion, but it contains 11 errors. Your task is to identify the errors and correct them.

According to the theory, we experience an emotion ~~before~~ *after* physiological arousal. Arousal occurs when the hypothalamus of the brain stimulates the ~~parasympathetic~~ *sympathetic* division of the ~~CNS~~ *ANS*. This releases the hormone ~~oestrogen~~ *adrenaline* and creates physiological arousal, for example increased heart rate, sometimes called the ~~fright and~~ *fight or* flight response.

The brain then interprets this physiological activity which causes us to experience an emotion such as fear or excitement.

To take an example, if you see a bear about to attack you, this activates the ~~parasympathetic~~ *sympathetic* division. Your muscles ~~relax~~ *tense* and your heart rate ~~slows down~~ *increases*. Your brain interprets these changes as ~~'happiness'~~ *'fear'*. You might then run away.

If there are no physiological changes in the body, then you will ~~still~~ *not* experience the emotion. For example, if you stand in front of your class to give a presentation, your heart rate might stay the same and you would ~~still~~ *not* feel scared.

Elaborate to evaluate

Don't waste your AO3 points. Make the most of them by elaborating – develop and explain them fully, just like we do in this book. You can do this in this activity by using the trigger phrases to help you construct an evaluation.

Suggested answer

A strength	Evidence supporting the theory … *comes from real-life examples that emotions come after arousal.*	For example … *people can develop a phobia of public situations after experiencing the anxiety of falling over in public.*	This shows that … *the theory is correct in suggesting that emotional responses are due to physiological arousal (e.g. increased heart rate).*
A weakness	An alternative theory … *called the Cannon–Bard theory challenges the James–Lange theory.*	This states that … *there are some emotions (e.g. embarrassment) that we experience at the same time as physiological arousal (not afterwards).*	This suggests that … *the James–Lange theory is incomplete because it cannot explain some emotional responses but other theories can.*
Another weakness	The James–Lange theory is also challenged by … *Schachter and Singer's two-factor theory.*	This states that … *we use social cues to interpret physiological arousal so we can correctly label the emotions we experience.*	This suggests that … *the James–Lange theory is too simplistic because it does not explain how we 'decide' what emotion we are experiencing.*

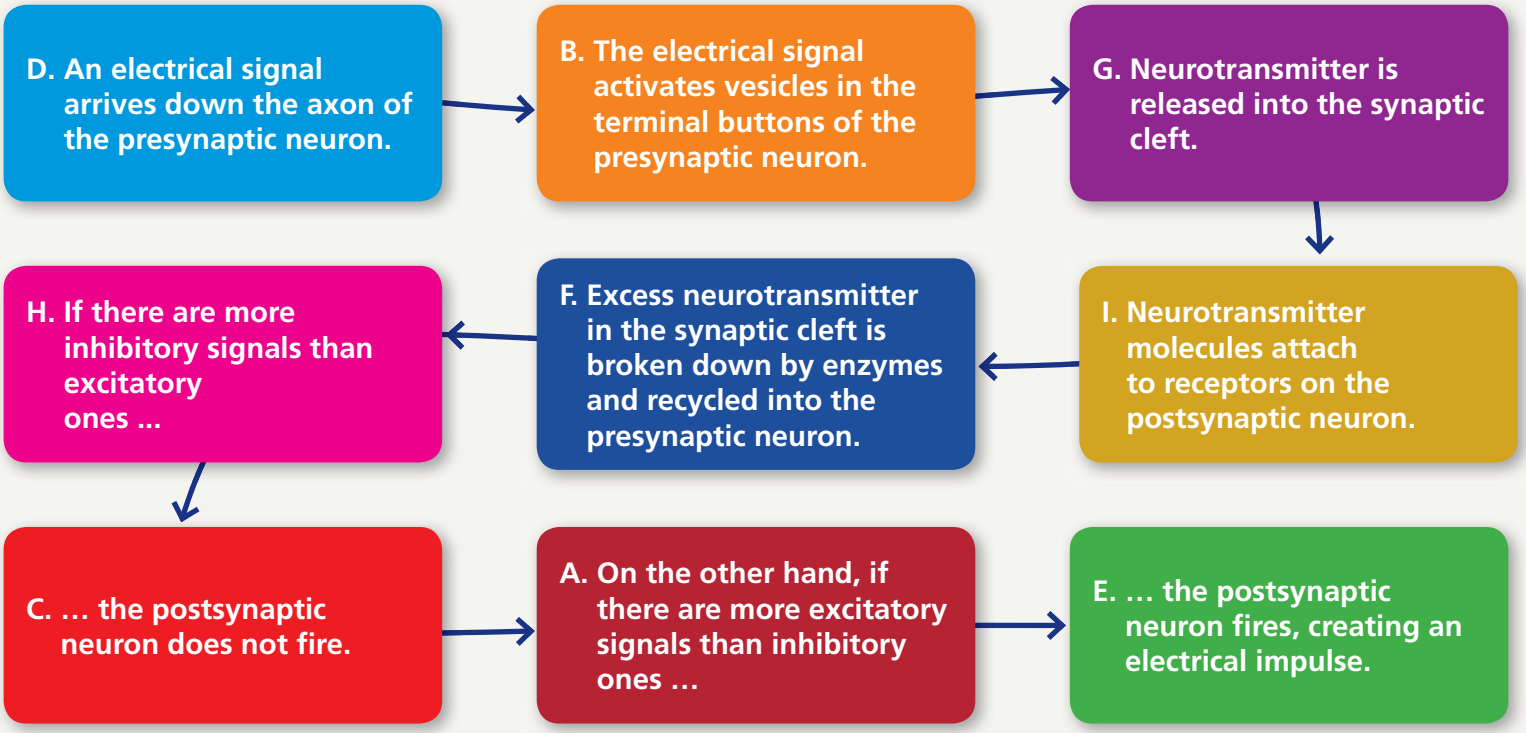
AO1 – Broken sentences

Below are some sentences that describe the structure and functions of the neuron. They have become broken and muddled up, so put them back together again by matching the first half of each sentence in the left-hand column with the second half in the right-hand column.

1. The signals sent by neurons are …	**H.** … electrical and chemical.
2. Relay neurons have …	**D.** … short dendrites and short axons.
3. Motor neurons connect …	**F.** … the CNS to muscles and glands.
4. The cell body contains …	**A.** … a nucleus with genetic material.
5. The axon is …	**J.** … covered in a myelin sheath.
6. The terminal buttons are …	**C.** … found at the end of an axon.
7. When a neuron 'fires' …	**I.** … it produces an action potential.
8. Neurotransmitters are stored in …	**G.** … vesicles in terminal buttons of the presynaptic neuron.
9. Neurotransmitter left in the synaptic cleft …	**E.** … is broken down by enzymes.
10. Excitatory neurons …	**B.** … make the postsynaptic neuron more likely to fire.

Synaptic transmission flowchart

Representing the description of synaptic transmission in a different format can help you to remember it. With that in mind, use the information on the previous page to put the following events in the correct order by writing the letters into the table below.



1	2	3	4	5	6	7	8	9
D	B	G	I	F	H	C	A	E

Anagrams

Time to unjumble these words relating to Hebb's theory. Can you do it without looking at the clues?

1.	CATLISP	PLASTIC	An important property of the brain, like Lego!
2.	RENALGIN	LEARNING	This takes place as a result of new experiences.
3.	MANGER	ENGRAM	Another term for a memory trace.
4.	EARSHERE	REHEARSE	What we do when we practise what we are learning.
5.	CLEE ABLEMISSES	CELL ASSEMBLIES	Groups of neurons that fire together.
6.	ALONERUN THROWG	NEURONAL GROWTH	This occurs as the brain rewires to manage new learning.
7.	ICETICFINS	SCIENTIFIC	A strength of Hebb's theory is that it is _____.
8.	AUNTIECOD	EDUCATION	Hebb's theory can be applied to this.
9.	ZESMA	MAZES	What rats have to learn in experiments.
10.	EROTICNUDIST	REDUCTIONIST	A weakness of the theory is that it is _____.

Write it thoroughly

Suggested answer

An excellent way to boost your AO3 marks is to make sure your evaluation is thorough. So every time you make a point of evaluation, such as a strength or weakness, you should develop and explain it. The same goes for description – add detail to increase your AO1 marks (using examples is good for this). Fortunately, you can learn these skills with plenty of practice.

Here's a typical 9-mark question: Describe and evaluate Hebb's theory of learning and neuronal growth.

Complete the table below by responding to the statements in each box. Remember – make sure you explain each part of your answer thoroughly.

In your own words, summarise the theory in about five sentences, covering the main AO1 points on this topic.

- Hebb argued the brain is plastic because it can change and develop, which means the brain adapts.
- When we experience something new, the learning involved changes the structure of the brain, for example the connections between neurons.
- When we learn something, a physical trace (engram) is left in the brain which is temporary but it can become permanent if we practise and rehearse the learning over and over again.
- Hebb noticed that groups of neurons often 'fire' (become active) together and called these cell assemblies.
- The more they fire together the stronger the synaptic connections between them become.

Suggested answer continues on next page

Continued from previous page

Explain a weakness/strength of the theory in three sentences – Point / Example / Conclusion

Point – One strength of Hebb's theory is that it is scientific.

Example – This is because it explains how we learn in terms of the structure and functioning of the physical brain, which can be studied and measured.

Conclusion – This is a strength because it is an objective and unbiased way of understanding how we learn.

Explain a weakness/strength of the theory in three sentences – Point / Example / Conclusion

Point – Another strength is that the theory can be applied to education.

Example – For example, when rats were raised in a stimulating environment, they were better at learning to get through a maze as adults.

Conclusion – This is a strength because we can create stimulating environments to promote learning in human children.

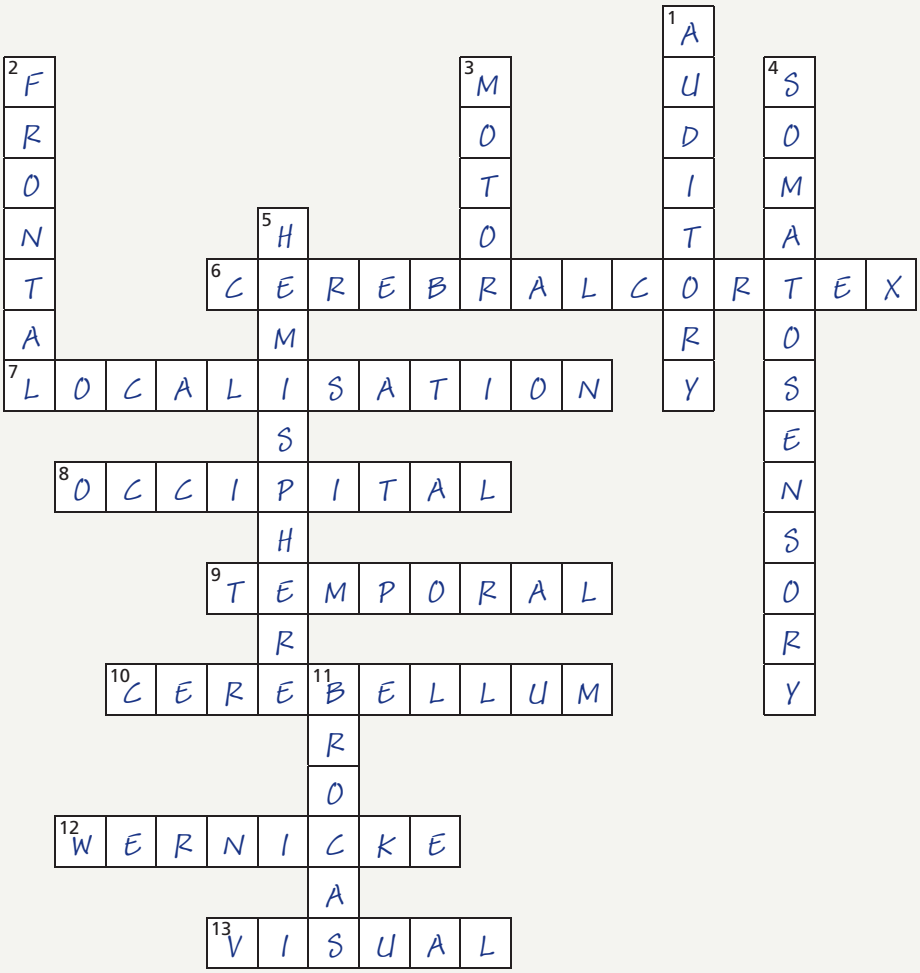
Explain a weakness/strength of the theory in three sentences – Point / Example / Conclusion

Point – A weakness with Hebb's theory is that it reduces learning to a neuronal level.

Example – This means that other levels of understanding are ignored, such as Piaget's ideas about how accommodation moves learning forwards.

Conclusion – This is an issue as a more complete account of learning would discuss non-biological factors as well.

Crossword



DOWN

1. Damage to this area can lead to deafness. A_____ (8)
2. The lobe controlling thinking and planning. F_____ (7)
3. Area controlling movement. M_____ (5)
4. Area processing sensations. S_____ (13)
5. There's a left one and a right one in the brain. H_____ (10)
11. Damage to this area can lead to problems producing speech. B_____ (6)

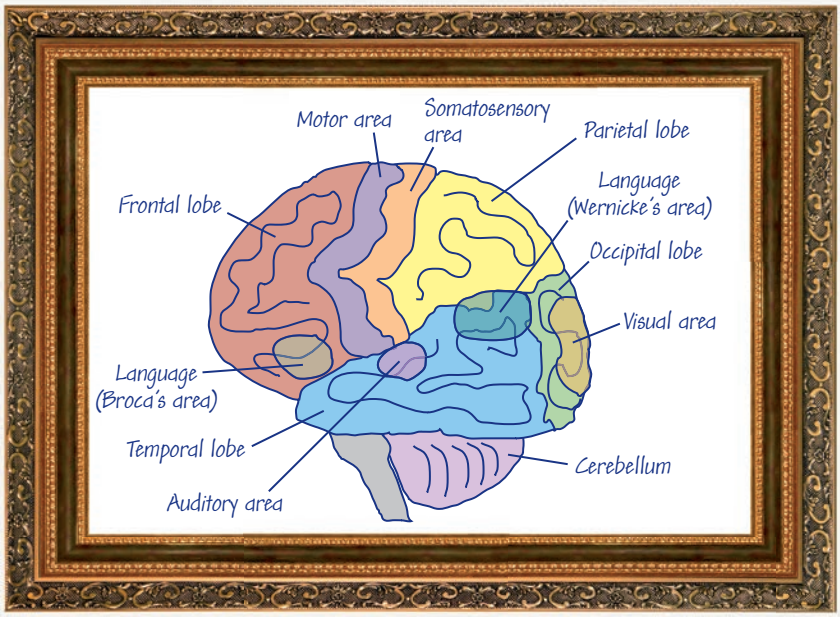
ACROSS

6. The outer 'layer' of the brain. C_____ C_____ (8,6)
7. Specific brain areas do specific jobs. L_____ (12)
8. Lobe involved in processing visual information. O_____ (9)
9. Contains the brain's auditory area. T_____ (8)
10. Controls balance and co-ordination. C_____ (10)
12. Damage to this area can lead to problems understanding language. W_____ (8)
13. Damage to this area can lead to blindness. V_____ (6)

Draw it, colour it, label it

This is quite a challenging task, but it should really help you to remember the different areas of the brain.

Start by drawing a rough outline of the brain as viewed from the side. It doesn't have to be a work of art (even though there is a frame for you to use on the right). Have a look at a couple of examples to help you, but try to draw it from memory. Then use different colours to shade in and label the areas indicated in the in the boxes on the far right. You could draw a bigger version to stick on your bedroom wall for revision.



Frontal lobe
Parietal lobe
Occipital lobe
Temporal lobe
Cerebellum
Motor area
Somatosensory area
Visual area
Auditory area
Language area

Classic study – true or false?

Suggested answer

Here are some sentences about Penfield's study of the interpretive cortex. Indicate whether you think each one is true or false. For the false statements, write down the true versions in the spaces provided.

		True or false?	
1.	The aim of Penfield's study was to investigate how patients responded when their brains were stimulated by drugs.	✗	His aim was to investigate their responses when their brains were electrically stimulated.
2.	Penfield performed brain operations to research the brain.	✗	He performed the operations to treat their severe epilepsy.
3.	Penfield's patients were unconscious during surgery.	✗	They were conscious during the operation.
4.	The patients could explain to Penfield what they experienced when he stimulated their brains.	✓	
5.	Penfield was especially interested in the occipital lobe.	✗	He was especially interested in the temporal lobe.
6.	Patients could recall experiences and feelings associated with them when their temporal lobes were stimulated.	✓	
7.	Patients reported experiencing déjà vu.	✓	
8.	When the same area was stimulated repeatedly, patients reported recalling different memories.	✗	The patients reported the same memories when the same area was stimulated.
9.	Penfield concluded that memories of previous experiences are stored in the frontal lobe.	✗	He concluded they are stored in the temporal lobe.
10.	The personal meaning of the experience is stored in the interpretive cortex.	✓	

Evaluation match-up

Fill in the missing information where necessary in the sentences below. Then match the sentences up to make three full evaluation points (three sentences each).

8. One strength is that Penfield used a *precise* method to study the brain.	3. This meant he was able to stimulate exactly the *same* brain areas repeatedly and could see if patients reported the same experiences.	7. This is a strength because it allowed Penfield to produce a very accurate *map* of the brain's functions.
5. A weakness of Penfield's study is that it used an unusual *sample*.	1. For example, the participants were people who were suffering from severe *epilepsy* that could not be treated.	6. This is a weakness because it means that the study's findings may not be *generalisable* to the majority of the population who do not have epilepsy.
9. Another weakness is that these findings were contradicted by Penfield's *later* research.	2. For example, he studied 520 patients in total, but only *40* reported vivid memories when Penfield stimulated their *temporal* lobes.	4. This is a weakness because it suggests that the *interpretive* cortex does not respond in a consistent way to stimulation.

Cognitive neuroscience fill in the blanks

Complete the passage by filling in the missing words from this description of cognitive neuroscience. Try to complete the activity without referring to your notes on the previous page. The words you need to choose from are below if you really get stuck.

Cognitive neuroscience is the scientific study of how brain structures influence mental *processes*. It aims to create a detailed *map* of the localised *functions* of brain areas.

The structures and functions of the brain are associated with behaviours. For example, the motor area is found in the *frontal* lobe and is involved in co-ordinating *movement*. The *amygdala* is found within the temporal lobe. It processes emotions and research has linked it to *aggressive* behaviour.

Brain structures and functions are also associated with *cognition*. This refers to the mental processes of the mind, for example memory and perception. Studies have found that different types of *long*-term memory are localised to different areas of the brain.

Finally, cognitive neuroscience has also investigated the links between the brain and mental *illnesses*. For example, a low level of the neurotransmitter *serotonin* is associated with depression. It affects both thinking (suicidal thoughts) and behaviour (emotional behaviours such as low *mood*).

frontal mood aggressive functions illnesses amygdala serotonin processes cognition movement map long

Use examples to boost your AO1

Suggested answer

Giving examples is a great way to add detail to your descriptions. In the boxes below, explain what is meant by the terms and phrases provided. Add examples to take your explanations further. Try to think of different examples from the ones on the previous page.

	Definition	Example
Stroke	*A part of the brain can be deprived of oxygen if its blood supply is cut off.*	*This disrupts the function of the affected part of the brain. However, nearby brain areas may take over this function, so the effects are not permanent.*
Effects of neurological damage on motor ability	*If the stroke occurs in the motor area of the brain, this can have serious effects on the person's ability to move.*	*The person may struggle to make fine or complex movements (e.g. with their hands). If the motor area in the right hemisphere is damaged, movements of the left side of the body are affected (e.g. the left hand), and vice versa.*
Effects of neurological damage on behaviour	*A stroke can cause brain damage that has an effect on language – the outcome is a type of disorder called aphasia.*	*For example, in Broca's aphasia the individual has problems producing speech. In Wernicke's aphasia, they have difficulty understanding language.*

Brain scan wordsearch

Can you find the words related to the topic of scanning techniques? There are 11 of them, and they could be horizontal, vertical or diagonal (but not backwards).

SCANNING
XRAYS
RADIOACTIVE
PET
LOCALISATION
FMRI
OXYGEN
SCREEN
IMAGE
COMPUTER
DOUGHNUT

AO3 – Broken sentences

Here is an evaluation of brain scanning techniques, which is jumbled up. Put the sentences together correctly (the first half is in the first column, the second half is in the second column).

1. CT scans are useful for …	**E.** … revealing abnormal structures such as tumours.
2. CT scans give …	**C.** … higher-quality images than traditional X-rays.
3. CT scans use more …	**H.** … radiation than traditional X-rays.
4. A weakness of CT scans is that they …	**A.** … only produce still images.
5. PET and fMRI scans both show …	**I.** … the brain in action (e.g. when performing a task).
6. PET and fMRI scans help us to understand …	**D.** … localisation of brain function.
7. A strength of fMRI scans is that they …	**F.** … do not use radiation.
8. Because PET scans involve injection of a radioactive substance …	**B.** … they raise ethical issues.
9. A weakness of fMRI is …	**G.** … the time lag between the brain activity and the image appearing.

Classic study mix-up

Suggested answer

Describe Tulving's 'gold' memory study.

Below are some sentences about the study by Tulving. You can use them to help you answer the exam-type question above, but they have become mixed up.

Put the numbers of the sentences in the right boxes below so that the answer makes sense.

Aim	Method	Results	Conclusion
9, 5	11, 2, 8, 1, 6	10, 4, 12	7, 3

1. Four of the trials involved thinking about personal experiences and four thinking about facts.

2. The study was a laboratory experiment using a repeated measures design.

3. Episodic and semantic memories are localised in different parts of the brain.

4. Semantic memories were associated with increased blood flow in the posterior cortex.

5. Tulving wanted to find evidence for a physical difference in the brain between two types of memory.

6. Each participant's brain blood flow was measured using PET scanning.

7. Tulving's results show that memory has a biological basis in the brain.

8. Each participant carried out eight trials in total.

9. Tulving wanted to find out if episodic memories produced different blood flow patterns in the brain from semantic memories.

10. Tulving found that blood flow patterns differed between semantic and episodic memories in three participants.

11. The participants were injected with radioactive gold.

12. Episodic memories were associated with increased blood flow in the frontal lobe.

Evaluate with trigger phrases

Suggested answer

Here are some 'trigger' phrases related to Tulving's 'gold' study. The first thing to do is decide which phrases go together by putting them into pairs in the table (columns 1 and 2). Then write a sentence (in column 3) for each pair without looking at your notes or elsewhere on the previous page. Finally, in column 4, write a further sentence, to explain why your first sentence is a strength/weakness.

3. Objective scientific evidence.	1. Findings about memory differences came from brain scans.	These are difficult to fake, so we can be sure that the findings are genuine.	This is a strength because it means that the evidence Tulving produced is unbiased.
5. Sampling issues.	2. Tulving used a restricted set of participants.	For example, there were only six in total. The differences in blood flow between episodic and semantic memories were only found in three of them.	This is a weakness because it means the results were inconclusive and cannot be generalised to the wider population.
6. Different types of memory?	4. Episodic and semantic memories are often similar.	For example, one recollection can contain information about both personal events and facts about the world.	This is a weakness because it can be hard to separate the two types of memory.

1. Findings about memory differences came from brain scans.

2. Tulving used a restricted set of participants.

3. Objective scientific evidence.

4. Episodic and semantic memories are often similar.

5. Sampling issues.

6. Different types of memory?

Three-column match-up

Match up the statements across the three columns.

(1) Incidence of mental health problems.	**(7)** According to MIND, 2.6 out of 100 people suffer from depression.	**(10)** 1 in 2 people experience mental health problems in their lifetime.
(2) Increased challenges of modern living.	**(8)** 27% of men in lower income households have mental health problems compared with 15% of men in higher income households.	**(9)** Depression is linked to social isolation in cities which increases loneliness.
(3) There are cultural variations in beliefs about mental health problems.	**(5)** For example, hearing voices is a symptom of schizophrenia in Western societies but a more positive experience in India and African countries.	**(12)** This is evidence that some mental health problems are culture-bound.
(4) It is important to lessen social stigma.	**(6)** Labelling someone as 'mentally ill' creates expectations about their behaviour that can be harmful.	**(11)** Therefore, a less stigmatising label is 'mental health problem', which focuses positively on health rather than illness.

Mental health unjumble

There is a description of mental health issues in the following sentences, but it has become jumbled up. All you have to do is put the sentences together correctly (the first half is in the first column, the second half is in the second column).

1. According to MIND, the incidence rate per 100 people is …	**I.** … 1.6 for eating disorders.
2. 1 in every 2 people experience …	**E.** … mental health problems in their lifetime.
3. Compared with 2013 …	**J.** … two million more adults will have mental health problems by 2030.
4. More women than men …	**A.** … are treated for mental health problems.
5. People in lower income households …	**G.** … are more likely to have mental health problems than people in higher income households.
6. Hearing voices …	**B.** … is viewed more positively in African countries than it is in European.
7. An example of a culture-bound syndrome is …	**H.** … eating disorders.
8. Signs and symptoms of mental illnesses are …	**D.** … subjective and hard to measure.
9. According to Marie Jahoda we should …	**F.** … focus positively on signs of mental health, not illness.
10. Labelling someone as mentally ill …	**C.** … leads to stigma and can be harmful.

Mental health wordsearch

Can you find the words related to the topic of scanning techniques? There are 10 of them, and they could be horizontal, vertical or diagonal (but not backwards).

RELATIONSHIPS
COMMUNICATION
COPING
DISTRESS
CORTISOL
IMMUNE SYSTEM
SOCIAL CARE
SUBSTANCES
ECONOMY
MCCRONE

Which is which?

Mental health problems have serious effects on both the individual and wider society. But which effect is which? Place the following effects into the correct columns (in any order).

1. Greater need for social care resources.
2. Negative impact on physical well-being.
3. Causes damage to relationships.
4. Causes an increase in crime rates.
5. Reduces ability to communicate.
6. Co-occurring problems more likely.
7. Expensive for the economy.
8. Hard to cope with everyday life.

Effects on the individual	Effects on wider society
2. Negative impact on physical well-being.	1. Greater need for social care resources.
3. Causes damage to relationships.	4. Causes an increase in crime rates.
5. Reduces ability to communicate.	6. Co-occurring problems more likely.
8. Hard to cope with everyday life.	7. Expensive for the economy.

Depression true or false

What do you know about depression? Find out by identifying which of the following statements are true and which are false. For the false ones, write them so that they are true.

Suggested answer

		True or false?	
1.	Clinical depression is a relatively mild form of depression.	✗	Clinical depression is a serious medical condition, it means that the depression a person has is more than just sadness..
2.	Sadness and depression are similar because you can still function.	✗	They are different because with clinical depression you cannot function.
3.	In unipolar depression only one abnormal emotional state is experienced.	✓	
4.	There is another condition called bipolar depression.	✓	
5.	In mania, the person is even more depressed than in unipolar depression.	✗	Mania is a state of intense emotional well-being, not depression/sadness.
6.	Mental health problems are diagnosed very differently from physical illnesses.	✗	Mental and physical illnesses are diagnosed in the same ways – symptoms are agreed by professionals.
7.	The classification system is called ICD-10.	✓	
8.	There are three key symptoms of depression.	✓	
9.	A diagnosis of severe depression requires five or six symptoms.	✗	Severe depression requires seven or more symptoms (moderate is five or six).
10.	Symptoms have to be present for one week.	✗	Symptoms have to be present for two weeks or longer.

Increase or decrease?

Suggested answer

The symptoms of depression involve changes of some kind, but in which direction? For each symptom identified in the table, indicate whether a diagnosis requires an increase or decrease or either.

Write a brief explanation in the space provided.

Finally write a sentence about any pattern you can see to the direction of the symptoms [HINT: which are 'key' and which are 'other'?].

SYMPTOM	Increase or decrease or both?	Explanation	Key or other?
Mood	Decrease	Depressed person has low mood (most of the day, nearly every day).	Key
Interest/pleasure	Decrease	Depressed person loses interest and pleasure in activities they used to enjoy.	Key
Energy levels	Decrease	Depressed person experiences low energy, which affects their functioning in work, school/college, etc.	Key
Sleep	Either	Could be either less sleep (insomnia) or more sleep (hypersomnia) than before.	Other
Appetite	Either	Could be either increased (weight gain) or decreased (weight loss) appetite.	Other
Self-confidence	Decrease	Depressed person experiences decrease, leading to feelings of self-loathing and even suicidal thoughts.	Other
ANY PATTERN?	All of the key symptoms are diagnosed through a decrease of a behaviour or function.		

Broken sentences description

Below are some sentences about the biological explanation of depression. They have become broken and muddled up, but you can put them back together again by matching the first half of each sentence in the left-hand column with the second half in the right-hand column.

1. Physical influences are the focus of …	**I.** … biological explanations.
2. Psychological explanations focus on …	**F.** … factors such as the influence of other people.
3. Nurture is emphasised by …	**H.** … psychological explanations.
4. Neurotransmitters transmit signals …	**B.** … chemically across synapses.
5. Serotonin is …	**D.** … a neurotransmitter linked to depression.
6. High serotonin levels in the synaptic cleft …	**J.** … stimulate postsynaptic neurons and improve mood.
7. Low serotonin levels mean …	**A.** … less stimulation of the postsynaptic neuron and low mood.
8. Memory, sleep and appetite are …	**G.** … also affected by serotonin.
9. Low serotonin can be caused by …	**C.** … genes.
10. Tryptophan is …	**E.** … an ingredient of serotonin and low levels are caused by diet.

Instant message evaluation

Two students are having an instant messaging conversation about the biological explanation of depression (as you do). They are building evaluation points step by step. Some of the conversation has gone missing, so you need to fill in the gaps.

Put the description right

The passage below is a description of the psychological explanation of depression. Unfortunately, ten mistakes have crept into it. Your task is to identify the errors and correct them.

One explanation of depression is cognitive. According to this theory, depression is the result of faulty ~~genes~~ thinking. When someone is depressed, they think in an irrational way. For example, they focus on ~~positive~~ negative things and ignore ~~negatives~~ positives. This is called ~~red~~ black-and-white thinking. This kind of thinking causes them to feel hopeless and depressed.

People who are depressed also have negative ~~social~~ self-schemas. A schema is a ~~metal~~ mental framework containing ideas and information developed through experience. Depressed people interpret information about themselves in a negative way.

According to Seligman, depressed people have a negative attributional style. An attribution is our way of explaining the ~~outcome~~ cause of a behaviour. Depressed people's attributions are internal, ~~unstable~~ stable and global.

Seligman believed that a negative attributional style is ~~innate~~ learned. We try to escape from negative experiences. But if you cannot escape then you learn that there is no point trying. Seligman called this learned ~~helpfulness~~ helplessness.

Fake news evaluation

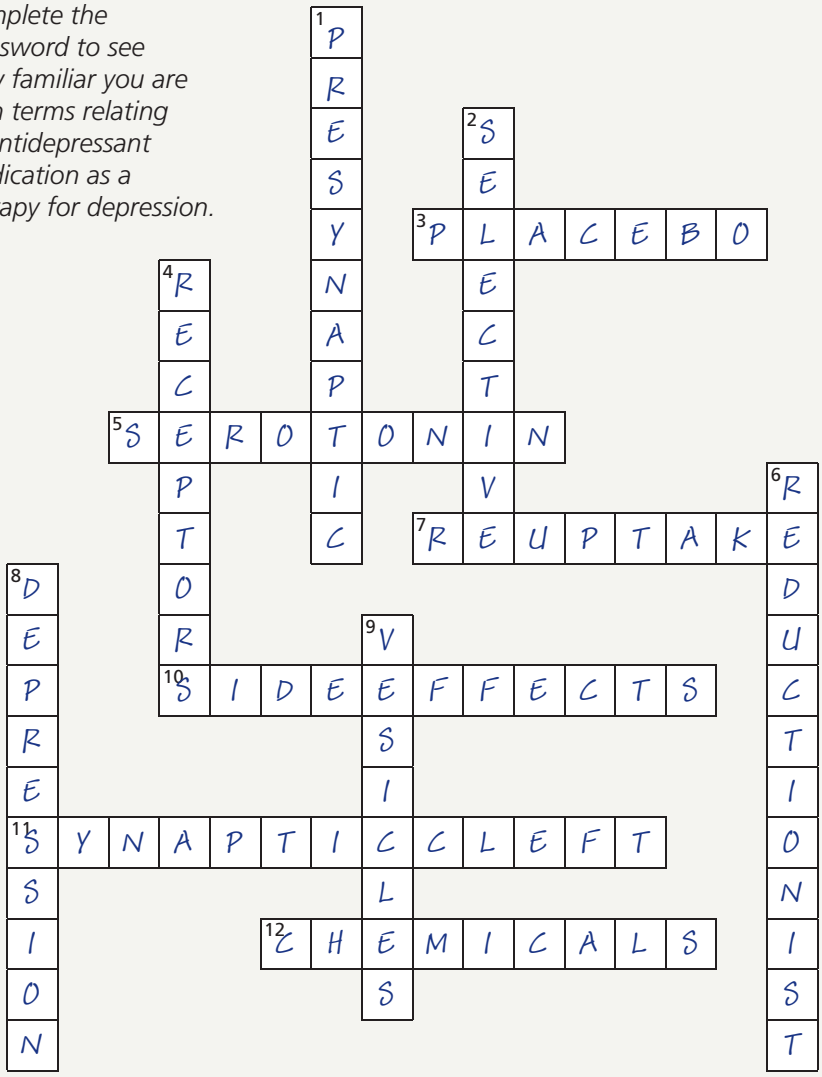
Here are some fake news headlines for you to think about.
Rewrite them in the 2nd column to make them true statements about the psychological explanation of depression.
Then, in the 3rd column, explain your new headline by writing the first sentence of an imaginary article.

Suggested answer

Learned helplessness 'not linked to depression', say experts.	Learned helpless a cause of depression, say cognitive psychologists.	Psychologist Martin Seligman demonstrated the link when dogs in his investigation learned to 'give up', just like depressed people do.
Cognitive theory of depression 'nothing to do with real life', claim cheeky biopsychologists.	Cognitive theory basis for CBT, treatment for depression.	Cognitive behaviour therapy is a successful treatment for depression, based on cognitive principles such as replacing 'faulty thinking' with rational thinking.
Negativity is a sign you're out of touch with reality.	People with negative views 'more realistic'.	Psychologists have found that depressed people who think negatively are better at estimating the probability of negative events.

Medication crossword

Complete the crossword to see how familiar you are with terms relating to antidepressant medication as a therapy for depression.



DOWN

1. The neuron where the neurotransmitter is stored. P_____ (11)
2. SSRIs have a S_____ action on the neurotransmitter. (9)
4. These are on the postsynaptic neuron. R_____ (9)
6. The biological explanation is at a lower level and is R_____ (criticism). (12)
8. This is the disorder treated by SSRIs. D_____ (10)
9. The neurotransmitter is stored in these sacs. V_____ (8)

ACROSS

3. SSRIs may be no more effective than a P_____. (7)
5. This is the neurotransmitter targeted by SSRIs. S_____ (9)
7. The 'R' in SSRI. R_____ (8)
10. The unintended results of taking medication. S_____ E_____ (4,7)
11. The gap between neurons. S_____ C_____. (8,5)
12. Neurotransmitters are bio-C_____. (9)

Evaluation match-up

Work out which statements in the first column best go with the statements in the second column.

1. SSRIs have some serious side effects.	**B.** These include nausea, dizziness, weight loss/gain and anxiety.
2. Side effects mean that patients may stop taking antidepressants.	**F.** This means that the effectiveness of drug therapies is reduced.
3. There is some research into effectiveness of antidepressants by Asbert.	**E.** This shows that serotonin levels of depressed people may not be much different from levels in non-depressed people.
4. The effectiveness of antidepressant drugs may not be related to serotonin.	**A.** Instead, taking antidepressants may just provide a placebo effect.
5. Explanations based on antidepressants are reductionist.	**C.** This is because medication targets serotonin so focuses on just one kind of factor.
6. A better treatment might combine biological and psychological approaches.	**D.** This would be a more holistic treatment.

Boost your description with examples

Suggested answer

Using examples is a great way to add detail to your descriptions. In the boxes below, write down brief outlines of the four CBT concepts for this topic. Add examples to take your outlines further.

	Brief outline	Example
Cognitive	*CBT focuses on the client's thinking, which is irrational and faulty in depressed people.*	*Catastrophising – the client thinks about things in the most negative way possible ('everything's a disaster').*
Behaviour	*CBT tries to change behaviour directly as well as indirectly (through changes to thinking).*	*The client plans to do an enjoyable and pleasant activity every day, to create more positive mood.*
Therapist's role	*The therapist identifies and challenges the client's irrational and negative thoughts.*	*The therapist uses 'disputing', logically arguing to highlight the client's faulty thinking.*
Client's role	*The client identifies their irrational and automatic negative thoughts.*	*Client records these in a 'homework diary' and rates how much they believe them.*

Mental health unjumble

There is an evaluation of CBT as a therapy for depression in the following sentences, but it has become jumbled up.

Put the sentences together correctly (the first half is in the first column, the second half is in the second column).

Then take the completed sentences and put them together into three elaborated points of three sentences each (Point / Explanation or Example / Conclusion).

4. A strength of CBT is that it has …	**G.** … long-term effectiveness.
8. Clients learn techniques to challenge irrational thoughts which can …	**D.** … help to deal with future episodes of depression.
2. This is a strength because CBT offers …	**H.** … a long-term solution as it focuses on skills the client can use.
6. A weakness of CBT is that it is a therapy that does not suit everyone because …	**B.** … it takes a lot of time, effort and thought to be successful.
1. For example, CBT can take …	**F.** … several months and homework is expected so a lot of effort is needed compared with just taking a pill.
5. This is a weakness of CBT because it means that many people …	**A.** … drop out or do not engage enough for it to be effective.
3. Another strength of CBT is that it is …	**C.** … a holistic approach to treating depression.
9. This means that CBT focuses on …	**E.** … treating the whole person and what they think and feel.
7. This is a strength because it is a much better way to …	**I.** … deal with the core symptoms of depression.

Classic study mix-up

Suggested answer

Describe Wiles' study of the effectiveness of CBT.
Below are some sentences that will help you answer the question above. Unfortunately, the sentences have become jumbled up so are in the wrong order.
Write down the right order in the boxes below so that the answer makes sense.

Aim	Method	Results	Conclusion
7, 3	1, 5, 10, 4, 9, 12	2, 11, 8	6

1. There were 469 patients with treatment-resistant depression in the study.

2. After 6 months, 21.6% of the antidepressant-only group had more than 50% symptom reduction.

3. Wiles was interested in finding out if CBT plus antidepressants was an effective therapy for treatment-resistant depression.

4. Wiles assessed the participants after 6 months and after 12 months.

5. The two groups in the study were usual care (antidepressants only) and usual care plus CBT.

6. A combination of CBT and antidepressants is a more effective therapy for treatment-resistant depression than antidepressants alone.

7. Wiles wanted to set up a study called the CoBalT trial.

8. After 12 months, antidepressant + CBT patients continued to show greater levels of recovery.

9. Wiles assessed symptom improvement using a questionnaire.

10. The study's participants were randomly allocated to one of two groups.

11. After 6 months, 46.1% of the antidepressant + CBT group had more than 50% symptom reduction.

12. The participants completed the Beck Depression Inventory before and after treatment.

Fill in the blanks evaluation

Complete the evaluation by filling in the missing words. Try to avoid looking back at the material in the book. But if you do get stuck, the words you need are to the right of the passage.

One strength of Wiles' study is that extraneous variables were carefully _controlled_. For example, participants were _randomly_ allocated to the two groups at the start so there was no bias. This is a strength because we can conclude that symptom reduction was due to the _therapy_ and not affected by extraneous variables.

One weakness of the study is that a self-_report_ method was used to assess depression. In filling in a _questionnaire_, some participants may have underestimated or overestimated how depressed they were. This is a weakness because it places a question mark over the _validity_ of the data collected and the _conclusions_ of the study.

Another strength of the study was that it focused on developing a useful therapy. It showed that a _holistic_ approach using CBT is more effective in treating depression than just _medication_ on its own. This is a strength because it is a useful real-world _application_ that improves quality of life.

validity
report
medication
randomly
holistic
application
controlled
questionnaire
therapy
conclusions

Three-column match-up

Match up the statements across the three columns.

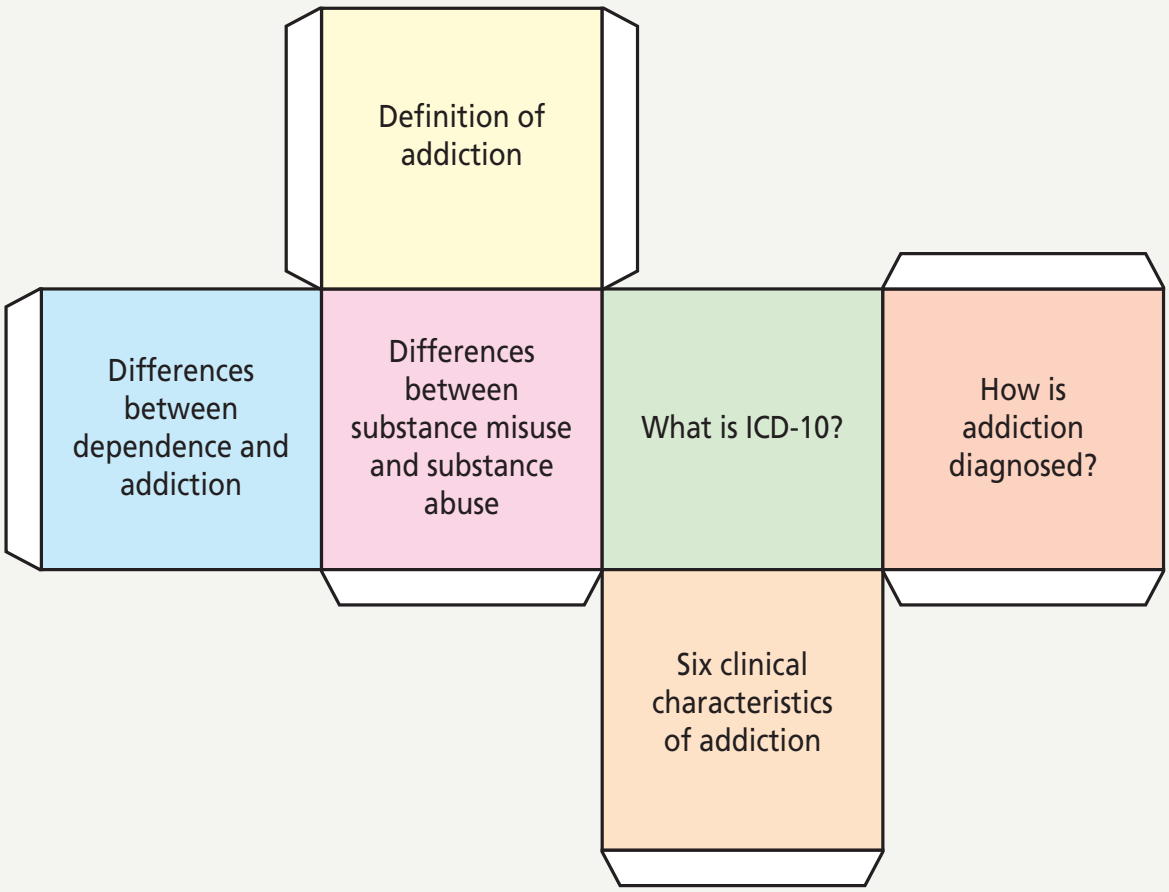
Dependence	(3) Feature of addiction but not the same as it.	(5) Involves taking drugs because of psychological reliance.	(11) Also involves trying to prevent withdrawal symptoms.
Substance misuse	(4) Failing to follow the 'rules' for using a drug.	(8) For example, taking the drug more often than recommended.	(10) An example is taking more sleeping tablets than the prescribed dose.
Substance abuse	(1) Using a drug mainly in order to change your mood.	(7) For example, using the drug to experience an intense 'high'.	(9) Another example is using the drug to escape the stresses of everyday life (become 'numb').
Diagnosis	(2) This is guided by ICD-10.	(6) This has a category called 'Mental and behavioural disorders due to psychoactive substance use'.	(12) This diagnosis is made only if three or more features have been present together during the previous year.

Addiction cube

Suggested answer on next page

Make a small cardboard cube using the template on the right. Roll the cube and whichever term or phrase comes up, provide a detailed explanation of it.

You can do this on your own, but if you're with other students you can take turns to explain to each other. Keep the explanation going until everyone understands it.



Suggested answer

Here are some possible explanations for each phrase on the cube.

Definition of addiction	• Addiction is a combination of salience, dependence and substance abuse. • Salience means that the addictive drug/behaviour becomes the most important thing in the person's life.
Differences between dependence and addiction	• Dependence is part of addiction but not the same as it. • People who are dependent take a drug because they need it psychologically and/or they are trying to avoid withdrawal symptoms. • Addiction occurs when the person is dependent but also takes the drug to experience the 'high'.
Differences between substance misuse and substance abuse	• This is to do with intentions. • Misuse is when a person does not follow the rules when taking a drug (e.g. too much). • Abuse is when they take it mainly to 'get high' or escape reality.
What is ICD-10?	• This is the International Classification of Diseases, version 10. • It guides the diagnosis of addiction.
How is addiction diagnosed?	• The ICD-10 category of 'Mental and behavioural disorders due to psychoactive substance abuse' is used. • States that three or more characteristics have to be present at the same time during the previous year.
Six clinical characteristics of addiction	1. Strong desire to use substance. 2. Carrying on using even knowing the harm. 3. Find it difficult to control use. 4. Higher priority given to taking substance than anything else. 5. Experience withdrawal symptoms when stop taking substance. 6. Tolerance – needing more for the same effect.

Fill in the description blanks

Fill in the blanks in the following description of the biological explanation of addiction. The words are given on the right if you get stuck but try and do the activity without them first.

There are hereditary factors involved in addiction. Research studies show that the role of inherited influences in addictions is moderate to high.

Multiple genes operate to create a vulnerability to develop an addiction. However, this genetic vulnerability (the result of nature) is only expressed if the person's life stresses and experiences (the result of nurture) are a trigger. This is the diathesis-stress explanation.

Kaij carried out a twin study to see whether alcohol addiction could be explained in terms of heredity. The participants were male twins from Sweden who were registered with the temperance board. 48 MZ (identical) and 126 DZ (non-identical) twins were interviewed.

Kaij found that in 61% of the MZ pairs, both twins were addicted to alcohol. The figure for DZ twins was 39%.

Kaij concluded that alcohol addiction is related to genetic vulnerability. If it was completely genetic, then the figure for MZ twins would be 100% rather than 61%. If it was completely due to environmental factors, then there would be no difference in the figures for MZ and DZ twins.

DZ
alcohol
genetic
nature
100
genes
nurture
39
environmental
61
Sweden
diathesis

Evaluate with trigger phrases

Here are some 'trigger' phrases related to the biological explanation of addiction. The first thing to do is decide which phrases go together by putting them into pairs in the table.
Then write a sentence explaining each pair of statements (or giving an example) without looking at your notes or at the previous page.
Finally, write a further sentence, to explain why your first sentence is a strength/weakness.

Flawed design	Data from the temperance board	The participants registered with the temperance board only included drinkers who made a public display of their alcohol abuse.	This is a weakness because it means the findings may not apply to all alcohol addicts so the study lacks validity.
Support from later studies	For example, Kendler et al.	The researchers carried out a bigger twin study and found MZ twins were more likely to both be alcoholics than DZ twins.	This is a strength because most research supports a role for heredity in alcohol addiction.
Misunderstands genetic vulnerability	Biological explanations may be misleading	It is easy to assume that inheriting certain genes means addiction is inevitable – this ignores the role of nurture.	This is a weakness because this assumption does not fully acknowledge the implications of genetic research into addiction.

For example, Kendler *et al.*
Biological explanations may be misleading
Flawed design
Misunderstands genetic vulnerability
Data from the temperance board
Support from later studies

Psychological explanation true or false

Here are some sentences about the psychological explanation of addiction. Indicate whether you think each one is true or false. For the false statements, write down the true versions in the spaces provided.

Suggested answer

		True or false?	
1.	Psychological explanations emphasise the role of nature rather than nurture.	✗	They emphasise nurture over nature.
2.	A peer is someone who is your equal (e.g. similar age or education level).	✓	
3.	Bandura devised social identity theory.	✗	He devised social learning theory.
4.	According to Bandura, we learn to be addicted because it's in our genes.	✗	Bandura says we learn to be addicted because we observe and imitate the behaviour of our peers (especially when it is rewarded).
5.	We are more likely to imitate someone's behaviour if we identify with them.	✓	
6.	We always know what is the right thing to do.	✗	We often don't know what is the right thing to do, so we look to others to work out how to behave.
7.	Social identity theory says that we identify with groups because we want to be accepted by them.	✓	
8.	Adolescents are especially good at ignoring social pressures to conform to the group.	✗	Adolescents often want to 'belong' so they conform to the groups they identify with.
9.	Peers don't really have much influence over whether someone becomes addicted.	✗	Peers are very influential because they provide opportunities to try addictive drugs, and establish norms.
10.	If peers are influential, it is always indirectly.	✗	It is often direct – that is, telling someone what to do (drink alcohol, etc.).

Evaluation fill-in and match-up

Fill in the missing information where necessary in the sentences below. Then match the sentences up to make three full evaluation points (three sentences each).

5. A strength of peer influence is that it has some *research* support.	3. For example, a review by Simons-Morton and *Farhat* found there was a positive correlation between peer influence and smoking in *39* out of 40 studies.	4. This is a strength because the research shows that peer influence is a strong factor in addiction.
1. A weakness of the explanation is that *influence* may not be the important peer-related factor.	9. Instead, it may be that individuals who are already prone to addiction are selecting other people who are *like* them.	2. This is a weakness because it suggests that peer relationships are not a *cause* of addiction but a consequence of it.
8. Another strength is that the peer influence explanation can be *applied* to real-life situations.	7. For example, Hansen and *Graham* have showed that social *norms* programmes are more successful in dealing with addiction than just resistance skills.	6. This is a strength because it suggests that the peer influence explanation has some validity if it can be *applied* successfully.

Aversion anagrams

Here are ten anagrams of words related to this topic. There are some clues to help you if you need them.

1.	VASEIRON RATHYPE	AVERSION THERAPY	The treatment this is all about.
2.	LILACSACS CONNINGIDIOT	CLASSICAL CONDITIONING	The type of learning the treatment is based on.
3.	ACTIONOASIS	ASSOCIATION	The link between an addiction and something unpleasant.
4.	DADCOINIT	ADDICTION	The disorder that is being treated.
5.	SAUNABET	ANTABUSE	The name of the drug used in this treatment.
6.	MOVINGIT	VOMITING	What people start doing after taking the drug.
7.	NICOTINEODD	CONDITIONED	Nausea becomes a _____ response after treatment.
8.	BANGGLIM	GAMBLING	Another costly addictive behaviour treated with this method.
9.	CREELTIC HOCKS	ELECTRIC SHOCK	Used instead of chemicals to treat the above behaviour.
10.	KONGISM	SMOKING	Another addictive behaviour, this one involves nicotine.

Organise your answer

Suggested answer

Here's a typical 9-mark question: Describe and evaluate aversion therapy for addiction.

An excellent way to boost your marks to such a question is to organise your answer clearly. The table below offers a way to visualise your answer.

Just identify 4 AO1 points/phrases (on left) and 3 AO3 points/phrases (on right) as triggers.

AO1 – use a different colour for each one.	AO3 – keep it brief.
1. Associate addiction with nasty thing.	1. Treatment adherence, drop out.
2. Antabuse (UCs), alcohol (CS).	2. Long-term effectiveness, McGonaghy.
3. Gambling, electric shock (UCS)	3. Holistic, CBT.
4. Rapid smoking	

Now use the framework above to write out your essay in full.

For the description you should write about 25 words for each point.

For the evaluation you need to provide an explanation and a conclusion for each point.

Suggested answer continues on next page

Continued from previous page

Aversion therapy is a treatment for addiction based on classical conditioning. Addicts learn to associate their addiction with unpleasant outcomes and so avoid the addictive substance. To treat alcoholism, the addict takes Antabuse (UCS) which causes vomiting (UCR). Before vomiting, they have an alcoholic drink (NS). Alcohol becomes a CS associated with extreme nausea (CR). A gambler reads out gambling-related phrases (NS) and gets an electric shock (UCS) each time, experiencing pain (UCR). Each phrase becomes a CS associated with pain (now a CR). An addicted smoker rapidly smokes several cigarettes in a closed room. They associate the unpleasant feelings of disgust (smell, taste, etc.) with smoking.

A weakness is treatment adherence. Addicts may drop out of aversion therapy before it is completed because the aversive stimulus is very unpleasant. This is a weakness because it makes it hard to assess how effective aversion therapy is.

Another weakness of aversion therapy is that its long-term effectiveness is poor. For example, McGonaghy et al. found it was no more effective than placebo after nine years. This is a weakness because aversion therapy is not very useful if its effectiveness is limited to the short term.

A strength of aversion therapy is it can be used holistically with CBT. Aversion therapy removes the immediate urge to use a drug, and CBT provides longer-term support with thinking and emotions. This is a strength because the combination of the two provides long-term effectiveness in treating addiction.

Word count = 241

What's the difference?

Suggested answer

Self-management and aversion therapy are clearly different. But in what ways? There are four features identified in the table (left-hand column). Briefly explain how each one applies to aversion therapy and self-management in relation to addiction.

Then finally (in 4th column) explain what the difference is between the two (that's the hard bit).

	In aversion therapy …	In self-management …	So the difference is …
Role of the 'therapist'	*…the treatment has to be given under medical supervision, so a doctor or psychologist leads it.*	*…there is no professional therapist because the therapy is based on people supporting each other.*	*…the addict is more in control of their own 'treatment' in a self-management programme compared with aversion therapy.*
Role of support	*…support is given by the 'therapist' although this is not an important part of the treatment.*	*…the members of the group support each other (they are 'all in the same boat'), and also may feel supported by the 'higher power'.*	*…support is central to a self-management programme but not in aversion therapy.*
Nature of recovery	*…recovery is seen as the result of a learning process that changes the person's behaviour so they are much less likely to relapse.*	*…recovery is seen as being a lifelong process that requires a lot of support, and that relapse is part of recovery.*	*…recovery is a 'long-term project' in self-management, but more of a single event in aversion therapy.*
Reductionist or holistic?	*…the focus is on the learning processes that led to the addiction, and ignores emotions.*	*…the focus is on the whole person, including their emotions, lifestyle, etc.*	*…self-management is a more holistic approach to treating addiction than aversion therapy.*

Elaborate to evaluate

Suggested answer

Here's some more practice for you at developing, extending and elaborating your AO3 points. Use the trigger phrases in the 2nd, 3rd and 4th columns to write some sentences and construct a thorough evaluation.

A weakness is unclear evidence.	Research on effectiveness … *of self-management is weak and has problems with methodology.*	For example, … *an AA study claimed 33% of 8000 members remained sober for ten or more years but did not include how many left without success.*	This suggests that … *it is difficult to get clear data on the effectiveness of self-management, leaving doubt about its validity.*
Another weakness is individual differences.	The 12-step programme … *may only work for some people and not others.*	For example, … *drop-out rates are high, so the self-help approach requires motivation and effort.*	This means that … *the self-management approach is limited in its effectiveness.*
A strength is the holistic approach.	The 12-step programme … *focuses on the person as a whole and not just their addictive behaviour.*	For example, … *emotions (e.g. guilt) feature in several steps, and the approach involves social support to help with emotional coping.*	This shows that … *self-management is more holistic than reductionist programmes such as aversion therapy.*