

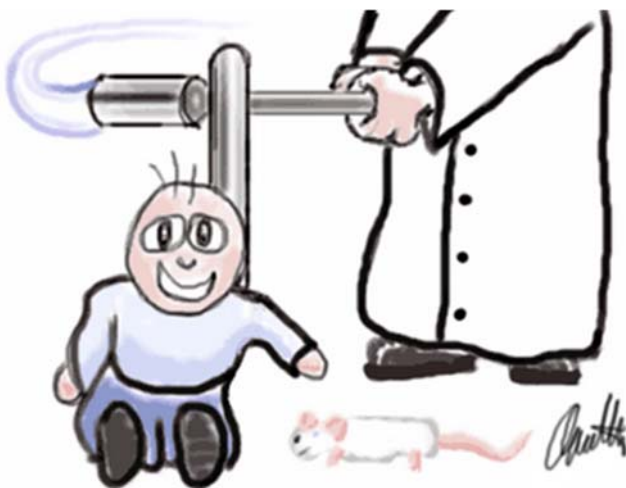
GCSE Psychology

Learning



Student: _____

Tutor: _____



Unit 2:

Understanding other people

Learning

What is classical conditioning?

What do we mean when we say we have learnt something? Read the statements below and identify which of the following behaviours you think are examples of learning.



- A dog barking when his owner starts to open a can of dog food;
- A cat climbing a tree;
- A dog chasing a rabbit across a field;
- A child sneezing in the sunlight;
- A cat using a litter tray;
- A child eating with a knife and fork.

Learning is..... write a definition for learning in the glossary at the back of this booklet.

For learning to take place there has to be a change in behaviour. An activity that could not be performed previously can now be done because of a particular experience.

Some of the statements above are examples of a _____ .

What do we mean by a reflex response?

ACTIVITY

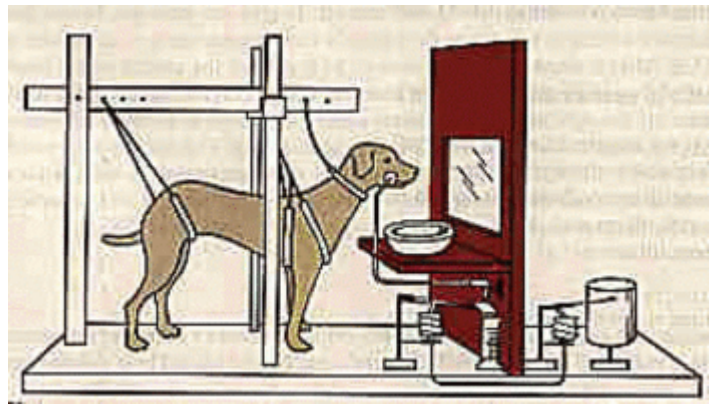
Blow into the face of the person next to you and see what happens. They will blink. Try not to blink. You will see that you can't. Now you try it.

Reflex response – something which occurs naturally. It does not have to be learnt.

Can you think of any other automatic reflex?

CLASSICAL CONDITIONING

Classical conditioning was discovered by a Russian scientist, Ivan Pavlov, in the early 1900s. He noticed that when the dog in his laboratory heard footsteps of the researcher who brought him his food, they started to salivate (mouth watering). Salivation is a **reflex response** that occurs when an animal smells food.



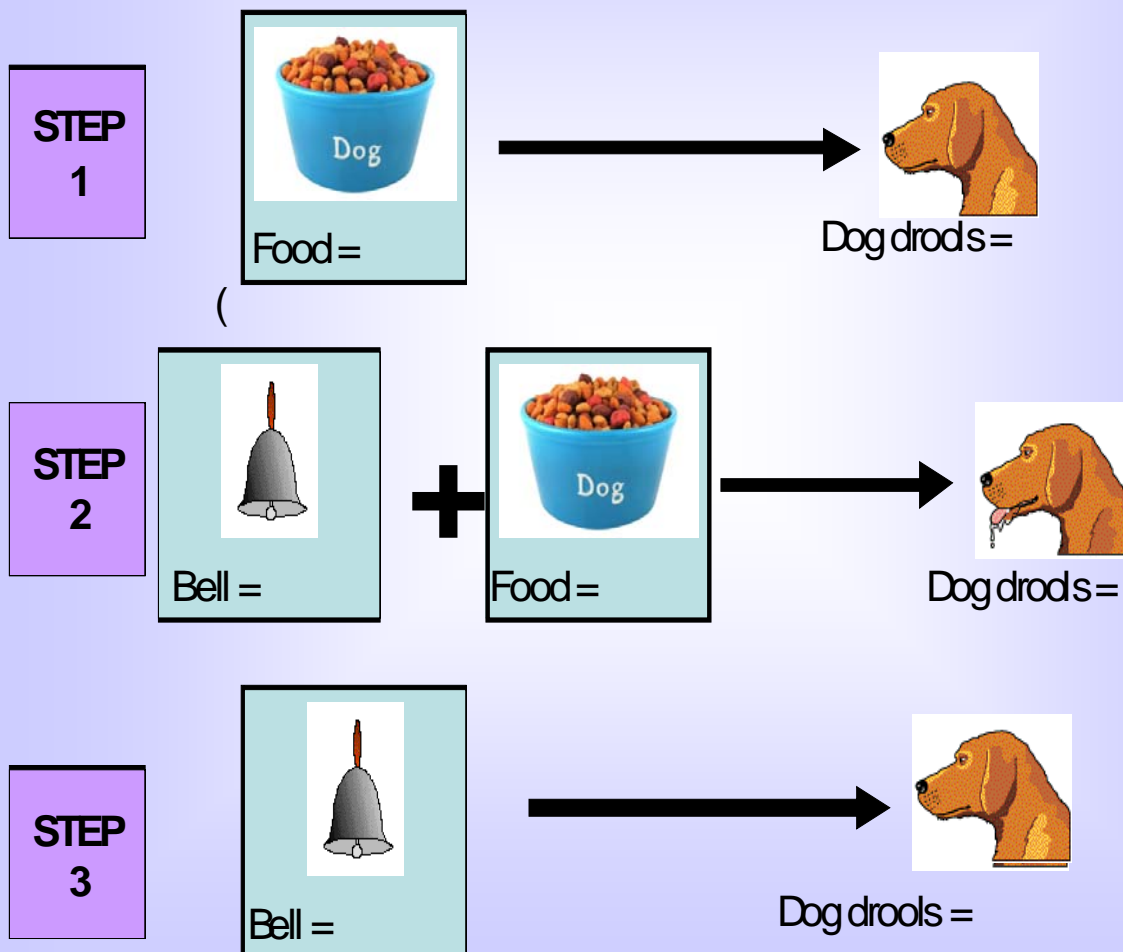
QUESTION

Why do you think the dog salivated when he heard the footsteps of the researcher?

ACTIVITY: Complete this picture by labelling process of classical conditioning

Classical conditioning: learning through association

THE PROCESS OF CONDITIONING.



Now draw your own conditioning process. Condition the dog to associate a new neutral stimulus with stimulus that would naturally create a response. Use the correct terminology.



Exam style question

Identify the unconditional stimulus, the unconditional response, the neutral stimulus, the conditional stimulus and the conditional response from the following example;

Ben, who is six years old, went to the dentist to have a tooth filled. The female dentist wore a white coat. The filling was quite painful and now every time Ben sees anyone wearing a white coat, he panics.

ANOTHER STUDY WHICH INVESTIGATED CLASSICAL CONDITIONING – Little Albert

Aim: To see if.....
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Method: Little Albert, an 11-month old baby, was brought to the laboratory of **John Watson** and **Rosalie Rayner**. He was happily playing with a
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Results: The researcher then stopped striking the metal bar and gave Albert the rat to play with. He
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Conclusion: Albert had learned to associate the rat with a fear response. Although he was to fear only, This fear



Key concepts on the

based

principles of classical conditioning

Key concept	Explanation
Extinction	
	Although Little Albert's fear behaviour may have become extinct, it would not be forgotten.
Generalisation	
Discrimination	Pavlov noticed that if the dogs were given food only when the same bell is sounded, after several trials, they only salivated to the original bell, not to any other bells.

ACTIVITY

In groups discuss behaviours that you or your friends do that could be **conditioned**.

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EVALUATION OF THE LITTLE ALBERT STUDY

ACTIVITY

What do you think of **Watson & Rayner's** study? Work with a partner to try to think of at least one criticism (evaluation) point. Remember this can be **positive** or a **negative**.

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PRACTICAL APPLICATIONS

ACTIVITY

In small groups, try to think of ways that classical conditioning procedures might be used in the real world, for example, in advertising or health promotions.

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Exam style question

Describe and evaluate one study in which classical conditioning was investigated. Include in your answer the method used in the study, the results obtained, the conclusion drawn and an evaluation of the study. (4 marks)

This is the second theory of learning.

ACTIVITY

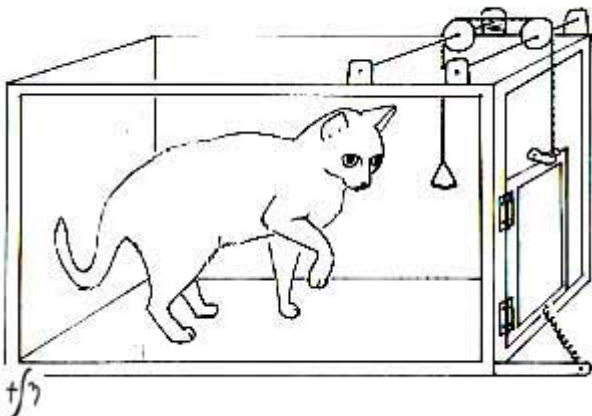
List some of the things that people could do to encourage you to:

- a) tidy your bedroom
- b) help with the washing up
- c) complete your homework on time.



Operant conditioning is learning that takes place because of the consequences of behaviour.

This type of learning was investigated by Thorndike.



Aim: To investigate the effect of consequences on

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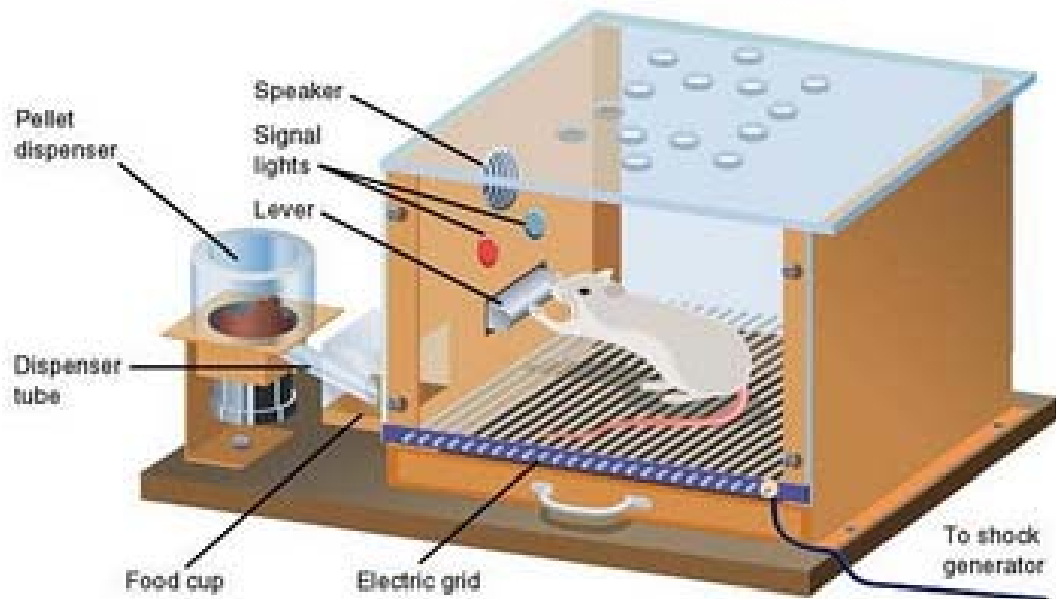
Method: He noticed that a hungry cat

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Early on in the trial, the cat

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Each time the cat was to the cage.

Result: Each time the cat returned to the cage, there was.....

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Conclusion: The cat had learnt to pressing the lever with

(a pleasant consequence).

Thorndike's hypothesis - This became known as the **Law of Effect**.

If a certain response has pleasant consequences, it is more likely than other responses to occur in the same circumstances.

B F SKINNER , HIS RATS AND HIS PING PONG PLAYING PIGEONS

developed a Skinner box .

PROCESS

He would place a hungry rat in the box. The rat would produce a variety of actions such as sniffing, exploring and grooming. By accident it would press the lever and a pellet of food would immediately drop into the food tray. Every time the lever was pressed the behaviour of 'lever

pressing' was **positively reinforced** (rewarded) by a food pellet and therefore is encouraged to repeat it.

This process Skinner called **operant conditioning** because the animal produces a behaviour that is voluntary, so it 'operates' on the environment. The consequences of the behaviour produced by the animal will be to either increase or decrease the likelihood of the behaviour.

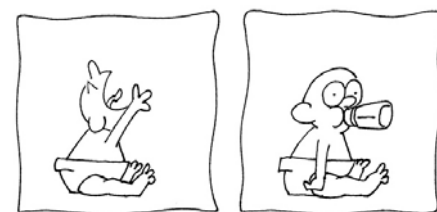
ACTIVITY – practical implications of using positive reinforcement.

Parents often use positive reinforcement to encourage good behaviour. For example, if a parent wants a child to tidy their bedroom, they might offer money, *'If you tidy your room, I will give you £2'*.

Can you see any implications of using positive reinforcement in this way?



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There is a second type of reinforcement – **negative reinforcement**. It has the same effect: to increase the likelihood that a particular behaviour will be repeated.

NEGATIVE REINFORCEMENT PROCESS

Sometimes there would be an electric shock through the floor of the Skinner box. When the rat pressed the lever the shock would switch off. This is an example of negative reinforcement.

ACTIVITY

In groups discuss how it might be possible to get the same child to tidy their room. (*No marks given for saying electrifying the bedroom floor*).

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The final part of operant conditioning is **punishment**.

In **Skinner's box** the rat would sometimes explore its environment and push a button. This button would cause an electric shock from the floor. What do you think happened? the rat learned very quickly not to do that again!



Punishment should not be confused with **negative reinforcement** – it is quite different because it does not encourage the desired behaviour, it just stops one unwanted behaviour, but does not show what desirable behaviour should replace it.

Example: A child who is punished by having coloured pens taken away for writing on the wall, is likely to find another object to scratch on the wall instead.

Positive reinforcement encourage behaviour by.....

Negative reinforcement encourage behaviour by.....

Punishment weakens behaviour by.....

ACTIVITY - From the examples below identify the different types of operant conditioning:

- a) Your teacher praises you in front of the class for an excellent piece of homework.
- b) Your friends comment on your outfit, so you wear it again.
- c) A child is running around in the supermarket and knocking into people. The parent shouts at the child. The child stops running around.
- d) A child cries so the mother gives it chocolate biscuit. The child stops crying. Next time the child wants a chocolate biscuit it cries.

BEHAVIOUR SHAPING

Reinforcement can be used to teach complex behaviours in animal and human behaviour.

Skinner trained pigeons to play ping pong by rewarding them with a food pellet every time they went near the ping pong ball. Eventually the pigeons would pass the ball back and forth with their pecking.

ACTIVITY:

Watch the clip of Skinner's ping pong playing pigeons and identify the reinforcement which encourages the behaviour.

ACTIVITY:

Describe how behaviour shaping could be used to train a dog to fetch its lead. You will need to decide on each step of the whole procedure.

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APPLYING CONDITIONING PROCEDURES TO THE TREATMENT OF PHOBIAS

A **fear** is an **unconditioned response** to a **stimulus** or situation that is a real danger to us.

DANGER → FEAR

When someone has a **phobia**, their fear response is to something that could cause or has little or no danger.

KNEES → FEAR



ACTIVITY

In groups, conduct a fear survey to see what fears people have. Discuss whether or not these fears can be classed as phobias. If not, why not? Make a note below of one **phobia** and one **fear** and explain the difference.

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For the person with a phobia, their fear response is no longer the automatic response to a danger or threat. Instead it is to something that has little or no danger. This can be seen below in the common fear arachnophobia, the fear of spiders.

SPIDER → FEAR

CS → CR

Example: screaming makes me scared; spiders + screaming makes me scared; spiders make me scared.

ACTIVITY

Using what you know about the **classical conditioning** process, explain how the phobia you mentioned in the last activity could be caused.

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Behaviour therapy and classical conditioning

Understanding this connection has meant that psychologists have found ways of treating phobias.

ACTIVITY

If a **phobia** is developed through an **association** of a **stimulus** or **situation** and something unpleasant or fearful, how do you think a psychologist could remove the fear using the some idea?

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Systematic desensitisation

This treatment is based on the idea that you cannot be anxious and relaxed at the same time.

Together the therapist and phobic create a '**hierarchy of fear**'. This is a list of increasingly fearful situations, starting with one that the phobic can tolerate and ending with one that would create the most intense fear.

The phobic is then taught a relaxation technique. They are then exposed, step by step to each stage of the hierarchy of fear, not moving to the next stage unless completely relaxed. If they become fearful at one stage then they go back to the previous stage. Finally they are able to handle the most feared situation comfortably without feeling fearful: the fear has become e.....

ACTIVITY

In groups think about the name of this process and discuss why you think it was named so. This will help you to remember the process in the exam.

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ACTIVITY

Now using the table on page 104 as a guide, create a hierarchy of fear for the fear of the **stimulus** you are given.

Step 1 (least fearful)	
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Step 2	
Step 3	
Step 4	
Step 5	

EVALUATION

Identify one strength or weakness of this treatment method for phobias from page 105.

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ACTIVITY

ETHICAL CONSIDERATIONS

In groups discuss what you remember about ethical considerations. Now see if you can think of one ethical consideration for this treatment therapy – this can either be a positive thing or negative one.

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FLOODING

This treatment therapy is based on the idea that the human body cannot maintain the fear response for very long.

The phobic is exposed all at once to the stimulus or situation that causes fear. They will experience fear, they are unable to leave, they will experience extreme stress but eventually the phobic becomes exhausted and the fear subsides.

ACTIVITY

Take the phobia you discussed earlier and see if you can apply this treatment to it.

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EVALUATION - Consider an ethical consideration with this type of therapy

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AVERSION THERAPY

Another way that classical conditioning has been useful, is in the treatment of behaviour problems. Some therapists think that behaviour problems result from faulty learning and therefore that 'bad' behaviour can be unlearnt. This is a technique that has been used to help people who suffer from addictions like drug and alcohol dependency.

ACTIVITY: Complete the table using page 107 in the book .

	stimulus	Response
The situation before the condition starts		
During the treatment		
When conditioning has occurred		

OPERANT CONDITIONING TREATMENTS

TOKEN ECONOMY

The purpose of this process is to change unwanted behaviour such as, anorexia nervosa, or naughty behaviour in a classroom, by using **positive reinforcement**.

Psychologists have used food which is a **primary reinforcer**, because it is needed to survive. If a reinforcer can be exchanged for something this is called a **secondary reinforcer**. For people money is a secondary reinforcer because it can be exchanged for the things we need and those we want, like food, clothing, housing and holidays.



ACTIVITY

In your groups see if you can think of any times in your life where you have experienced this system for modifying behaviour.

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EVALUATION

Identify one strength or weakness of this treatment therapy.

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DID YOU KNOW?

Token economy has been used in prisons to encourage offenders to obey prison rules, complete tasks like their laundry, and to improve relationships with other prisoners and prison staff. When the offenders behave in positive ways, they are given tokens that can be exchanged for money and cigarettes. Studies have show that behaviour in institutions where the system has been used has improved, at least inside the prison.

THE ETHICS OF CONDITIO

ACTIVITY

Can you think of an ethical consideration of using this type of process to modify behaviour?

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ACTIVITY

The Grimsby Institute promote certain behaviours from the students such as wearing your identification badges and 100% attendance. How do you think **token economy** could be used to encourage this behaviour to be produced more often? Do you think it would be effective for everyone?

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AQA Examiner's tip

Remember, you should only write about the applications of conditioning techniques that are identified in the question that has been set. Writing about other possible treatments will not gain you marks. Also, primary reinforcer and secondary reinforcer are not terms that are named in the specification so you will not be asked to define them. You can, however, use them in an answer on token economy systems.

GOING FURTHER

Find out how people who have suffered from alcoholism or drug dependency manage to keep themselves free from taking these substances. Use websites like Alcoholics Anonymous or Addiction Advisor for further information. You will probably notice that stopping taking the substance is only the first step. Staying substance free is a difficult process that takes a long time to achieve. Discuss your findings with the rest of your group.

Glossary - write a definition for these key terms

Learning

Classical
conditioning

Unconditioned
stimulus

Unconditioned
response

Neutral stimulus

Neutral response

Conditioned stimulus

Conditioned response

Extinction

Spontaneous recovery

Generalisation

Discrimination

Operant conditioning

Law of effect

Positive reinforcement

Negative reinforcement

Punishment

Systematic desensitisation

Flooding

Aversion therapy

Token economy

Primary reinforcer

Secondary reinforcer

Room here for you to put other vocabulary for your reference

Useful websites

Training Pavlov's dog – animated with sound effects

http://nobelprize.org/educational_games/medicine/pavlov/index.html

Pavlov's dog classical conditioning process

<http://www.youtube.com/watch?v=cP5ICleK-PM>

Classical conditioning Two and half men – Pavlov's bar

http://www.youtube.com/watch?v=xEDxRCa_wfc&NR=1&feature=endscreen

Operant conditioning – ping pong playing pigeons

<http://www.psychexchange.co.uk/videos/view/20625/>

Family guy – positive and negative reinforcement

http://www.youtube.com/watch?v=B_9ZZaPDtPk&feature=related

Conditioning monkeys cartoon

<http://i.imgur.com/f0m7i.jpg>

Operant conditioning Big bang theory – training Penny

<http://www.youtube.com/watch?v=teLoNYvOf90>

Make note of any other websites that you come across here.

KEY POINTS TO STRUCTURE REVISION – Learning

Can you describe what is meant by the following terms used in classical conditioning?

- Unconditioned stimulus
- Unconditioned response
- Conditioned stimulus
- Conditioned response
- Extinction
- Spontaneous recovery
- Generalisation
- Discrimination

Examiners tip: you must be able to complete the classical conditioning schedule that uses the first four terms listed here, to show how learning can take place.

Can you discuss the contributions of Pavlov to our understanding of the learning process?

Examiners tip: Remember, evaluations should include positive points as well as limitations.

Can you explain Thorndike's Law of Effect?

Can you discuss the contributions of Skinner to our understanding of the learning process?

Can you describe what is meant by the following terms used in operant conditioning and behaviour shaping?

- Positive reinforcement
- Negative reinforcement
- Punishment

Examiners tip: Remember to distinguish between reinforcement and punishment.

Can you describe and evaluate attempts to apply conditioning procedures to the following?

- The treatment of phobias, including flooding and systematic desensitisation.
- Changing unwanted behaviour, including aversion therapy and the use of token economies.

Examiners tip: Make sure that you can describe how the attempt works and the likely success of the method.

Can you discuss ethical issues that might occur in phobia treatments, aversion therapy and token economies?

Acknowledging: *Understanding Psychology*, 3rd Edition by Barbara Woods, Nigel Holt, Rob Lewis and Victoria Carrington, published by Hodder Education.

GCSE Psychology, Mike Stanley, Karen Boswell, Sarah Harris, Dominic Helliwell and Joanne McKenzie (23 Jul 2009), published by Nelson Thorne.