Many students get confused with the terms of classical conditioning. There are four major components to this type of learning: unconditioned stimulus (UCS), conditioned stimulus (CS), unconditioned response (UCR) and conditioned response (CR). The best way to keep these terms straight is to ask yourself two questions.

- Is the event I am interested in a stimulus or a response?
- Is the stimulus/response something that was learned or something that occurs naturally, by instinct?

The first question is the easiest way to break down the information. If an event is a stimulus, it will cause something else to happen. A stimulus is any event that causes a response.

Once you determine if your event is a stimulus or response, the second question is fairly easy. Is the stimulus something the subject had to learn how to respond to? If so, then it would be a learned or conditioned stimulus. If the stimulus is something that causes the response automatically, then it is an unlearned or unconditioned stimulus. The same rule applies for the responses. If this is a response that does not occur by instinct, but instead has been learned through experience, then this is a learned or conditioned response.

If the response happens as an instinct, then it is an unlearned or unconditioned response.

1. _________________ discovered one of the simplest forms of learning called classical conditioning.

2. In classical conditioning, an association is made between _________________ and ________________.

3. _________________ is learning that makes a reflex response to a stimulus other than the original, natural stimulus that normally produces the reflex.

4. _______________ a naturally occurring stimulus that leads to an involuntary response.

5. _______________ is an involuntary response to a naturally occurring or unconditioned stimulus.

6. A stimulus that becomes able to produce a learned reflex response by being paired with the original unconditioned stimulus is called a ____________________.

7. In classical conditioning, the neutral stimulus becomes the ________________ stimulus.

8. The reappearance of a learned response after extinction has occurred is called ________________.

![Diagram of classical conditioning](attachment://classical_conditioning_diagram.png)
Classical Conditioning Exercise

1. A researcher sounds a tone, then places a piece of meat into a dog's mouth, causing it to salivate. Eventually the sound of the tone alone causes the dog to salivate.

   Neutral stimulus:
   UCS: 
   CS: 
   UCR: 
   CR: 

2. While listening to a song on his car radio, a man accidentally bumped into a red car in front of him. Thereafter, whenever he saw red cars, he experienced a severe anxiety attack.

   Neutral stimulus:
   UCS: 
   CS: 
   UCR: 
   CR: 

3. When Melvin was young, he reached for the light switch during a thunderstorm and a sudden clap of thunder frightened him. For weeks afterwards, Melvin was afraid to touch a light switch.

   Neutral stimulus:
   UCS: 
   CS: 
   UCR: 
   CR: 

4. Last spring whenever Fred kissed his wife Marilyn, he got a shock. Since that time, and even though he’s no longer getting shocked, every time he puckers up to kiss his wife he involuntarily winces as it in pain.

   Neutral stimulus:
   UCS: 
   CS: 
   UCR: 
   CR: 

5. While caring for a friend’s dog, you notice that it displays a fear-like posture as you roll up a newspaper. You try this several times more and become convinced that this dog is generally afraid of rolled up newspapers.

   Neutral stimulus:
   UCS: 
   CS: 
   UCR: 
   CR: 
Generalization vs. Discrimination

Instructions: Below are everyday situations in which some form of operant behavior is occurring. After reading each scenario, indicate whether it is an instance of generalization or discrimination.

1. We stop our vehicles when the traffic light is red, but continue through the light when it is green.

2. We sit quietly in our seats during class examinations, church services, theatrical presentations, and funerals.

3. We raise our hands before speaking in class but not while talking to a friend or while at a party.

4. We put our feet up on our desk and coffee table at home, but not on our grandparents' coffee table.

5. We mistake a stranger for a friend of ours.

6. We answer the doorbell when it was really the phone that was ringing.

7. Four-year-old Joshua reacts with anxiety to the sound of thunder. A chair slides across the wooden floor, making a sound similar to thunder. Joshua reacts with some slight anxiety. This is an example of:

8. Theo gets excited whenever he finds a quarter lying on the ground outside. While walking home from school one day, Theo noticed a shiny round object lying on the sidewalk and became very excited. He soon realized that the object was a bottle cap and his excitement quickly dissipated. Which of the following concepts is demonstrated in this example?
Chapter 5: Learning: Operant Conditioning, Learned Helplessness & Observational Learning

1. A ____________________ is any event or object that, when following a response, increases the likelihood of that response occurring again.
2. The reinforcement of a response by the addition or experiencing of a pleasurable stimulus is called ________________________________.
3. The reinforcement of a response by the removal, escape from, or avoidance of an unpleasant stimulus is called ________________________________.
4. Any event or object that, when following a response, makes that response less likely to happen again is said to be ________________.
5. The use of operant conditioning techniques to bring about desired changes in behavior is called ________________________________.
6. Learning new behavior by watching a model perform that behavior is known as ________________________________.
7. ________________________________ the tendency to fail to act to escape from a situation because of a history of repeated failures in the past.

8. In operant conditioning, responses are ______, whereas in classical conditioning, responses are ______.
   a. positive; negative
   b. involuntary; voluntary
   c. immediate; delayed
   d. voluntary; involuntary

9. The person MOST closely associated with the Law of Effect is _______.
   a. Watson
   b. Skinner
   c. Pavlov
   d. Thorndike

10. Aida loves to sing for her family and friends but is extremely shy. In order to encourage Aida to sing again, which of the following is a primary reinforcement that Aida’s mom might use?
    a. shower her with applause
    b. offer her money
    c. praise her for doing such a good job
    d. promise her an ice cream cone when she sings

11. Secondary reinforcers differ from primary reinforcers in that secondary reinforcers _______.
    a. can potentially reinforce or punish behavior
    b. do not satisfy physical needs whatsoever
    c. do not inherently satisfy physical needs
    d. only pertain to intangible objects or events, such as praise
**Positive or Negative Reinforcement or Punishment?**

Negative reinforcement and punishment are often confused. In negative reinforcement, something bad is taken away. In punishment by removal, something good or desirable is taken away. Most people would enjoy being negatively reinforced but would be upset about being punished. Work through the following scenarios to determine whether the person is being negatively reinforced or punished.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Consequence</th>
<th>Is something good or bad taken away?</th>
<th>Is this negative reinforcement or punishment?</th>
<th>Will the behavior increase or decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taking an aspirin for a headache.</td>
<td>Headache goes away.</td>
<td>bad</td>
<td>negative reinforcement</td>
<td>increase</td>
</tr>
<tr>
<td>Running a red light.</td>
<td>Driver’s license is taken away.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cleaning your room so that you are no longer grounded.</td>
<td>You are no longer grounded.</td>
<td></td>
<td></td>
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<tr>
<td>Drinking coffee in the morning when you are very tired.</td>
<td>You no longer feel tired.</td>
<td></td>
<td></td>
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<tr>
<td>Staying out past your curfew.</td>
<td>Your parents ground you.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Getting in a fight with a friend.</td>
<td>Your friend will not talk to you anymore.</td>
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<tr>
<td>Fastening your seatbelt when the buzzer is making a noise.</td>
<td>The buzzer stops.</td>
<td></td>
<td></td>
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<tr>
<td>Driving your car until it runs out of gas.</td>
<td>You can’t drive your car anymore.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Your boyfriend nags you until you take him out to dinner.</td>
<td>The nagging stops.</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Learning Concepts: Review

For each situation below, indicate whether it is an example of: classical conditioning, operant conditioning, insight learning, learned helplessness or observational learning.

1. Susie is a four-year-old child. One day she watches her mother vacuum the living room. Her mother comments to Susie, “Doesn’t the living room look nice now that I’ve cleaned it?” The next day, her mother finds Susie “vacuuming” the living room with her toy vacuum.

2. You are thinking of asking the teacher for an extension on your paper. Just as you are about to go up to the teacher, another student approaches the teacher with the same request. The teacher appears angry, and very loudly and rudely turns down the student’s request for an extension. You decide not to ask for an extension.

3. Until she was eight, Barbara liked cats. When she was eight, she was bitten through the hand by a cat as she tried to get it out from under a bed. This was an upsetting experience. Since that time, Barbara experiences anxiety whenever she is near a cat.

4. Alison, age four, needs to learn to speak up louder in class. Her parents and teacher agree that whenever Alison speaks up loudly in class, she will get a star on her chart. Whenever she accumulates 25 stars, she will get to go to Baskin-Robbins for ice cream. Alison starts speaking up in class more frequently.

5. A Congressional hearing is taking place in Washington, DC. The representatives are discussing whether the portrayals of violence on children's TV shows are perhaps contributing to the violence we see in schools today. What psychological process are the representatives probably considering as the reason that TV influences school violence?

6. Scott, age six, has difficulty in reaching clothes hanging from the clothes bar in his closet because the clothes bar is too high. He figures out that if hangers simply had longer necks, he would be able to manage with the clothes bar at the current height. Working with his father, he creates a set of long-necked hangers and enters them in the “Invent America” contest at his school.

7. Tom is hammering nails into planks to build a fence. He experiments with holding the nail a different way and immediately hits his thumb with the hammer. OUCH! He continues his work, but he never holds the nail that way again.

8. It is summer time. Sarah and Jeremy are in love. They enjoy being together and are thoroughly relaxed and content in each other’s presence. The hit song that summer is “Buckets of Love” and they hear that song a lot when they are together. At the end of the summer, they have to return to their separate colleges, which are quite far apart. That fall, every time Sarah hears the tune “Buckets of Love,” she experiences the same feelings of relaxation and contentment that she felt when she was with Jeremy.

9. While watching the evening news, you see a story about domestic abuse and wonder, "Why would anyone stay in a relationship where they are being abused?” According to Seligman, one factor that may contribute to victims staying in abusive relationships is ____________________.
In the following examples, identify which is being used to control behavior: positive reinforcement, negative reinforcement, punishment, or extinction

10. What has occurred when there is a decrease in the likelihood or rate of a target response?

11. The smoke detector in Jesse’s house is low on batteries. It emits an annoying chirp every few seconds. Jesse installs a new battery so it will stop making that noise.

12. Dr. Smith, a Doe College instructor, is having difficulty getting students to turn in papers. Previously, he had not assigned credit for homework; rather, he had simply assumed that students would do it for the practice. Dr. Smith establishes a policy that all students who turn in papers will get full credit for their work. Students now turn in papers much more often.

13. Robert puts $0.85 in the Coke machine to buy his daily Coke. Today, nothing comes out, and he does not get his money back. Robert never puts money in the machine again.

14. Jeff is playing with his food at the dinner table. His mother tells him to stop playing with his food. When he does not stop, she takes his food away, leaving Jeff hungry all night. Jeff never plays with his food again.

15. When Joe thinks about his sorely missed girlfriend, he drinks alcohol, which helps dull his feelings. This best illustrates:

16. Jacob is playing with his food at the dinner table while his parents are trying to carry on an adult conversation. When his mother notices what Jacob is doing, she stops talking with her husband and directs her attention to Jacob. She yells at him to stop playing with his food, and says that playing with his food is a horrible and disgusting habit. Jeff plays with his food again several times during that meal, and even more frequently the next night. [the target behavior has increased or decreased (circle)]

17. Tim is diligently working on an art project at school. His teacher notices how nicely he is working and praises him loudly for his efforts embarrassing him. Tim immediately seems less interested working on his project. The teacher praises the little bits he completes as time goes on, and Tim stops working on the art project entirely. [the target behavior has increased or decreased (circle)]

For each example given, identify the unconditioned stimulus (US), unconditioned response (UR), conditioned stimulus (CS) and conditioned response (CR):

18. As an infant, Stephanie received many penicillin injections from the doctor. When she later saw a photographer in a white coat that was similar to the doctor’s coat, she started to cry.

NS: US= UR= CS= CR=

19. When Trudy was four, Trudy did not have any particular reaction to, or interest in, yardsticks. From the time she was five, until she was eight, Trudy’s parents beat her with a yardstick. Trudy was very upset every time she was beaten. Now Trudy becomes very upset every time she sees a yardstick.

NS: US= UR= CS= CR= 