Name:

Date:

Period:

Annotations: As you read make notes on the text by doing the following:

* **Circle** any words you do not know- write the definition in the margin
* **Underline** any section which might be pertinent (applicable) to your research paper- write yourself a reminder note in the margins so you do not lose that brilliant thought!
* **Box** sections in which you see a clear connection with the text- write a short explanatory note in the margins

Points:

Annotations: \_\_\_/5

Response: \_\_\_/5

"conditioning".

Encyclopædia Britannica. Encyclopædia Britannica Online.

Encyclopædia Britannica Inc., 2015. Web. 23 Feb. 2015

Conditioning, in physiology, a behavioral process whereby a response becomes more frequent or more predictable in a given environment as a result of reinforcement, with reinforcement typically being a stimulus or reward for a desired response. Early in the 20th century, through the study of reflexes, physiologists in Russia, England, and the United States developed the procedures, observations, and definitions of conditioning. After the 1920s, psychologists turned their research to the nature and prerequisites of conditioning.

Stimulus-response (S-R) theories are central to the principles of conditioning. They are based on the assumption that human behaviour is learned. One of the early contributors to the field, American psychologist Edward L. Thorndike, postulated the Law of Effect, which stated that those behavioral responses (R) that were most closely followed by a satisfactory result were most likely to become established patterns and to reoccur in response to the same stimulus (S). This basic S-R scheme is referred to as unmediated. When an individual organism (O) affects the stimuli in any way—for example, by thinking about a response—the response is considered mediated. The S-O-R theories of behaviour are often drawn to explain social interaction between individuals or groups.

Conditioning is a form of learning in which either (1) a given stimulus (or signal) becomes increasingly effective in evoking a response or (2) a response occurs with increasing regularity in a well-specified and stable environment. The type of reinforcement used will determine the outcome. When two stimuli are presented in an appropriate time and intensity relationship, one of them will eventually induce a response resembling that of the other. The process can be described as one of stimulus substitution. This procedure is called classical (or respondent) conditioning.

In this traditional technique, which is based on the work of the Russian physiologist Ivan P. Pavlov, a dog is placed in a harness within a sound-shielded room. On each conditioning trial the sound of a bell or a metronome is promptly followed by food powder blown by an air puff into the dog’s mouth. Here the tone of the bell is known as the conditioned (or sometimes conditional) stimulus, abbreviated as CS. The dog’s salivation upon hearing this sound is the conditioned response (CR). The strength of conditioning is measured in terms of the number of drops of saliva the dog secretes during test trials in which food powder is omitted after the bell has rung. The dog’s original response of salivation upon the introduction of food into its mouth is called the unconditioned response (UR) to food, which is the unconditioned stimulus (US).

Instrumental, or operant, conditioning differs from classical conditioning in that reinforcement occurs only after the organism executes a predesignated behavioral act. When no US is used to initiate the specific act to be conditioned, the required behaviour is known as an operant; once it occurs with regularity, it is also regarded as a conditioned response (to correspond to its counterpart in classical conditioning). American psychologist B.F. Skinner studied spontaneous (or operant) behaviour through the use of rewards (reinforcement) or punishment. For example, a hungry animal will respond to a situation in a way that is most natural for that animal. If one of these responses leads to the reward of food, it is likely that the specific response which led to the food reward will be repeated and thus learned. The behaviour that was instrumental in obtaining the reward becomes especially important to the animal. The same type of conditioning can also be applied to an action that allows the animal to escape from or avoid painful or noxious stimuli.

There are several types of conditioning schedules. Continuous reinforcement schedules provide a reinforcement for every correct response, while intermittent reinforcement schedules reinforce some responses but not others. There are several variations of the intermittent reinforcement schedule; for example, a fixed-ratio schedule provides reinforcement only after a fixed number of correct responses, while a variable-ratio schedule provides reinforcement after a variable number of correct responses. In a slightly different approach, a fixed-interval schedule provides reinforcement for the first correct response after a specific time interval. With a variable-interval schedule, reinforcement is given after a variable amount of time. Conditioning that is based on intermittent reinforcement schedules will create more powerful results relative to fixed conditioning schedules; that is, behaviour produced by intermittent reinforcement schedules is much more difficult to unlearn or discard.

Psychologists generally assume that most learning occurs as a result of instrumental conditioning (such as that studied by Skinner) rather than classical conditioning. Central to all forms of behavioral interaction, however, is the concept that conditioning creates a change in an animal’s behaviour and that the change results in learning.

Response: Huxley wrote that the focus of *Brave New World* isn't science itself, but science as it affects people. The vision he paints of a technological, futuristic society is both horrifying and fascinating. In a world where people are controlled down to their very impulses, emotions, and thoughts, science has the ability both to imprison (by conditioning, for example) and to set free (the frontiers of scientific discovery often lead to change). Because of this, "science" is somewhat menacingly distorted by those who seek to control; use what's useful, but limit what's "dangerous." Is this use of conditioning by the government unethical? Or does Huxley bring the idea of conditioning a population to an unrealistic, implausible extreme?

To answer the question make a connection between this article and the chapters read thus far in a clear and concise 3-5 sentence answer.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_