SENSES AND THE NERVOUS SYSTEM

Name _____   Date _____

Directions: Match each word with its definition or description. Draw a line from each word to the correct meaning.

1. auricle   attaches to the upper spinal cord

2. axon   thinking area of the brain

3. cerebellum   carries messages to the spinal cord

4. cerebrum   part of neuron that receives messages

5. cochlea   links the brain and body

6. cone cells   the brain's interpretation of messages

7. dendrite   controls balance

8. eardrum   carries messages away from cell body

9. hammer   information stored in the brain

10. medulla   carries messages to muscles

11. memory   vibrates as sound waves hit it

12. motor neuron   sense organs on the tongue

13. olfactory   skin receptor

14. pain   moved by vibration of eardrum

15. perception   works as the "film" of the eye

16. retina   eye receptors sensitive in dim light

17. rod cells   the outer part of the ear

18. sensory neuron   located in the inner ear

19. spinal cord   nerve involved in smelling

20. taste buds   perceive color

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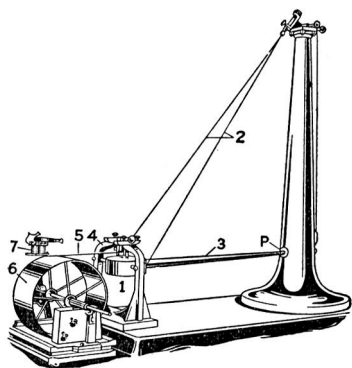
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3.   cerebellum

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WHO AM I?
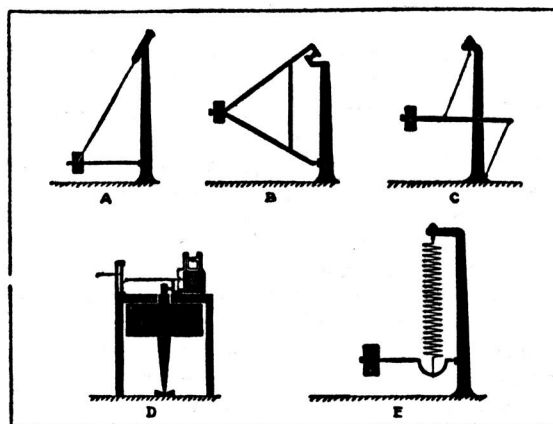
Name _____ Date _____

Directions: Use the internet or the 6th grade science book to discover who each of the following sections is talking about. Write the name of the person of the line below each section.

One form of Seismograph. The lead Weight (1) is hung by the Wires (2) and the horizontal Strut (3) so as to have a free lateral swing on P as a pivot. The Yoke Piece (4) has pivoted to it a needlelike Lever (5), of which the short end rests against a projection of 1, and the long end bears a stylus. During an earthquake 1 remains steady, so that the movements of 4 cause oscillations of 5, which are recorded on the smoked surface of a Drum (6). A Magnet (7) connected with a clock marks off minutes on the record sheet.

You are sitting at your desk when you hear a low rumble that grows louder. Suddenly you feel a slight shaking in the floor. The windows rattle, and a book falls off the shelf. Hanging lights swing back and forth. It's an EARTHQUAKE!

In the 1920s scientists began to study earthquakes. I was a physics student at Cal Tech in California and was given the job of studying the readings of seismographs to determine the epicenters of earthquakes. I had to describe the size or strength of each earthquake studied. At that time scientists used the Mercalli scale to describe earthquakes. I found this method was not very exact and described only how much damage an earthquake had done, not how strong it was.

I decided to develop a better method of measuring earthquakes. I used the seismograph readings and compared the largest surface waves of each earthquake. I used the word *magnitude* to mean the strength of an earthquake and assigned each earthquake a number from 1-10. I arranged this scale so a magnitude 2 earthquake was 10 times stronger than one measuring 1, a magnitude 3 was 100 times (10X10) stronger, and a magnitude 4 was 1000 (10X10X10) times stronger.

My name is _____.

The face of a statue slowly corrodes; its eyes and nose become invisible. The decorative metal on a historic building changes color as it is silently eaten away. Fish and other aquatic organisms die in ponds and streams. Dense green forests of spruce and fir turn yellow and die. All because of acid rain and other pollution in the air.

In 1972 I announced that rain in New

England contained strong acids. The acids were affecting not only buildings and statues, but waterways and forests as well. My colleagues and I pointed out that the acids in the rain came mostly from the emissions released by power plants that burned coal and oil.

Before 1972 a few people had studied acid coming from factories. They found that people suffered more from bronchitis in areas downwind from such factories. But I was the first to find high levels of acid widespread throughout the environment of North America and to connect them to acid rain. Although my ideas were not accepted by many people at the time, they have since been shown to be correct.

In 1983 I briefed then President Ronald Reagan and his cabinet about serious problems about acid rain. Since then, many scientists have explored how acid rain affects the environment and have tried to develop solutions to this problem.

My name is _____.

I am a Russian doctor. But something happened a few years ago that changed what I was studying.

I was studying human digestion. In my work I had found dogs good subjects to work with, and so there were always some around my laboratory. Now as everyone knows, dogs salivate, even slobber. One day I noticed that my dogs would begin to salivate when they saw one of my lab assistants bringing their food. I found this very curious because I had always believed that dogs would salivate only after they tasted their food.

Some people would have ignored this, but not me. Since I was studying digestion and salivating has to do with the digestive system, I decided to investigate this behavior of the dogs. To begin with, I got some new "untrained" dogs. For several days I rang a bell and then fed them. After several days of training, I decided to see if the bell by itself could trigger a response in the dogs. Much to my enjoyment, when I rang the bell they began salivating without any food being present. This proved that the dog's brain had been trained to respond to the bell, not the smell.

Being even more curious, I continued my experiment. I substituted two lights for the bell. One light was circular; the other was oval. The dogs were shown the circular light just before being fed. I never fed them when the oval light was turned on. In a few days, the dogs would salivate when they saw the circular light, but never responded to the oval light. Then I began to change the shape of the oval light to make it more circular. Eventually the oval light became so round that the dogs became confused because they couldn't tell the lights apart. The poor things became agitated and would howl and pace nervously. I believe that people often learn in a similar fashion.
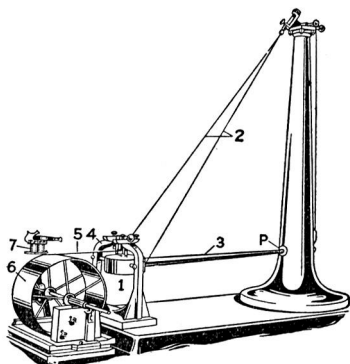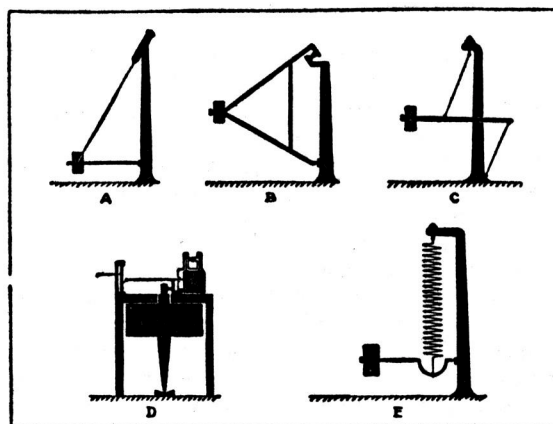
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My name is _____*Charles Richter*_____.

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My name is _____ *Dr. Gene E. Likens* _____.

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My name is _____ *Ivan Petrovich Pavlov* _____.