The Nervous System

Chapter 5, lesson 2

Vocabulary

Nervous system- a collection of organs that act like the body’s control panel

Brain- an organized grouping of neurons in the head an of animal with bilateral symmetry

Neuron- a nerve cell with a unique structure for receiving and passing on information

Impulse- information that travels as an electrical message

Stimulus- a signal that causes an animal to react in some way

Response- an animal’s reaction to a stimulus

**What is the role of the nervous system?**

**Nervous system**- receives information from the environment and coordinates a response.

AKA the bodies control panel

Roles (Jobs) of the Nervous System:

1. detect signals in the environment

2. process the signals, and

3. react to them.

**Interactions:**

**Stimulus-** a signal from the environment that causes an animal to react in some way

Signals taken in by the 5 senses: Can be touch, sound, smell, taste, or seen.

**Response**- is an animal’s reaction to a stimulus

Example:

A dog’s ear perks up(response) to the sound of a car coming (stimulus)

Animals can react to stimuli in a matter of a second or the fraction of a second

* BOOK WORK: COMPLETE PG.173 Apply It!

**Neurons:**

**The basic unit of the nervous system** is the neuron

Neurons enable speedy responses.

A neuron- is a nerve cell with a unique structure for receiving and passing on information.

I**mpulse-** information travels as an electrical message

**Types of neurons:**

**Sensory neurons-** nerve cells that detect stimuli (the eyes and ears)

**Interneurons**- are nerve cells that pass information between neurons.

**Motor neurons-** are nerve cells that carry response information to muscles and other organs. Cause movement! EX: run, jump, punch

* BOOK WORK: COMPLETE PG.174 Apply It! & Assess your understanding

**How Do nervous systems differ?**
 Target: I will be able to compare how the nervous systems of animals differ.

|  |  |
| --- | --- |
| SIMPLE | COMPLEX |
| Netlike arrangement of neurons throughout the bodyExample: cnidarians (jelly fish, coral)These animals have NO specialized neurons. Meaning, a stimulus to one neuron sends impulses to all directions. | System with a nerve cord and a brainExample: vertebrates (humans, dogs)The brain is an organized grouping of neurons in the head of an animal with bilateral symmetry. |

**Sense organs**

Complex nervous system = more specialized sense organs.

Sense organs are mostly located on your head.(eyes, ears, and nose)

Animals with many sense organs can process many stimuli at the same time.

\*\*those 5 senses\*\*

* BOOK WORK: COMPLETE PG.176 & 177 \*\*In figure 2, read about each animal then answer the questions. When done, move on to the assessment questions.