

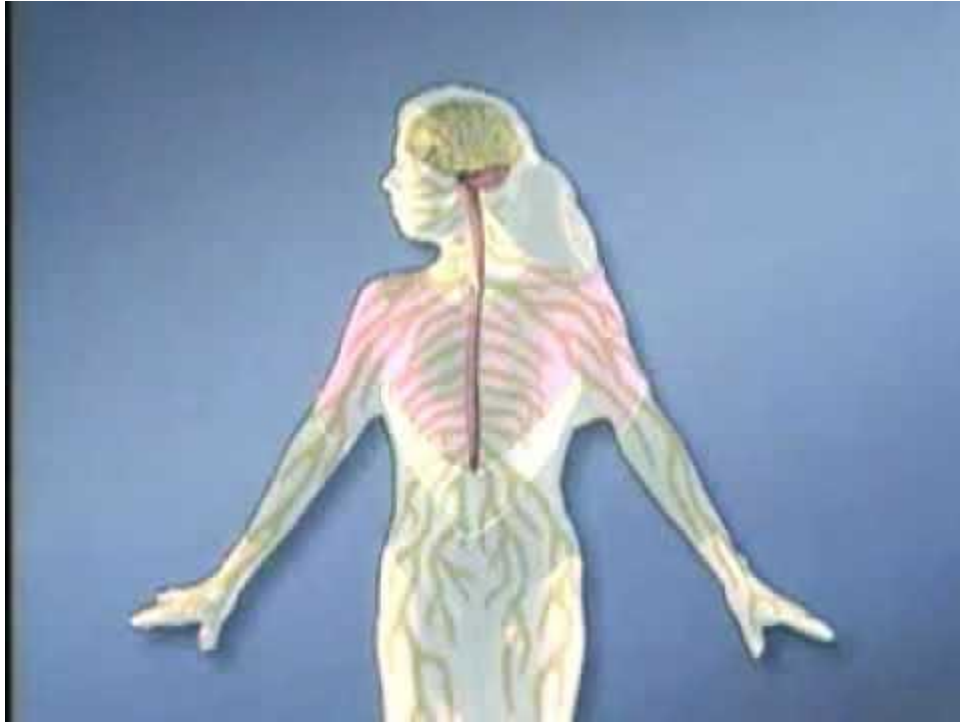
# Sports Hall STEM Club

01/26/19

**Good morning students!**

**Today's themes are: The  
nervous system and the  
human brain**

# The brain & nervous system



# **The brain and nervous system control the human body through a web of connecting, communicating parts.**

- **The spinal cord**
- **Reflexes**
- **Nerve impulses**
- **Nerve cells**
- **peripheral nervous system**

**All play vital roles in every movement we make and everything we sense**

# The brain & nervous system



# Questions about the brain & nervous system

- What organ coordinates most of the activities of the nervous system?
- Through what part of the body do most messages reach or leave the brain?
- The brain and spinal cord form what part of the nervous system?
- What connects the central nervous system to muscles and sense organs throughout the body?

## Let's break up into groups

- Build and program robot - (next slide)
- Complete Scratch project - (next two slides)
- Work on Maths

# Build robot & install sensors - Book 3, Page 3

- **IR Sensors** – Capable of measuring the heat being emitted by an object and detecting motion
- **CDS Sensors** – This sensor will enable the robot to perform tasks such as navigating towards a light, hiding in dark corners, following other robots, etc. More advanced uses permit following lines and detecting obstacles.
- **Touch Sensor** – It enables a device or object to detect touch, typically by a human user or operator.
- **Mic Sensor** – The microphone sound sensor, as the name says, detects sound. It gives a measurement of how loud a sound is.



# The robot brain (mainboard) operates just like the human brain

## Mainboard assembly/Funcion of each feature

### OUT-PUT connector

The result is processed and written by the program and sent to a LED, Buzzer or a servo motor.

*Servo Motor*  
*Speaker*  
*LED (Red)*  
*LED (Green)*

### Download connector

After your program is downloaded from your PC to this port, your robot will move as you programmed.

### IN-PUT connector

This part receives input value by connecting with switches and various sensors here.

*Mic Sensor*  
*Remote Contrl*  
*IR Sensor*  
*CDS Sensor*  
*Touch Sensor*

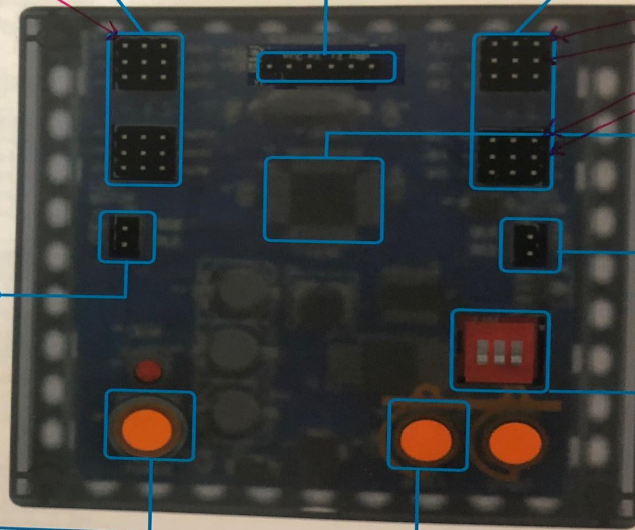
\* Left DC Motor connect  
The output coordinates the functions of the left motor.

\* Right DC Motor connect  
The output that coord the functions of the right motor.

Modifying Remote Control ID Switch  
This part is for setting remote control ID.

Power Switch  
Power on/off switch.

MODE Settings  
Modify modes of prod



# Scratch Project

- Get a computer and google the brain
- Create two characters and have one of them teach the other something about the brain
- Create an image of the brain using paint
- Use at least 3 sprites (person 1, person 2, the brain)

## Khan Academy

Begin Practicing Math Subject on the Khan Academy App -- Ask anyone on the STEM Team If you need help and let us know when you start a new lesson, and if you need any help.



Now it's time to swap teams everyone! Break down your robots and clear your Scratch programs!