

## **Robots vs Humans - Educational Content**

### **Sensors**

Examples of sensors include cameras (like human eyes), microphones (like ears), and touch sensors (like skin).

Sensors are devices that detect changes in the environment. Just like human senses, sensors help robots see, hear, feel, or even smell things around them.

Robots need sensors to collect information and understand what's happening around them.

A temperature sensor can feel how hot or cold something is, just like our skin does.

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### **Actuators**

When a robot needs to lift something, it uses motors or hydraulic systems as actuators.

Just like our legs and arms move because of muscles, robots move because of actuators.

Without actuators, robots cannot interact with the physical world.

Actuators are like human muscles. They help robots move or perform actions.

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### **Power**

Different robots use different power sources like solar, electric batteries, or fuel.

Humans need food to get energy. Robots need batteries or electricity.

Without power, robots cannot move or work, just like humans get tired without food.

Power is like food and energy for both humans and robots.

## **Robots vs Humans - Educational Content**

### **Controller**

The controller is like the brain of the robot. It decides what to do based on sensor input.

Microcontrollers or onboard computers are used as controllers in most robots.

It processes data from sensors and sends instructions to actuators.

Just like our brain tells us to stop when we see a red light, the controller tells the robot what action to take.

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