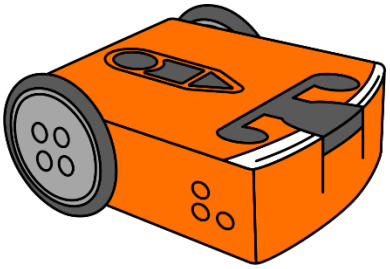
Name_____

U1-1.1 Let's explore our Edison robots

This is Edison, the programmable robot.



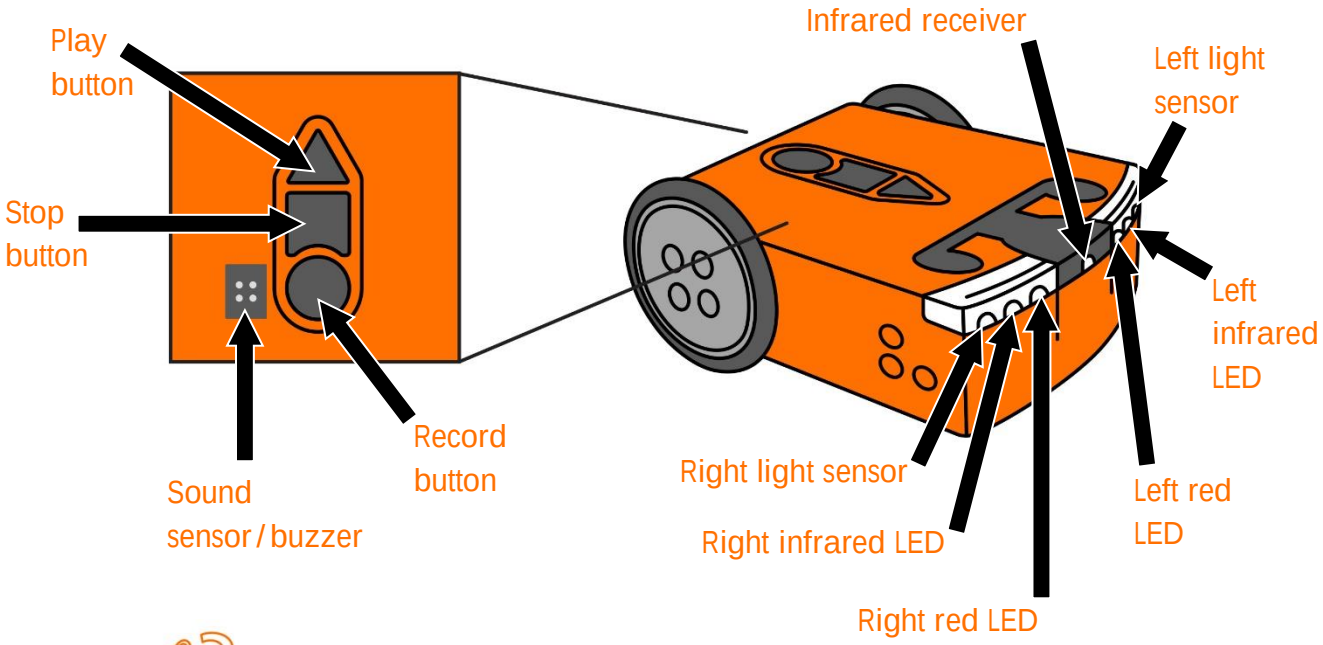
There's a lot we can do with our Edison robots. We can program the robot to do things like drive using its motors, flash its LED lights or make sounds. We can also use Edison to build robotic creations, complete mazes and a whole lot more!

Before we start using Edison, we need to get to know a bit more about the robot.

Edison uses sensors and motors to interact with the world. Edison also has three buttons a power switch and several removable parts. Knowing where Edison's parts are and what they do will help you use Edison.

Task 1: Look at Edison from the top

Have a look at the top of your Edison robot. Try to find all of the parts labelled in the picture on your Edison robot.



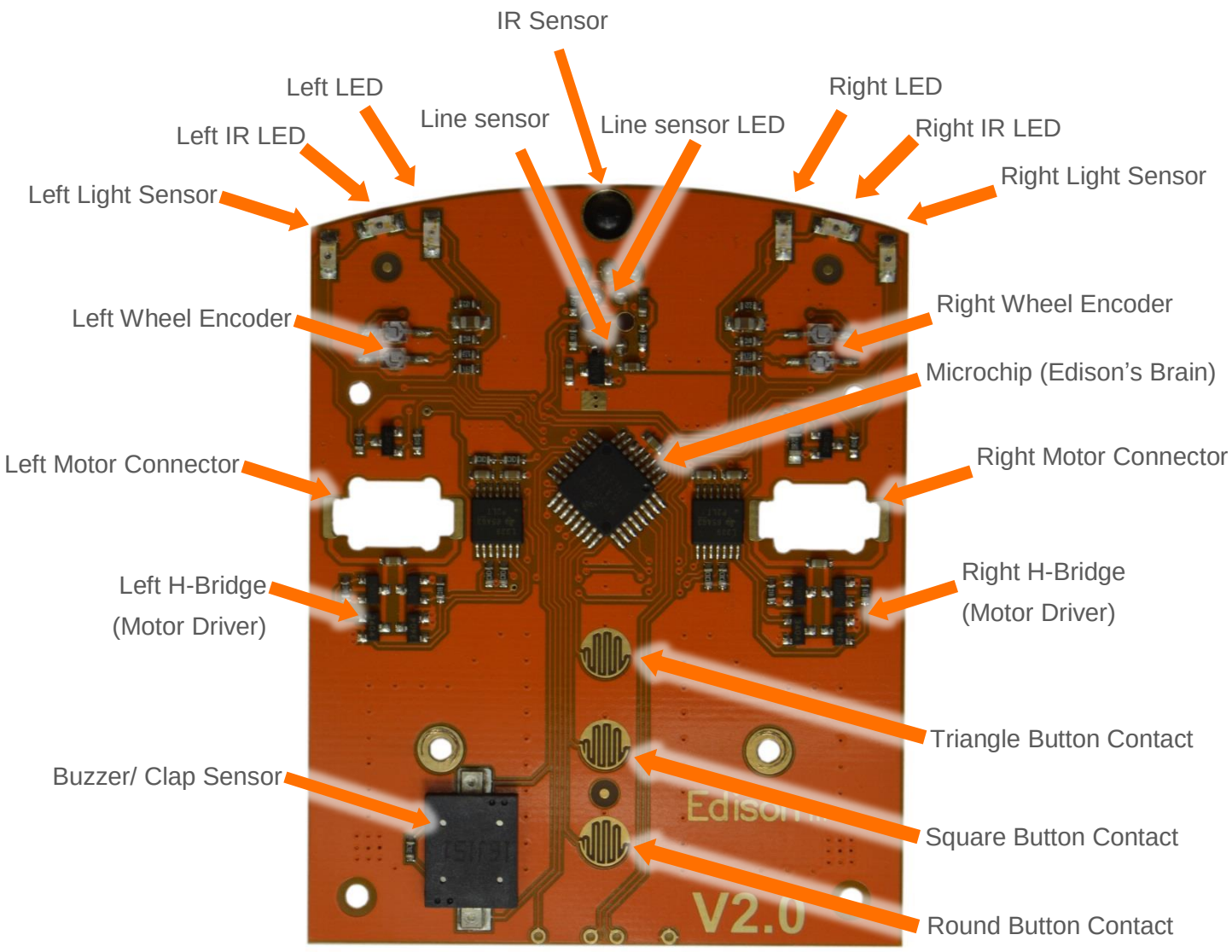
Why is that?

The top of Edison is made of clear plastic. This way you can see the electronic components that make Edison work. One of the most important parts is the black-coloured square that sits just above the tip of the 'play' (triangle) button. Can you see it?

This is the robot's microchip. The microchip is basically a tiny computer, which is sometimes called a micro-computer. It contains the central processing unit (CPU). That's basically Edison's brain!

Motherboard layout

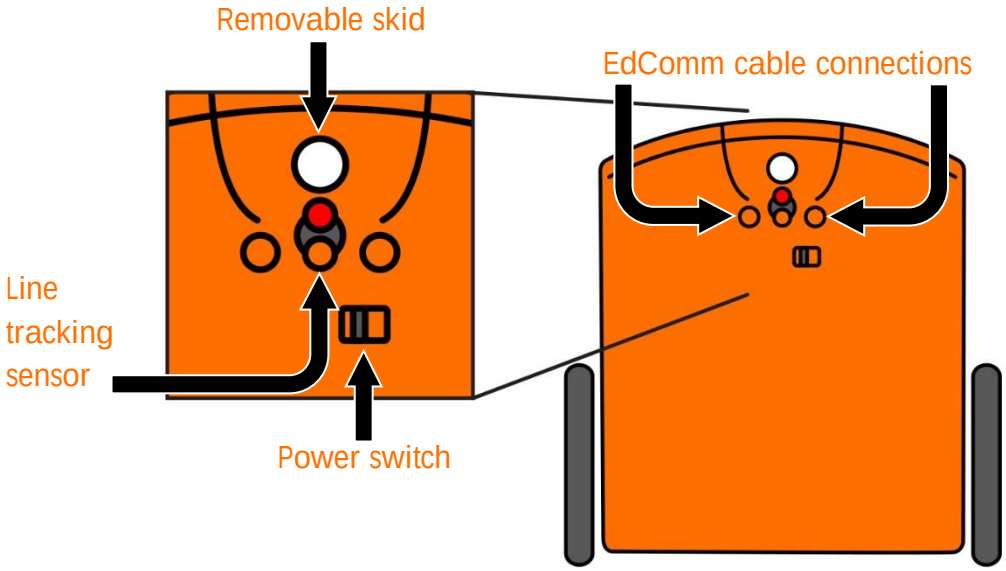
Have students look at their robot to find the different sensors they see on this motherboard!



Name_____

Task 2: Look at the bottom of Edison

Flip Edison over. Look at the picture and try to find all of the parts labelled in the picture on your Edison robot.



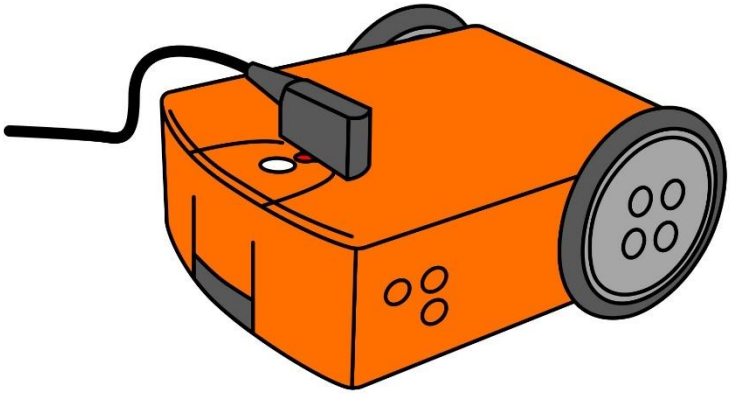
Task 3: Remove and attach the wheels, the skid and the EdComm cable

Sometimes you may want to use Edison in different ways, such as having the robot sit on its side. That's why a few of Edison's parts can be detached from the robot. Both of Edison's wheels can be taken off. Try removing one of the wheels by pulling it straight out away from the robot. Look at the powered socket where the wheel attaches. Be sure to put the wheel back in!

Next, look at Edison's plastic skid. The skid is the clear bit of plastic on the bottom of Edison near the line tracking sensor. Most of the time, you will want to keep the skid in the robot. The skid is very little, and the clear plastic can make it hard to see, so be careful whenever you remove it! You don't want to drop and lose the skid!

There is one other component which we will use a lot with the Edison robot called the EdComm cable.

You will use the EdComm cable to download your programs to Edison from your programming device, like your computer. The EdComm cable has a connection for Edison on one end, and the other end connects to the headphone socket on your computer.



For practice, try connecting the EdComm cable to Edison.

Name_____

Task 4: Turn Edison on

Whenever we want to use Edison, we need to turn on the robot. Try to turn Edison on now.

1. What happens when you turn the robot on? Describe what happens including what you saw and what you heard. Write your answer here:

Example student answer: When I turned Edison on, the red LEDs came on and started flashing. Edison also made a chirping noise one time.

Don't forget

Whenever you finish using Edison, make sure you turn the robot back off!

Name_____

U1-1.1a Change it up: Bricks, blocks and Edison

Take a good look at Edison. Do you see all the bumps and holes on the top, sides and bottom of the robot?

You've probably seen studs just like the ones on the top of Edison and on Edison's wheels before. Why do you think the robot has those studs plus the holes on the sides and bottom of Edison?

Those are all connection points to build with Edison using any LEGO brick compatible building system.

There are lots of things we can build using Edison and different types of building systems. In this activity, your goal is to build something with LEGO bricks and Edison.

What to do

Get your Edison robot, grab some blocks and let your creativity and imagination flow!

Try adding blocks onto Edison's top, bottom, sides or wheels. Decorate Edison however you would like!

Once you finish, write a description or draw a picture of what your Edison looked like all brick-and-blocked up. How did you build with Edison?