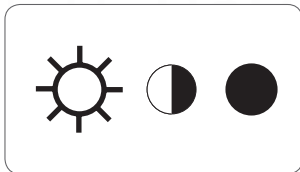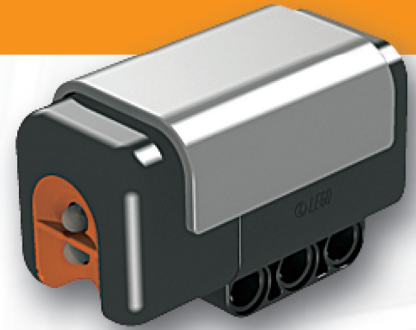## Light Sensor

The Light Sensor enables the robot to distinguish between light and darkness, to read the light intensity in a room, and to measure the light intensity on colored surfaces.

This is what your eyes see.

This is what your robot sees using the light sensor.

Suggestions for use

You can add the Light Sensor to an NXT model and then program the model behavior to change when the Light Sensor is activated.
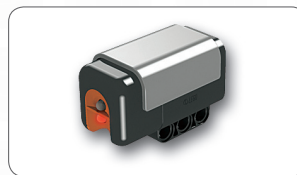
Programming ideas using the Light Sensor are included in the Robot Educator.
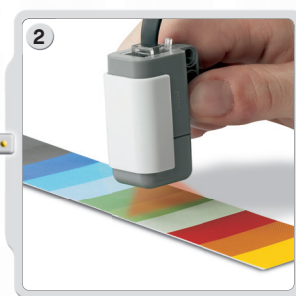
View

You can test the Light Sensor in different ways using View. Viewing reflected light turns on the flood light in the sensor.
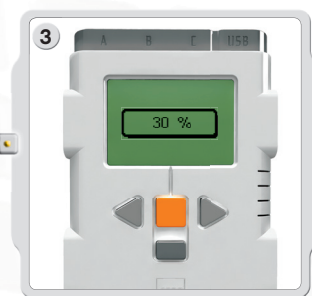
Viewing Reflected Light to see Colors
Connect the Light Sensor to the NXT.
Select View in the NXT display.

1 Select
Reflected light

3 30 %

Select the Reflected light icon. Select the port in which you have placed the sensor.

Hold the Light Sensor close to the different colors in your surrounding and see the different readings. You can use the color chart on page 66 of this guide or page 69 of the NXT Building Guide.
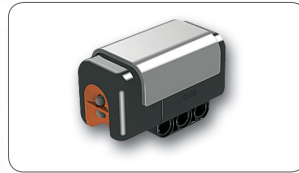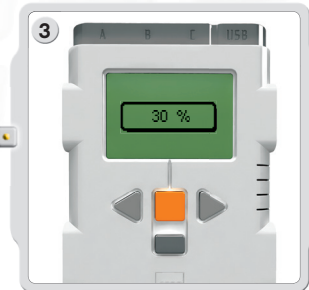
Light Sensor

Viewing Ambient light

Viewing Ambient light turns off the flood light so that the sensor reads only the light around it.Connect the Light Sensor to the NXT.
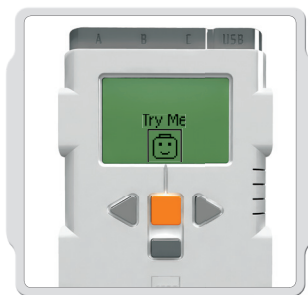
Select View in the NXT display.

Select the ambient light icon. Select the port in which you have placed the sensor.
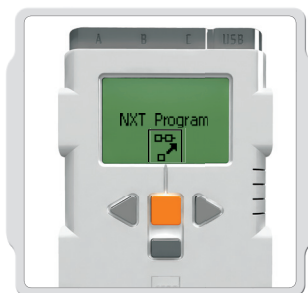
Test the Light Sensor's ability to read the surrounding light by measuring the light level in different parts of the room. For example, first hold the sensor against the window, then hold it under the table. Notice the difference in the readings. Higher numbers indicate more light (as a percentage of the light the sensor can read). Lower numbers indicate a lower amount of light.

Try Me

The Try Me feature (see page 17) includes several programs already prepared for experimenting with the NXT and a Light Sensor. Using the programs available you can experiment with several features. For example, using one Light Sensor and the face on the display: Using the Light Sensor you can make the eyes open and close on the display face.

Program

You can also use the Program [Program] feature to create programs right on the NXT without using a computer. See the Program section on page 15 to create a program using the Light Sensor to control a Motor.