

Color Sensor vs. Light Sensor

The Standard **LEGO Light Sensor** is present in the NXT 1.0 set and in the Education Base Set. This sensor measures *light intensity* only, reading a value between 0 (very dark) and 100 (very bright). The sensor has a LED Light that you can switch on and off. When off, you use the sensor to measure ambient light. When on, you use it to measure reflected light of a surface. This way, you can follow a dark line (black) on a light surface (white), because white results in a greater reflection of light, resulting in a higher sensor measurement. Similarly, a yellow surface typically reflects more light than a blue or green surface, but you cannot use the sensor to exactly distinguish colors.

Contrary, the NXT 2.0 set has a **Color Sensor**. When programmed in Light Sensor Mode, this sensor has the exact same functionality as described above. However, it can also be programmed in Color Sensor mode. When doing so, the sensor *can* detect 6 different colors: Black, White, Blue, Green, Yellow and Red. A third functionality of this device is Lamp Mode, where it functions as a basic light, optionally Red, Green or Blue.

If you are looking for an additional Light/Color sensor for your projects, consider that in some cases, the standard Light Sensor may be sufficient, and it is half the price of a Color Sensor.



MINDSTORMS NXT Color Sensor (comes in the NXT 2.0 set)



MINDSTORMS NXT Light Sensor (comes in the NXT 1.0 set, and in the Education base set)