

# VEXEXP Distance Sensor

In this Lesson: You learn about what the Distance Sensor is, how it works, and what it can be used for on your robot.



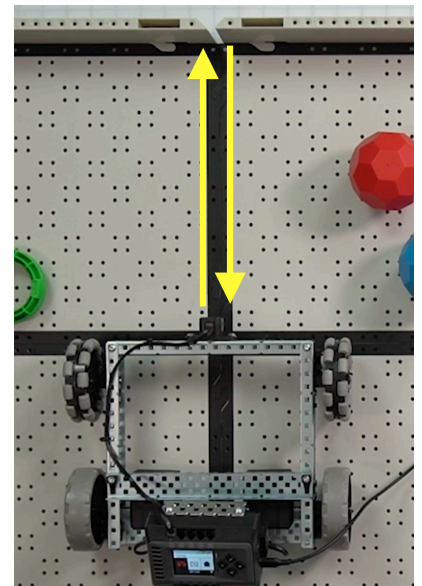
## Definition(s):

- **Distance Sensor:** a sensor that uses a pulse of laser light to determine the distance from the front of the sensor to an object in front of it (as shown in this image from the video).

## Notes:

- The Distance Sensor measures the time it takes for the pulse of laser light to travel to and from the object, and does a calculation based on the speed of light to determine the distance (as shown in this image from the video).

- The Distance Sensor can be used to detect and report:
  - **If the sensor is near an object**
    - The sensor can detect objects directly in front of it up to 1,000 mm ( $\approx$  39 in).
    - It is important to keep in mind the placement of the sensor and the direction the robot is facing, so the sensor detects the intended object(s) accurately.



- **How far away an object is from the sensor**
  - The sensor can report the distance of an object in mm or inches.
  - This information can be displayed in the Devices window on the Brain screen, and is updated in real time.
- **The relative size of an object (small, medium, or large)**
  - Be mindful of how close the sensor is to the object, as it may read an object as “large” if it is in close proximity
- **The velocity of an object traveling toward the sensor (or the sensor toward an object)**

