
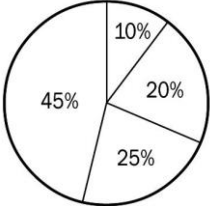
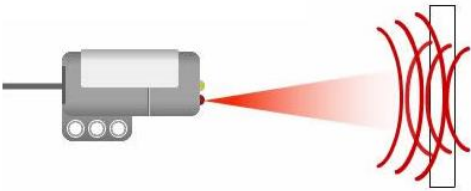



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Activity Sheet	
Gr 6 - Lesson #6	Stop at Line – Estimating Percentages
Date:	Name(s):

Check That I'm Done <input checked="" type="checkbox"/>		
<input type="checkbox"/> Commented on my code	<input type="checkbox"/> Modify it task	<input type="checkbox"/> Coding Challenge

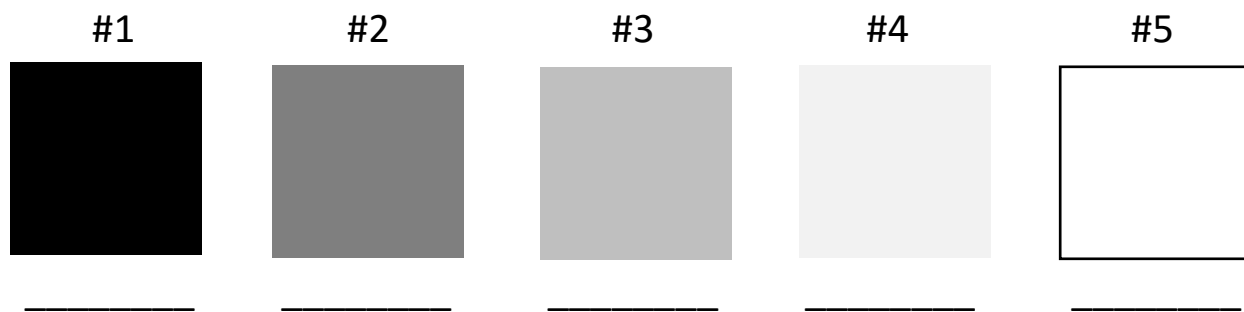
Learn	
<p>Percentages aren't only used for test scores and pie charts. Sensors make use of them all the time.</p> <p>A sensor will often send out a signal, and measure how much comes back. If half of the signal comes back, the reading is 50%.</p> <p>The EV3 colour sensor works this way. When set to "reflected light intensity" it measures the percentage of red light coming back into the sensor.</p> <p>The tricky part is, you almost never get 0% or 100% of your signal, so you have to be more advanced in setting up the right value. Estimating beforehand is a powerful tool to speed up the process.</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  </div> <div style="text-align: center;"> <p>Pie Chart</p>  </div> </div> <div style="text-align: center; margin-top: 20px;">  </div> <div style="text-align: center; margin-top: 20px;">  <p style="font-size: small; margin-top: 5px;">pppst.com</p> </div>

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Predict and Plan

A pure black surface will not return a value of 0%, nor will a white surface return a value of 100%. It is more likely to be ~5% and ~55% respectively.

Using your experience from the coding activity and without measuring directly, estimate the percentages each shade below will return to colour sensor.



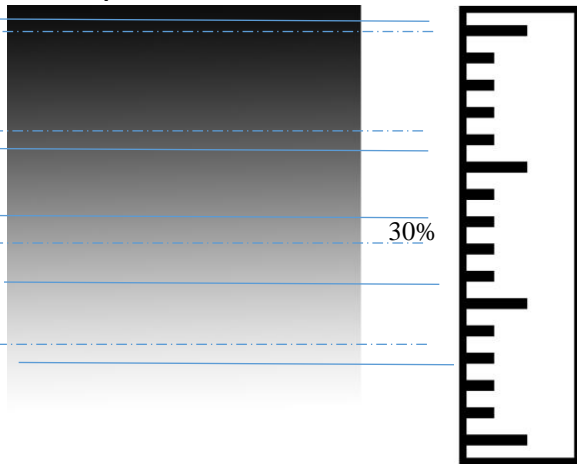
Demonstrate/Design/Discover

- ✓ Measure the actual light values (percentages) given to you by the blocks above. Record them in the “Record” section below.
- ✓ Create a program that stops when less than a certain amount of light comes into the sensor. Start it at 5%.
- ✓ Using the gradient sheet on the last page, predict how far it will travel down the page at the following light values (5%, 10%, 15%, 20%, 25%, 30%, 35%). Draw a dotted line in the page to illustrate your predictions choices (see figure below).
- ✓ **AFTER** you’ve made your predictions, test them out by changing the

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light values in your wait block. Draw a solid line where your robot actually stopped.

Example:



Tips: Draw your lines from the center of the colour sensor

Record		
Test Square #	Predicted Light Percentage Value	Actual Light Percentage Value
1		
2		
3		
4		
5		



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