**Purpose**

1. See that experimental probability approaches theoretical probability when a sufficient number of experiments are conducted.
2. Determine the quantity of each color of block in the container.
3. Use iSENSE to visualize and explore this effect.

**Materials**

1. Container with 12 blocks; yellow, red, blue
2. Computer, tablet, or iPad with internet connection
3. Interactive website – [www.isenseproject.org](http://www.isenseproject.org)



**Method**

1. Divide into groups of 2 and gather materials.
2. **Without looking in the container**, student 1, select one block from the container and note its color with a tally mark on Table 1. Replace the block back into the container.
3. **Without looking in the container**, student 2, select one block from the container and note its color with a tally mark on Table 1. Replace the block back into the container.
4. Students 1 and 2 take turns repeating steps 2 and 3 until each has tallied 5 outcomes, for a total of 10 outcomes.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Red | Blue | Yellow |
| Student 1 |  |  |  |
| Student 2 |  |  |  |
| Total |  |  |  |

Table 1

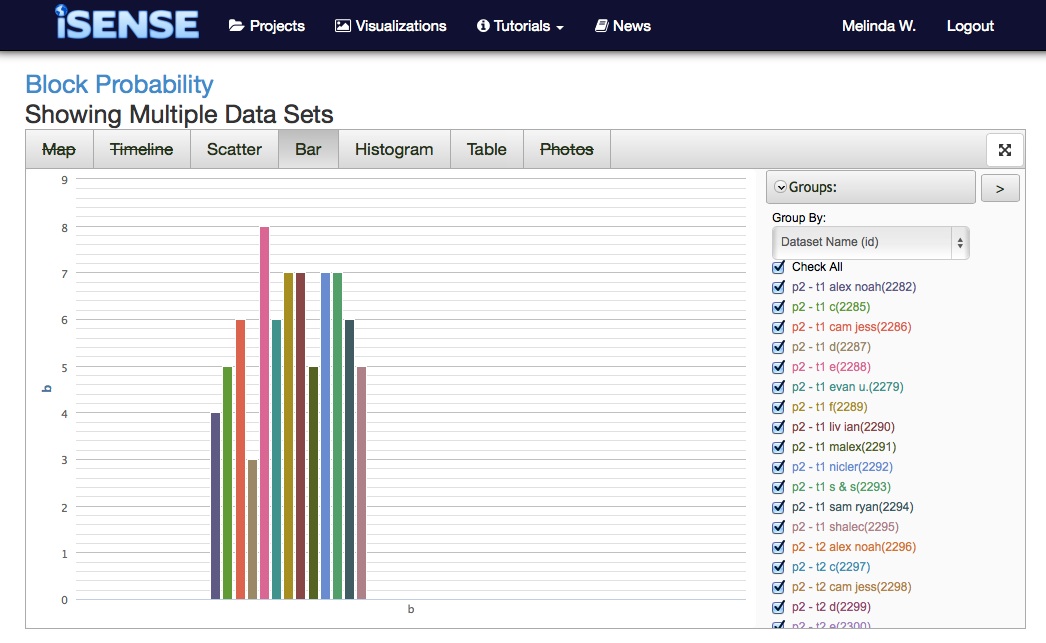
1. Given that there are 12 blocks in the container, calculate how many there are of each color, based only on your experimental probability.

6. Enter your *Totals* from Table 1 into iSENSE

* Go to [www.isenseproject.org](http://www.isenseproject.org)
* Login as directed by your teacher
* Click on *Project*
* Click on *Block Probability*
* Click on *Data, Manual Entry*
* Enter the data set name i.e.: Class period – T1 FirstName &FirstName
* Click on *Save*

**iSENSE Analysis**

1. Select your data set and click *Visualize.*
2. Verify correct input of your data at *Table*.
3. Use the *Bar Chart* to examine your data.
4. Add data contributed by other participants and visualize using *Bar Chart,* or *Histogram*.
5. Save any visualization that you find particularly interesting.



**Discussion Questions**

* + - 1. If we examine the experimental data from the entire class, does the experimental probability change? How?
      2. What conclusion can you infer given your answers from your calculation in Method step 5 and Question 1?
      3. What questions might you investigate if you were to repeat this experiment?