**Purpose**

1. See that experimental probability approaches theoretical probability when a sufficient number of experiments are conducted.
2. 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 | Green |
| Student 1 |   |   |   |
| Student 2 |   |   |   |
| Total |   |   |   |

Table 1

1. Enter your *Totals* from Table 1 into iSENSE (1 entry per couple)
* Click on *Data, Manual Entry*
* Enter the data set name i.e.: Group – 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. Calculate the total, min, max, range, mean and mean deviation for blue and green blocks.
			3. According to the results, how many blocks of each color are in the container?
			4. According to the mean deviation, how reliable is your previous estimation?