

Circle Activity

Step 1: Number the circles from one to 80.

Step 2: Take 15 seconds and select five circles that best represent the size of the 80 circles.

Step 3: Find the diameter in cm for each circle.

1st Circle: Circle #: _____ Diameter: _____

2nd Circle: Circle #: _____ Diameter: _____

3rd Circle: Circle #: _____ Diameter: _____

4th Circle: Circle #: _____ Diameter: _____

5th Circle: Circle #: _____ Diameter: _____

Step 4: Find the average diameter. Show your work!

Average Diameter: _____

Step 5: Find the average diameter for the class. Show your work!

Class Average Diameter: _____

Step 6: Use the random digit generator to get five random sample circle numbers and find their diameter.

1st Circle: Circle #: _____ Diameter: _____

2nd Circle: Circle #: _____ Diameter: _____

3rd Circle: Circle #: _____ Diameter: _____

4th Circle: Circle #: _____ Diameter: _____

5th Circle: Circle #: _____ Diameter: _____

Step 7: Find the average diameter of the random sample circles. Show your work!

Average Diameter: _____

Step 8: Find the average diameter of the random sample of circles for the whole class. Show your work!

Class Average Diameter: _____

Step 9: Find the median, mode, and range comparing the mean diameters of the class' individual choice of circles and the class' random sample of circles.

Step 10: In your own words, compare the averages from Step 5 (class' selected sample) and Step 8 (class' random sample) circles.

Step 11: Discuss the questions below with the people seated around you.

Now that you know that the true mean diameter is 1.25 cm, how does this average compare to the selected and random sample mean diameters? Why are the averages different?

What is bias? How does random selection help eliminate bias?