

AN ENGAGING VIEW OF MIDDLE SCHOOL STATISTICS

Presented by:

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GOALS FOR TODAY

- ❑ See 6th statistics standards and vocabulary in action.
- ❑ Learn about a sharing form of division.
- ❑ Experience a Poster Problem as a form of group work and review.
- ❑ Address any questions.

NAME SCORES

A = 1	B = 4	C = 4	D = 2	E = 1	F = 4	G = 3
H = 3	I = 1	J = 10	K = 5	L = 2	M = 4	N = 2
O = 1	P = 4	Q = 10	R = 1	S = 1	T = 1	
U = 2	V = 5	W = 4	X = 8	Y = 4	Z = 10	

CYNTHIA

$$4 + 4 + 2 + 1 + 3 + 1 + 1 = 16$$

(1) Compute your first name score.

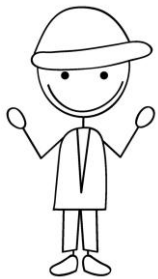
Write your first name and score on your paper, and complete a sticky note like this

(write **name** small, write **score big**).



THE NAME SCORE LINEUP

Now let's do the activity!
Take your post-it and line up in order.



Al
3



Ari
3



Tere
4



Ben
7



Susan
7



Greg
8



Kim
10



Sandy
10



Cary
10

LET'S TALK VOCABULARY

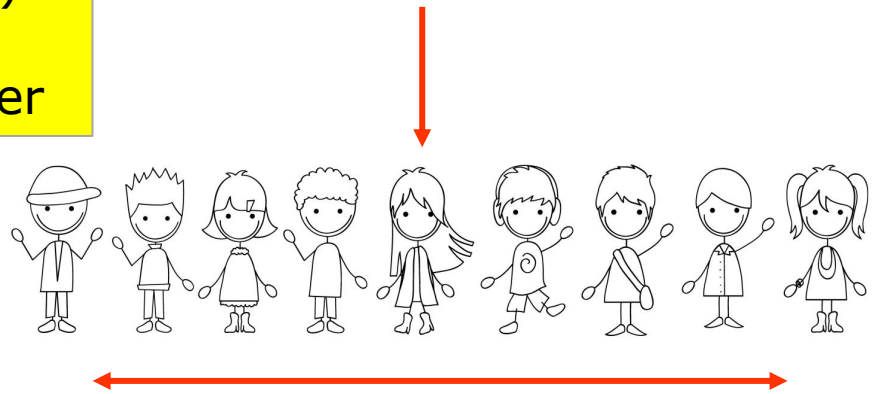
What is a typical name score for our class?

(2) Organize Data.

- Number of observations (n) in the population
- List of observations, in order

(3) Find measures of center.

- Mode(s)
- Median



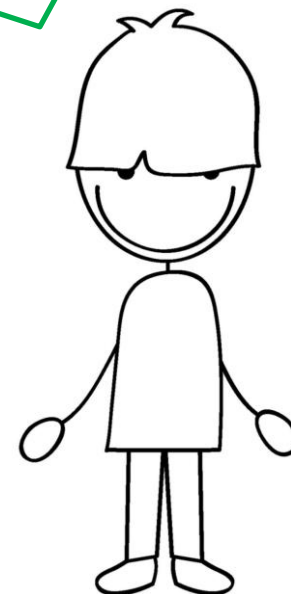
(4) Find values related to measures of spread (variability).

- Minimum/maximum/range
- Five-number summary/interquartile range (IQR)

NAME SCORE REVISITED



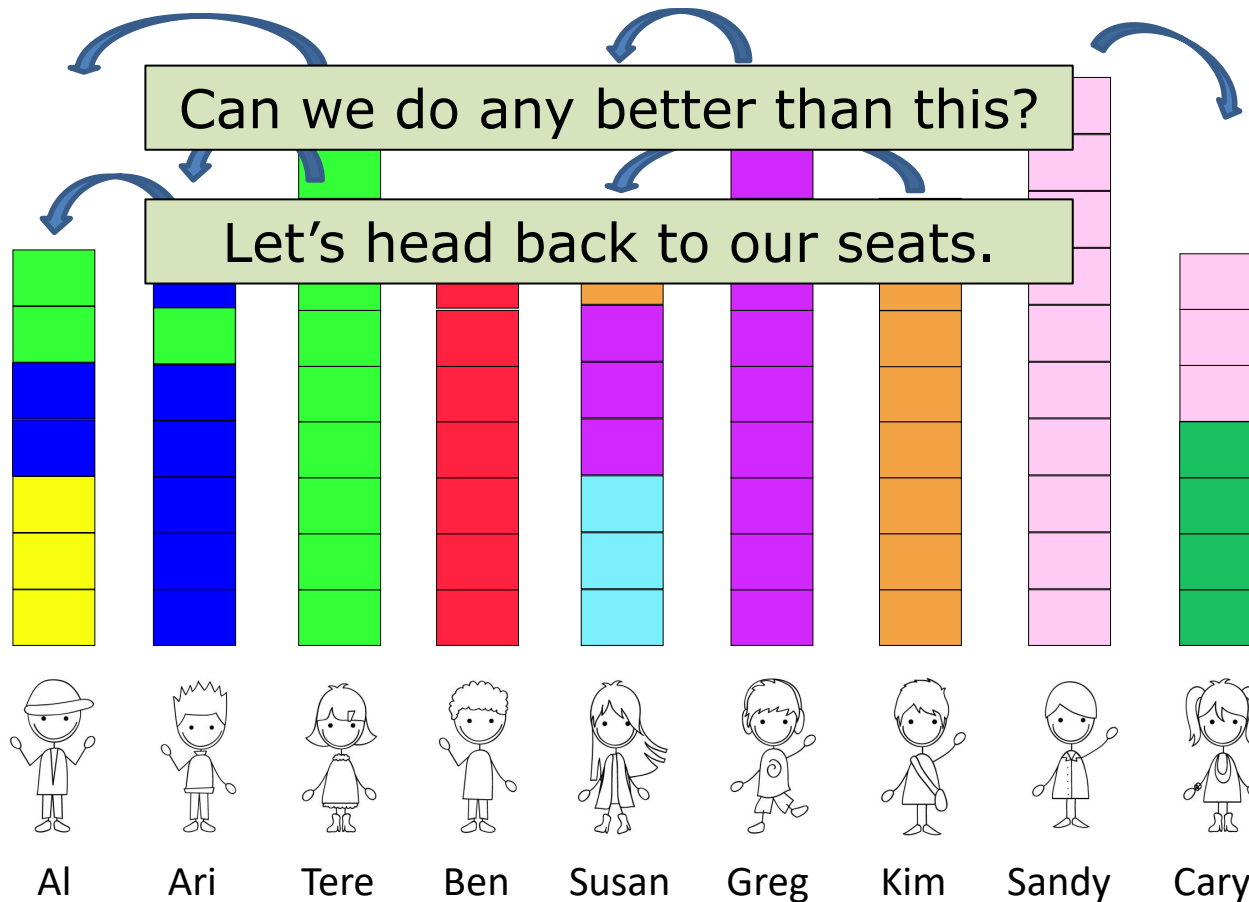
I'm JOEY.
My name score is 16.
I get 16 cubes.



Take the number of objects that is equal to your name score.

ANOTHER ACTIVITY

Share objects with classmates until everyone has the exact same amount. If not possible, then within 1 of each other.



ANOTHER MEASURE OF CENTER

The mean is the arithmetic average of a data set.

(1) Describe how we estimated the mean (average) of our name scores during this activity.

Example of a procedure to compute the mean:

8 students each had 7 cubes $\rightarrow 8(7) = 56$
1 student had 6 cubes $\rightarrow 1(6) = 6$

\rightarrow 62 total cubes
9 students $\rightarrow \frac{62}{9} \approx 6.9$

(2) Find the mean for the class data set.



WAQUEYZAQUEY

We have a new student named Waqueyzaquey.

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(3) What is Waqueyzaquey's name score?

(4) How do you think Waqueyzaquey's name score will affect the mean? Median? Mode? Range? IQR?

An outlier is a data value that is a "striking deviation" from the overall pattern of values in the data set.

POSTER PROBLEM

Provide
group practice

Generate
group discussion

Critique
reasoning

Use as formative
assessment

Add variety
to classwork

POSTER PROBLEMS: STATISTICS

Part 1: Your teacher will divide you into groups.

- Identify members of your group as A, B, C, or D.
- Each group will start at a numbered poster. Our group start poster is _____.
- Each group will have a different colored marker. Our group marker is _____.

Part 2: Do the problems on the posters by following your teacher's directions.

Poster 1 (or 5)	<i>Shop Shoes</i> sold the following sizes during the last hour. 9, 7, 8, 8, 10, 8, 6, 5, 9, 8
Poster 2 (or 6)	Below are the housing prices (in thousands) for the most recent sales in <i>Mathville</i> . \$475, \$470, \$460, \$375, \$500, \$450, \$650, \$480, \$500, \$410
Poster 3 (or 7)	Teens were surveyed on the number of hours per week they spend looking at a screen. 63, 50, 40, 15, 35, 45, 54, 29, 25, 37, 49, 38
Poster 4 (or 8)	The number of pets students own are shown below. 3, 4, 2, 0, 1, 2, 12, 4, 2, 3, 5, 1, 0, 2, 4
A. Copy the data in numerical order and determine the median and mode. B. Determine the mean for the data set and note any potential outliers. C. Find the five-number summary for the data set. D. Make a data display that would be appropriate for the data set. Be sure to label the graph.	

Part 3: Return to your seats with your original poster. Work with your group.

Write a statistical question that can be answered with your group's data set and display. Answer the question and explain your thinking using the measures of center, variability, and/or the data display.

GETTING STARTED

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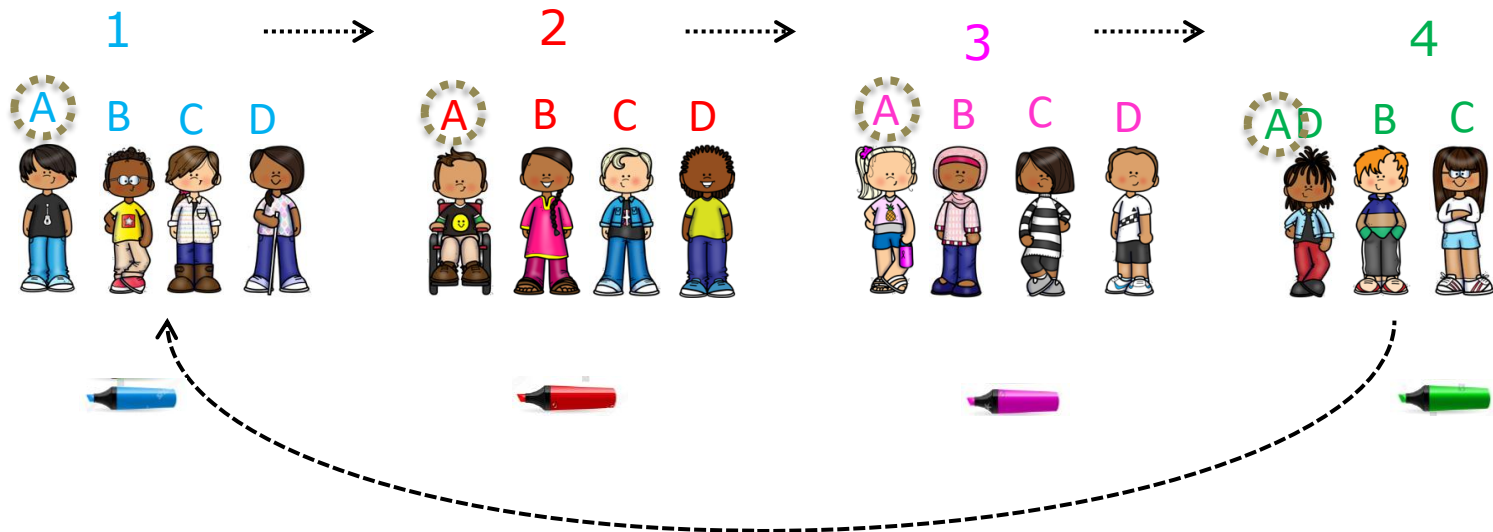
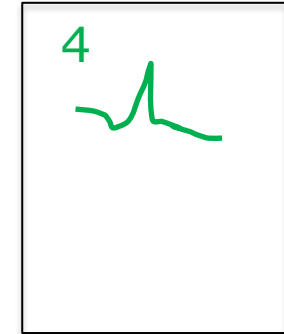
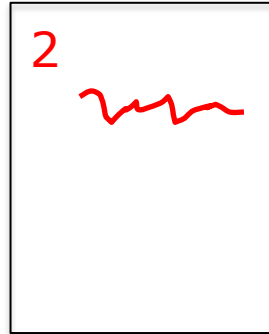
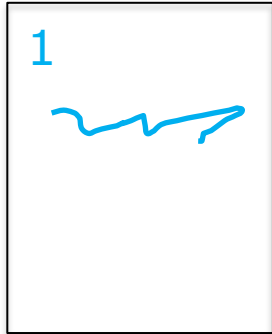
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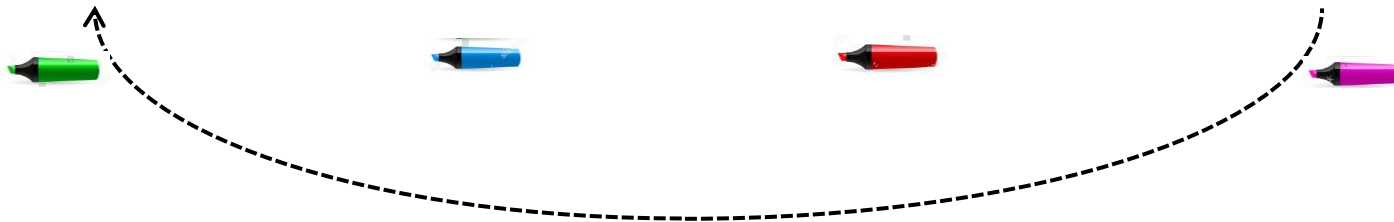
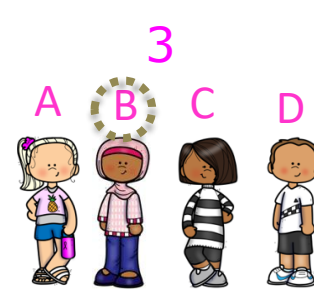
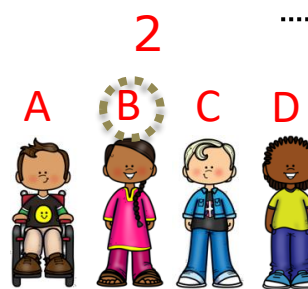
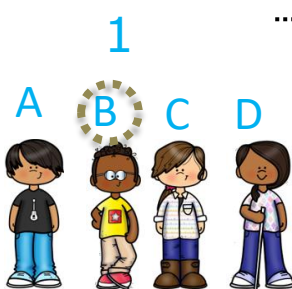
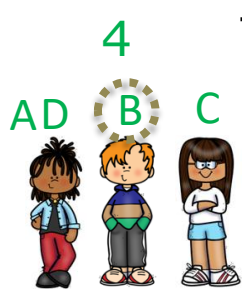
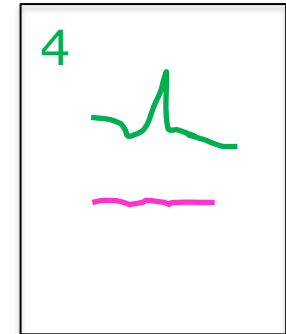
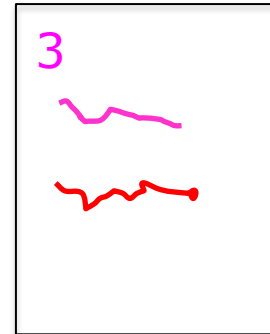
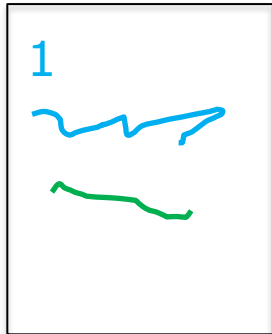
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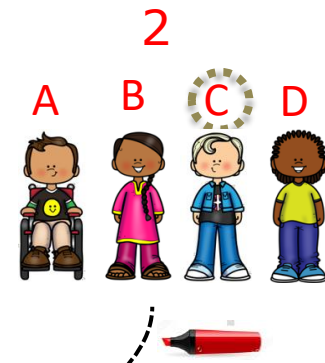
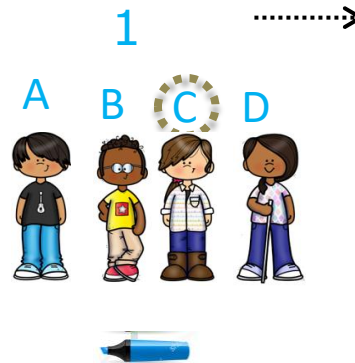
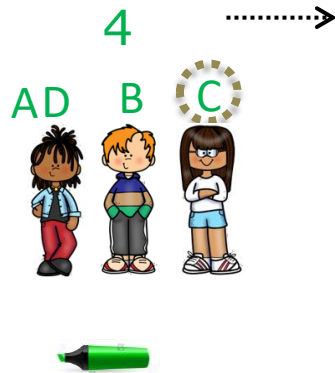
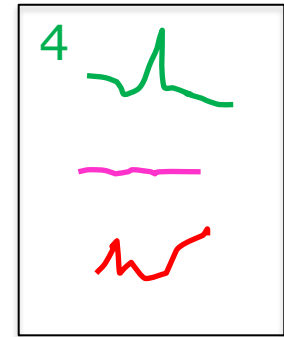
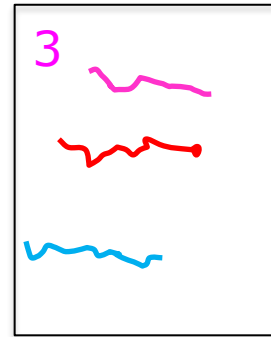
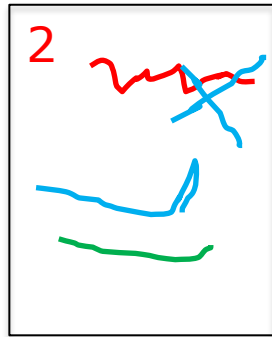
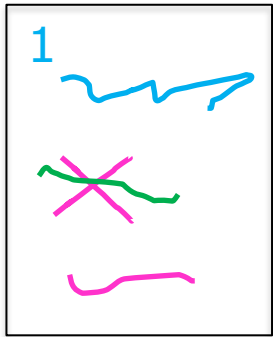
HOW: The Activity step 1



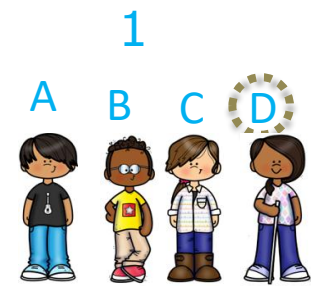
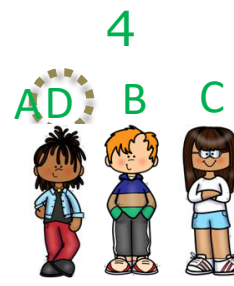
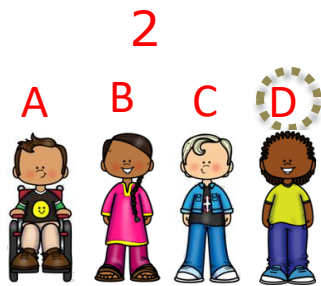
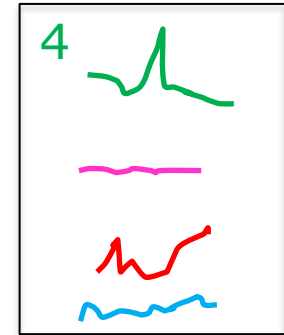
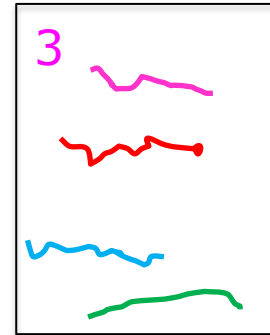
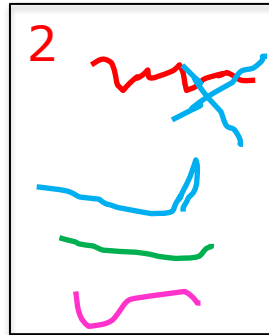
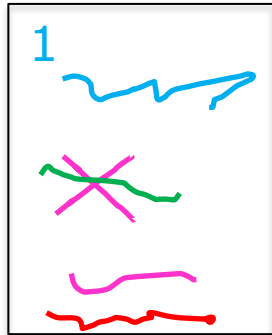
HOW: The Activity step 2



HOW: The Activity step 3



HOW: The Activity step 4



DONE!

Time to start our poster problem

POSTER PROBLEM: Follow-up

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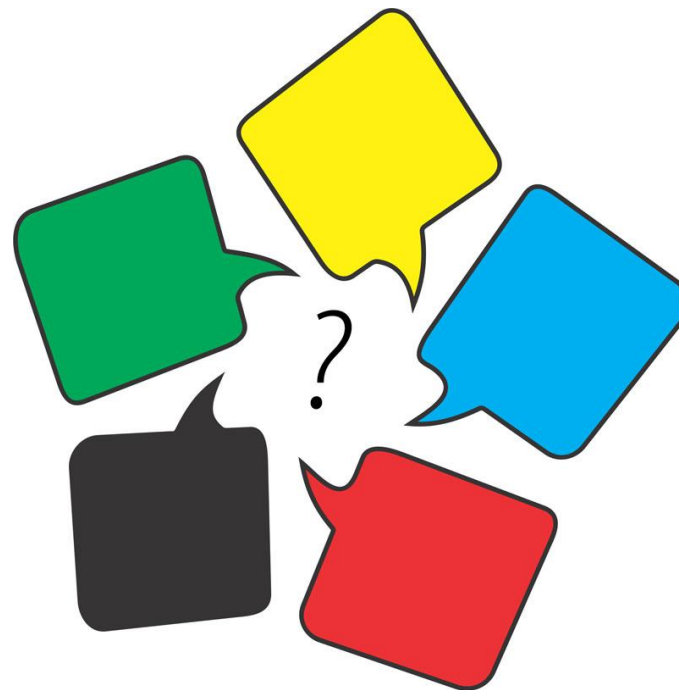
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Whole
class
discussion

COMMENTS AND QUESTIONS

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THANK YOU FOR ATTENDING

Please feel free to contact me with any questions,
or if you try the lesson I'd enjoy hearing your feedback.

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