

Exploring Averages with Unifix Cubes

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This activity can be conducted with either a whole class participating, or a smaller group of about 10 students who would model the activity to the rest of the class.

Activity 1: Unifix Grab Bag

1. Introduce vocabulary: mean, median, mode and range.
2. Have a large bag filled with Unifix cubes.
3. Students line up side by side in a straight line
4. Each student grabs a handful of Unifix cubes from the bag and links cubes together
5. Students line up side by side from least to greatest
6. To find range, the students from either end step forward and announce their number of cubes.
7. The next two students from either end of the line step forward, repeating this until there are only one or two students left. If there are two left, the two Unifix totals must be averaged to get the median. (If students don't know how to do this they can add the two towers of blocks and then share them).
8. Students return to the original line. Any 'repeating' numbers need to line up in front of each other (resembling a bar graph). The longest line of students represents the mode.
9. Students now have to give or take cubes so that each student ends up with the same number of cubes. (Some students may end up with six and some may end up with seven – if this is the case, the mean can be determined as being between six and seven).
10. Reflect on the activity as a class.

Activity 2: Whose Name is Average?

This activity is a good follow up from the previous activity and can be used to reinforce students' understandings of mean, median, mode and range.

1. Have students arranged in groups of at least six (odd numbers are easier for working out the median). Place a pile of Unifix cubes in the centre of the table.
2. Ask students to pick up and stack the same number of Unifix cubes (all in one colour) as there are letters in their Christian name. For example, Cathy would pick 5 red cubes.
3. Students now need to order the stacks from shortest to tallest. Which stack represents the median?
4. Students then determine the mode by using a similar strategy to the Unifix Grab activity.
5. Direct students to work out the mean by making all of the stacks the same height.