

Teacher's Notes – Which Average?

This activity can be used on its own as a skill builder to prepare students for the 'Sugar Guzzlers' activity. It explores the three types of average a student may come across.

After this lesson students will

- Be able to demonstrate an understanding of the three different averages.
- Be able to demonstrate the ability to collect, record, and analyse data in terms of an activity.

Starter activity:

- We use the term 'average' all the time. Ask students to define what the word/term means to them. Write a list of their responses on the board.
- Ask- What would you think if I said the movie was average?
- Ask- What is the average number of drinks you have each day?
- Ask- What is the average time it takes you to get to school?
- Ask - If we use the word 'average' in maths, what does it mean?
- Transfer worksheet onto OHT. Discuss the introduction and explain the three averages: You may wish to set up your own dataset (e.g. items in pencil case)
- Explore table with students so they understand what the table shows

Worksheet:

- **Which average is the best to use? –Discuss with your group. Answer:** The Median is most relevant in this case.

Where to from here?

- If your students appear comfortable with the table and working with averages you could move onto the 'Sugar Guzzlers' activity. <http://www.censusatschool.org.nz/resources/bank/>

Advantages and disadvantages of Mean, Mode and Median

Mean

Advantages

- + It is the most commonly used 'average' and can be easily worked out
- + All the data values are used and represented
- + It is used in many higher-level statistical procedures (standard deviation for example)

Disadvantages

- The mean is unduly affected by extreme values in the dataset

Mode

Advantages

- + Can easily be found from any dataset
- + Easy to understand
- + Not affected by outliers
- + Can be obtained for qualitative data
E.g. From the table water was consumed most often

Disadvantages

- Not all datasets have a modal value
- The mode lacks useful mathematical properties

Median

Advantages

- + Concept is easy to understand
- + Can be determined in any dataset
- + Is not unduly influenced by extreme value in the dataset

Disadvantages

- The data must be ordered (ascending or descending)
- The median lacks useful mathematical properties