MALMS8

TAILORED LEARNING, PERSONALIZED PROGRESS

SUPPLEMENTARY MODULE

Draw Conclusions from Statistical Data Using the Measures of Central Tendency

GRADE 8

¡Hola magos de las matemáticas! We know that mastering measures of central tendency can be a bit like navigating a new terrain. In this supplementary material, we're here to boost your confidence and reinforce those essential skills in drawing conclusions from statistical data. Don't worry if some concepts seem puzzling; we'll take it step by step. Through relatable examples and simplified approaches, let's navigate the world of measures of central tendency together. Remember, it's all about progress, not perfection! You've got this!

Lesson Objectives:

At the end of this module, students will be able to:

- analyze additional real-life datasets using measures of central tendency to reinforce understanding and accuracy in drawing conclusions from varied statistical information;
- engage with diverse scenarios to practice and refine the application of measures of central tendency in real-world contexts, fostering confidence and accuracy in interpreting statistical insights; and
- develop perseverance in interpreting statistical insights by exploring relatable scenarios and applying varied measures of central tendency to draw accurate conclusions from different datasets.
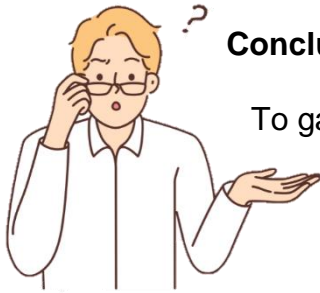
Concluding with Central Tendency

To gain a deeper understanding of the topic, visit this presentation link first.

https://www.slideshare.net/mschie/measures-of-central-tendency-11435231
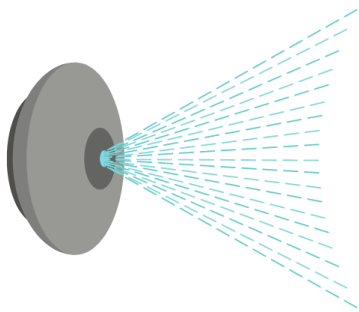
Example Scenario 1:

Consider a runner who is training for a 10-kilometer race. Her coach requires that she run an average distance of 15 km a day. Over two weeks, the runner logged the following distances (in km) on her daily runs: What is the a) average distance, b) median distance, and c) the distance that she ran most often?

Su	M	T	W	Th	F	Sa	Su	M	T	W	Th	F	Sa
15	16	14	22	15	10	30	0	15	20	20	24	5	32

a) To determine the average daily distance, the calculation would be:

$$Mean = \frac{15 + 16 + 14 + 22 + 15 + 10 + 30 + 0 + 15 + 20 + 20 + 24 + 5 + 32}{14}$$

$$Mean = \frac{238}{14}$$

$$\boldsymbol{Mean = 17\ km}$$

Conclusion: Therefore, the average distance in kilometers that the runner ran is 17 kilometers and the runner exceeds the coach's requirements.

b) To determine the median distance, the calculation would be:

0	5	10	14	15	15	15	16	20	20	22	24	30	32

$$Median = \frac{15 + 16}{2}$$

$$Median = \frac{31}{2}$$

$$\boldsymbol{Median = 15.5\ km}$$

Conclusion: Therefore, the median distance in kilometers that the runner ran is 15.5 kilometers, indicating that half of the recorded distances were below and half were above this value.

c) To determine the distance that she ran most often, the calculation would be:

0	5	10	14	15	15	15	16	20	20	22	24	30	32

Mode = 15

Conclusion: Therefore, the distance that the runner ran most often was 15 km, occurring three times, suggesting it was the most frequently covered distance during the training period.