

## GED 2002 Teachers' Handbook of Lesson Plans

Area/Skill - Mathematics	Cognitive Skill Level - Application	Correlation to Framework - 05.07	Lesson Number - 13
<p><b>Activity Title – Using Central Tendency to Compare Data</b></p> <p><b>Goal/Objective</b></p> <p>Compare and contrast different sets of data on the basis of measures of central tendency.</p> <p><b>Lesson Outline</b></p> <p><b>Introduction</b></p> <p>In this lesson you will be given two scenarios to solve using the measures of central tendency. You should refer to Math Lesson 11 to refresh yourself on Mode, Median, Mean and Range.</p> <p><b>Activity</b></p> <p>In the solar system some planets have no moons, some have one and some have many. The 9 planets follow each with their number of moons.</p> <p>Mercury – 0, Venus – 0, Earth – 1, Mars – 2, Jupiter – 16, Saturn – 20, Uranus – 15, Neptune – 8, Pluto - 1</p> <p>Find the mode, median and mean of the set of moons.</p> <ul style="list-style-type: none"> <li>• What was the median high temperature for a week in which the daily high temperatures were 72, 83, 77, 76, 74, 80 and 81?</li> </ul> <p>Remember, the median is the middle number. But, that does not always tell the whole story. What if there was a freak warm spell in winter and the temperatures went from 1,17,34,38,53,86,87? Compute the mean or average. Does it accurately represent the weather? The range goes from 1 to 86. The mean is 38 and implies low temperatures. The mode is 86 which implies a hot spell. Sometimes it is necessary to have all three measures to get an accurate description of actual conditions.</p> <p><b>Debriefing/Evaluation Activity</b></p> <p>Discuss the situations where it would be appropriate to use one aspect of central tendency rather than another.</p>			<p><b>Materials/Texts/Realia/Handouts</b></p> <ul style="list-style-type: none"> <li>• Paper, pencils</li> <li>• Chalk board/overhead</li> <li>• Newspapers</li> <li>• Calculators</li> </ul>
			<p><b>Extension Activity</b></p> <p>Compile a list of ages of a large 3 generational family. (Estimate if necessary.) Compute the, Mode, Median, Mean and Range of the chronological ages of the family. Discuss if this accurately represents and describes the ages of the family.</p>
			<p><b>ESE/ESOL Accommodations</b></p> <ul style="list-style-type: none"> <li>• Let the student practice skills using computer-based instruction.</li> <li>• Let the student use a calculator for routine-based instruction.</li> <li>• Provide the student with written step-by-step directions on how to calculate mean, median and mode.</li> </ul>
<p><b>Real-Life Connection</b></p> <p>Distribute copies of a newspaper containing weather forecasts and conditions. Use the available temperature data from the forecast or weekly trends to find additional examples of Mode, Mean, Median and Range.</p>			

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<p><b>Activity Title - Using Central Tendency to Compare Data</b></p> <p><b>Introduction</b></p> <p><i>Say:</i> In this lesson we will use the measurement of central tendency to help us analyze data. If you need to refresh your understanding of central tendency, refer to Lesson 11.</p> <p><b>Main Activity</b></p> <p><i>Do:</i> Define Mean, Mode, Median and Range.</p> <p><i>Say:</i> In our solar system, some of the planets have no moons, some have one and some have many moons. I will write the name of the nine planets on the board followed by the number of moons each has.</p> <p>Mercury = 0, Venus = 0, Earth = 1, Mars = 2, Jupiter = 16, Saturn = 20, Uranus = 15, Neptune = 8, Pluto = 1.</p> <p><i>Do:</i> Instruct the class to determine Mode, Median and Mean. Answers: Mode = 0, Median = 2, Mean = 7.</p> <p><i>Say:</i> We will now turn our attention to the weather. I will write the daily high temperature on the board. What was the median high temperature for a week in which the daily high temperatures were 72, 83, 77, 76, 74, 80 and 81? Remember, the median is the number in the middle. Answer: 77.</p> <p><i>Say:</i> But, the median does not always tell the whole story. What if there was a freak warm spell in the winter and the temperatures for the week were 1, 17, 34, 38, 53, 86, 87? Compute the mean. Does it accurately represent the weather? The range goes from 1 to 86. The mean indicates 38 and implies low temperatures and the mode is 86 which implies a hot spell. Sometimes it is necessary to have all three measures to get an accurate description of actual conditions.</p> <p><i>Do:</i> Instruct the students to discuss how using different terms could give a false impression of actual conditions.</p> <p><b>Closure/Conclusion</b></p> <p>Review with the students the basics of Mean, Median and Mode - a definition for each and how to calculate each measurement of central tendency.</p> <p><b>Follow-Up Lessons/Activities</b></p> <p>Have students create lists of how the terms Mode, Median, Mean and Range are used in daily life.</p>			