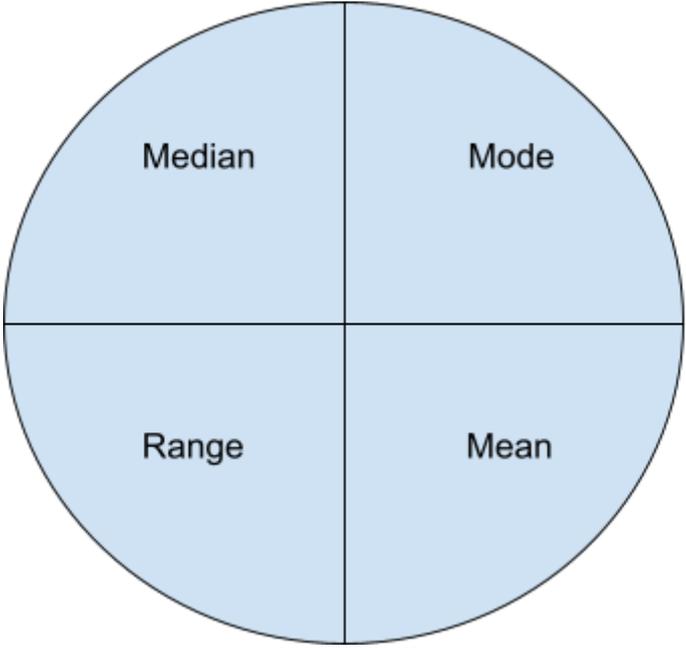


## SPINNER, SPINNER

<b>Level</b>	3 (Age group 12-14)
<b>Resources Required</b>	31 note cards with numbers on it (101-130 or 51-80 or 151-180) Spinning wheel decider Pens Any lightweight object that spins e.g. pen, stick, straw etc.
<b>Alternate Options for the Resources</b>	<p>Students can make the note cards with numbers on it by:</p> <ol style="list-style-type: none"> <li>1. Cutting 30 pieces of paper to the width of four fingers and the length of 1 finger</li> <li>2. On each paper, writing numbers from 101-130 or 51-80 or 151-180 (each number will be repeated 3 times)</li> </ol> <p>Students can make the spinning wheel decider by:</p> <ol style="list-style-type: none"> <li>1. Tracing a circular object (a bowl) onto a sheet of paper</li> <li>2. Cutting out the circle</li> <li>3. Dividing the circle into four quarters with a pencil</li> <li>4. On each quarter writing one of "range", "median", "mode" or "mean"</li> </ol>
	
<b>Strand Covered</b>	Data Handling
<b>Targeted Skills</b>	Practice mean, mode, median and range
<b>Inspired by</b>	Deceptively Educational
<b>Time Required</b>	15 minutes for the game 20-30 minutes (to make the resources)
<b>Previous Learning Required</b>	Knowledge of calculating mean, mode, median and range Knowledge of addition, subtraction, division and numbers up to 3-digits
<b>Support Required</b>	Medium support

Rules of the Game:

<b>Goal</b>	To have the greatest score at the end of the game. The score is determined by the total sum of the calculations at the end of each round. For example, if player 1 got a mode answer of 4, a mean answer of 5 and a range answer of 5, their total score is 14.
<b>Rules</b>	<ol style="list-style-type: none"> <li>1. Once 5 cards have been revealed, the players are not allowed to swap them out for other cards in the deck.</li> <li>2. No calculators are allowed.</li> <li>3. The players have no time limit on how long each manual calculation can take.</li> <li>4. The spinner is only allowed to be spun once each turn.</li> <li>5. Incorrect calculations do not lose points. Players are allowed up to 2 chances to calculate the answer correctly.</li> </ol> <p>This game is recommended for 2-3 players</p>
<b>Steps</b>	<ol style="list-style-type: none"> <li>1. The 30 cards are shuffled and placed face down in 5 piles (there should be 6 cards in each pile)</li> <li>2. Player one flips over the first card in each pile (there should be 5 cards revealed). For example, 1,4,4,5 and 6.</li> <li>3. The spinner is placed in the middle of the spinning wheel decider and spun.</li> <li>4. The word that the mouth of the spinner points to is the calculation that needs to be performed. For example, if the mouth of the spinner (or tip of the pen) lands on mode, the player must calculate the mode of the cards in the pile.</li> <li>5. The player then calculates the mode of 1,4,4,5 and 6 and should get 4.</li> <li>6. Player 1 gets 4 points, this is recorded on a points sheet</li> <li>7. The game repeats until the 6 rounds are complete.</li> <li>8. The player with the most points at the end of the rounds wins.</li> </ol>
<b>Variations of the Game</b>	<ol style="list-style-type: none"> <li>1. This game can be played with an increased range of numbers. For example, 1-20 instead of 1-10. This would then require an increased number of total cards and the addition of one more pile. For example, 48 cards in total and 6 piles of 8 cards each.</li> <li>2. Incorrect calculations lose <math>\frac{1}{2}</math> the points that is allocated for that round</li> </ol>
<b>Enrichment</b>	<p>This game can be played to test number operations. For example, they could try the following version where:</p> <ol style="list-style-type: none"> <li>1. The spinning wheel decider has (+, -, x and /)</li> <li>2. There are two cards in each pile instead of 5 or 6</li> <li>3. The two numbers revealed need to be used in the number operation that the spinner spun to</li> <li>4. The order of the cards should be maintained in the operation</li> <li>5. For example, if a player picks up a pile that has 4 and 9, and the spinner spins to division, players must divide the top card (4) by the bottom card (9) to get <math>4/9 = 0.44</math></li> </ol>

<b>Simplification</b>	<ol style="list-style-type: none"><li>1. Have 3 or 4 piles of cards instead of 5. For this, the range of numbers on the cards can be reduced to 6 or 8 respectively.</li><li>2. The players are allowed to repeat the calculation any number of times until the correct answer is reached.</li></ol>
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