Quick Review

- The mean, median, and mode are all measures of central tendency of a set of data. However, not all of them describe the data in the same way.

Zoe's hamster has had several litters of babies. Zoe recorded the number of babies in each litter: 17, 16, 15, 12, 5, 5, 4

There are 7 numbers in the set.
Mean: \( \frac{17 + 16 + 15 + 12 + 5 + 5 + 4}{7} = \frac{74}{7} \), which is about 10.6

Zoe's hamster has a mean of 10.6 babies in a litter.

The numbers of babies in order from least to greatest are: 4, 5, 5, 12, 15, 16, 17
The middle number is 12.
So, the median is 12 babies in a litter.

The number 5 occurs two times.
So, the mode is 5 babies in a litter.

Four of the seven litters have numbers greater than 5.
So, the mode is not representative of the data.

The median is one of the data.
The number of data greater than the median equals the number of data less than the median.
So, the median would be the best measure of central tendency used to describe the "average" litter size of the hamster.

Practice

1. Kate scored these points in her last six basketball games: 7, 8, 10, 5, 15, 15
   a) Find her mean, median, and mode scores.

   Mean: ___________  Median: ___________  Mode: ___________

   b) Which measure of central tendency should Kate use to show her coach that she is valuable player?
   Give a reason for your choice.

   Kate should use the ___________ because ________________________________.
2. There are five numbers in a set of data. 
The two modes are 0 and 2. 
The median and the mean are both 2. 
Find the 5 numbers.

3. A cereal manufacturer says that each box of cereal has an average of 50 g of raisins. 
A random check is made on 20 boxes. 
The table shows the results.

<table>
<thead>
<tr>
<th>Raisins per 400 g Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount (g)</td>
</tr>
<tr>
<td>48</td>
</tr>
<tr>
<td>49</td>
</tr>
<tr>
<td>50</td>
</tr>
<tr>
<td>51</td>
</tr>
<tr>
<td>52</td>
</tr>
</tbody>
</table>

a) Calculate the mean, median, and mode of the data.

Mean: __________________________

Median: ________________________

Mode: __________________________

b) Is the manufacturer’s claim acceptable? 
Justify your answer.

4. The term “average” can refer to the mean, median, or mode. 
Which average is likely being referred to in each case?

a) The average Canadian sleeps 8.3 hours per night. ____________

b) The average Canadian owns 2 computers. ____________

c) The average Canadian is on the Internet 2 hours per day. ____________
5. A radio station is having a weekly Song War between the top two hit songs. Listeners have all week to call in their votes. Each day, the station rounds the number of calls it receives to the nearest 10 and records the number of calls.

<table>
<thead>
<tr>
<th>Votes for Song A and Song B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day</td>
</tr>
<tr>
<td>-----</td>
</tr>
<tr>
<td>Monday</td>
</tr>
<tr>
<td>Tuesday</td>
</tr>
<tr>
<td>Wednesday</td>
</tr>
<tr>
<td>Thursday</td>
</tr>
<tr>
<td>Friday</td>
</tr>
</tbody>
</table>

a) Find the mean, median, and mode votes of Song A.

Mean: 

Median: 

Mode: 

b) Find the mean, median, and mode votes of Song B.

Mean: 

Median: 

Mode: 

c) Which song is more popular? Explain your choice.