Beware of Bias! Analyzing Misleading Graphs

Look at each graph or set of data carefully with your partner. Discuss your answers to each question, and then record your answers below.

Joseph got 75% on his science test. He told his parents that the mode for the test was 75%. He said, “More students got 75% than any other grade, so I didn’t actually do that poorly compared to my classmates.” The actual grades on the test were 75%, 75%, 75%, 81%, 85%, 86%, 90%, 94%, 95%, 96%, 96%, 97%, 98%, and 100%, but Joseph did not tell his parents the actual grades.

How did Joseph mislead his parents? ____________________________________
____________________________________________
____________________________________________

How is this graph about apple price misleading? __________________________
____________________________________________
____________________________________________

How could you change this graph to make it less misleading? ________________
___________________________________________
___________________________________________

How is this graph about apple prices misleading? __________________________
____________________________________________
____________________________________________

How could you change this graph to make it less misleading? ________________
___________________________________________
___________________________________________
Names ___________________________  Date __________________

**Ice Cream Cones Sold**

<table>
<thead>
<tr>
<th>Ice Cream Cones</th>
<th>Chocolate</th>
<th>Vanilla</th>
<th>Cookies and Cream</th>
<th>Mint Chip</th>
<th>Strawberry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Ice Cream Cones</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>163</td>
<td>158</td>
<td>153</td>
<td>148</td>
<td>143</td>
<td>138</td>
</tr>
</tbody>
</table>

**Headline:** Batting Bluebirds Rules the Field This Year!

**Number of Winning Games this Season**

<table>
<thead>
<tr>
<th>Months</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of wins</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
</tr>
</tbody>
</table>

What is the range of values used for the scale? ____________________________

How is this bar graph misleading? ____________________________

________________________________________________________________________

________________________________________________________________________

**Headline:** Batting Bluebirds Rules the Field This Year!

What does this headline from a sports news article make you think about the Bluebirds performance this season? ________________

________________________________________________________________________

________________________________________________________________________

Does the graph show what the headline suggests? Why or why not? ____________

________________________________________________________________________