1. Adi surveys third graders to find out their favorite fruits. The results are in the table below.

<table>
<thead>
<tr>
<th>Favorite Fruits of Third Graders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fruit</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Banana</td>
</tr>
<tr>
<td>Apple</td>
</tr>
<tr>
<td>Strawberry</td>
</tr>
<tr>
<td>Peach</td>
</tr>
</tbody>
</table>

Draw units of 2 to complete the tape diagrams to show the total votes for each fruit. The first one has been done for you.

- **Banana:**
  
- **Apple:**
  
- **Strawberry:**
  
- **Peach:**

2. Explain how you can create vertical tape diagrams to show this data.

I can create vertical tape diagrams by just turning these. They would show the same data but in a different way. For example: 

\[
\begin{array}{c c c c c c c c c c}
\text{(2)}&\text{(2)}&\text{(2)}&\text{(2)}
\end{array}
= \begin{array}{c}
\text{(2)}
\end{array}
\]
3. Complete the vertical tape diagrams below using the data from Problem 1.

   a. 
   
   Banana | Apple | Strawberry | Peach
   
   b. 
   
   Banana | Apple | Strawberry | Peach

   c. What is a good title for the vertical tape diagrams?

   Third Graders' Favorite Fruit

   d. Compare the number of units used in the vertical tape diagrams in Problems 3(a) and 3(b). Why does the number of units change?

   The number of units changed because the unit size changed. In a, one unit = 2 votes; In b, one unit = 4 votes.

   e. Write a multiplication number sentence to show the total number of votes for strawberry in the vertical tape diagram in Problem 3(a).

   \[2 \times 6 = 12 \quad \text{or} \quad 1 \times 2 = 12\]

   f. Write a multiplication number sentence to show the total number of votes for strawberry in the vertical tape diagram in Problem 3(b).

   \[4 \times 3 = 12 \quad \text{or} \quad 3 \times 4 = 12\]

   g. What changes in your multiplication number sentences in (e) and (f)? Why?

   The factors changed because the size of the units and numbers of units changed.