Name _____ Date _____

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

| Favorite Fruits of Third Graders | |
|---|---|
| **Fruit** | **Number of Student Votes** |
| Banana | 8 |
| Apple | 16 |
| Strawberry | 12 |
| Peach | 4 |

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: | 2 | 2 | 2 | 2 |

Apple:

Strawberry:

Peach:

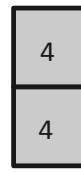2. Explain how you can create vertical tape diagrams to show this data.

3. Complete the vertical tape diagrams below using the data from Problem 1.

a.

| 2 |
| 2 |
| 2 |
| 2 |

Banana     Apple     Strawberry     Peach

b.

| 4 |
| 4 |

Banana     Apple     Strawberry     Peach

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

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?

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

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

g. What changes in your multiplication number sentences in Problems 3(e) and (f)? Why?