**CCSSM - 6.RP.1, 6.RP 2, 6.RP.3, 7 RP.1, 7.RP.2, 7.RP.3**

**Tape Diagrams**

Tape diagrams are models that are drawn to visualize the relationships between quantities.  (The model opens the door to efficient problem solving and helps students see the coherence in the mathematics across the years.)

For every $5.00, two pounds of strawberries can be purchased. How much will it cost to purchase 9 pounds of strawberries?

The tape diagram below is a model that represents the relationship between the two different quantities; dollars and pounds of strawberries.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Dollars |  |  |  |  |  |
| Pounds |  |  |

Describe how the tape diagram models or represents the problem.

How could you use the tape diagram model to determine the cost of 9 pounds of strawberries? Try to think of at least two different ways.

How could you use the tape diagram model to determine the cost of 1 pound (unit rate) of strawberries?

How does the use of the tape diagram support proportional reasoning?

**Table of Equivalent Ratios**

Use the values generated in your tape diagram solution strategy for 9 pounds of strawberries to complete the table of equivalent ratios below. The original ratio from the problem has been recorded. Add columns as needed.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Dollars | 5 |  |  |  |  |  |  |  |
| Pounds | 2 |  |  |  |  |  |  |  |

What role do multiplication and/or division play between the values in the table of equivalent ratios?

Use that information to add at least two more ratios to the table above.

How does the use of the tape diagram support proportional reasoning?

**Double Number Line**

Dollars

Pounds

Record the data in the table of equivalent ratios on the double number line above.

How does the use of the tape diagram support proportional reasoning?

**Algebraic Expression**

Write a rule that could be used to determine the cost for any number of pounds of strawberries. Write the rule in words first then translate those words into an algebraic equation. Identify the variables used. Be prepared to prove that your rule works.

**Coordinate Plane**

Graph the ordered pairs from the table of equivalent ratios on the coordinate plane below. Be sure to place the independent variable on the *x*-axis and the dependent variable on the *y*-axis. Decide on an appropriate interval and label the graph accordingly.

