* What is the relationship between part, whole, and percent?
* How can proportions or scale factors between ratios be used to determine the whole when given the part and the percent?
* How can proportions or scale factors between ratios be used to determine the part when given the whole and the percent?
* How can proportions or scale factors between ratios be used to determine the percent when given the part and the whole?

**#1 SE**

5B –***solve*** real world problems to find the whole given a part and the percent, to find the part given the whole and percent, and to find the percent given the part and the whole [including the use of concrete and pictorial models.]

DOK 1

* represent benchmark fractions using models
* represent benchmark percents using models
* using 10 x 10 grids
* Model fractional percent of a whole using strip diagrams
* number lines
* interpret pictorial models of a fraction
* generate equivalent forms of fractions given a percent
* determine a fraction represented on a number line
* understand that a whole is represented by 100%
* percent
* proportion
* scale factor
* cross products
* strip diagram
* equivalent
* fraction circle

**#2 Learning Targets**

**DOK2**

* Solve problems to find whole, part, and percent including use of concrete and pictorial models.

**#3 Characteristics (Specific Skills)**

* Determine the relationship between part, whole, and percent
* Multiple methods for solving real-world involving percent (concrete/pictorial, proportion method, and scale factor between ratios).
* Given the part and whole, find the percent by using a proportion (cross products/divide).
* Given the part and percent, find the whole by using a proportion (cross products/divide).
* Give the whole and percent, find the part by:
	+ Converting the percent to a decimal, multiply the decimal by the whole.
	+ Set up a proportion then cross multiply, then divide.

**#4 Question Stems**

**#5 Academic Vocabulary**