

**Grade: 8 Math**  
**1Benchmark #: 8.3.1.A1a**  
**Scale**

**Mastery Check**  
**3**

**State Language:**

Solves real-world problems by: a) using the properties of corresponding parts of similar and congruent figures.

**Student Friendly Language:**

Use ratio and proportion, involving scale and similar figures in real-world problems.

**Concept (Students will know):**

- Definition of similar and congruent figures.
- Know what scale is.
- Know how to work any kind of proportion problem that involves scale drawings or models, similar figures, and maps.
- Know **when** to apply the proportion concept to any real-world problem.
- Know how to find the unknown quantities in variety of situations.
- Know what the word “dimensions” mean when related to a floor plan or the measurement of a object.

**Skills (Students will do):**

- Define similar figures and congruent
- Identify types of problems as ratio/proportion problems.
- Solve ratio/proportion problems
- Determine a problem as a scale problem and work it with a proportion.
- Solve proportions when it involves similar figures, finding the corresponding lengths.
- Look at a map and find the actual distance.
- Find the actual length of the side of a room when given the key for a floor plan.
- Find the dimensions of a room, given the scale of the floor plan.

**DOK Level:**

**2**

**Big Ideas:**

Looking at a real life problem and interpret it as a ratio proportion problem, involving scale, similar figures, with corresponding parts, and maps. Distinguishing a real life problem as a ratio problem.

**Essential Questions:**

- How do you solve a proportion.?
- What is the definition of similar figures? .....congruent figures?
- What do we mean by the term “dimensions”?
- Looking at a blue print, what is the length of the unknown side of a room when the scale is  $\frac{1}{4}$  in = 2 ft?
- What is the actual distance from point A to Point B when looking at a map with the key being 20 miles =  $\frac{1}{2}$  in?
- Looking at the pictures of similar figures, what is the length of the corresponding sides given the lengths shown?
- The scale of a model of a car is  $\frac{1}{24}$ th. Looking at the picture, what would be the actual length of the door?
- What is the length on a floor plan given the scale, when the length of the room is 20ft
- What are the dimensions of a room, given the scale, when the floor plan shows the length to be 1in x 2.5 in?

**Core Materials**

Glencoe Pre-Algebra book

**Supplemental Materials:**

- Resource materials from the Glencoe series
- Teacher-generated materials
- Study Island
- Other technologies
- Model cars or other models to relate to scale
- Scale drawing of various objects.
- maps

**Teaching Strategies:**

- Show a model and compare it to a real life object.
- Show blue prints the relationship to a real building.
- Teach the vocabulary for scale.
- Hands on finding the size of something given a scale.

**Mastery Check Items:**