

### Lesson #4: Scale Factor and Scale Drawings

#### Objectives

Students will be able to...

- Read a scale drawing.
- Identify where scale factors are used in the real world.
- Find a scaling factor when scaling an object.

#### Common Core Standards

Problem Solving and Critical Thinking 5.1  
Responsibility & Flexibility 7.5  
CTE Pathway D3.1, 3.2  
Leadership & Teamwork 9.3  
RSIT 11-12.2  
RLST 11-12.2

#### Materials

You tube video [https://www.youtube.com/watch?v=Gcwhq\\_5ApbA](https://www.youtube.com/watch?v=Gcwhq_5ApbA)  
Scale Drawings-Yard Plans Worksheet  
Exit Ticket: Scale Drawing for a little house

#### Lesson Sequence

- Review Scale vocabulary from yesterday. (5 minutes)
- Watch *You tube video* [https://www.youtube.com/watch?v=Gcwhq\\_5ApbA](https://www.youtube.com/watch?v=Gcwhq_5ApbA) (8 minutes).
- Pass out and work on the *Scale Drawings-Yard Plans Worksheet* as a class. Answer any questions (15-20 minutes).
- Pass out the *Exit Ticket: Scale Drawing for a little house*. Collect from students before they leave (10 minutes).

**Assessment**

Check for understanding during whole class instruction.  
Call on random students to answer questions.  
Use Exit Ticket data results as an assessment of student understanding of the skill.

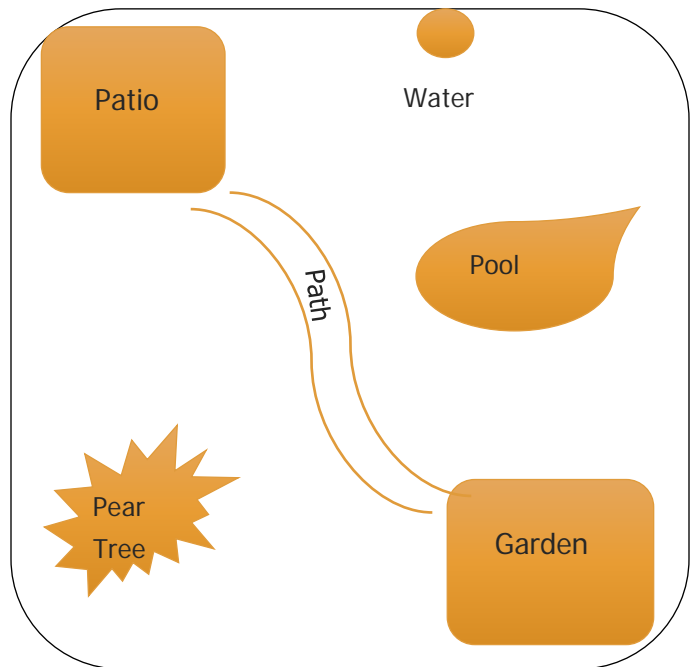
**Accommodations/Modifications**

One-on-One Support  
Check for Understanding  
Peer Support

## Scale Drawings-Yard Plans Worksheet

Yukon has made a scale drawing of his yard. The scale of his drawing is **1cm = 0.5m**.

1. If the actual length of the patio is 4.5 cm in the drawing, find the actual length.
2. The actual distance between the water faucet and the pear tree is 11.2 meters. Find the corresponding distance of the drawing.
3. Find the scale factor for the drawing.



1cm = 0.5m

## Exit Ticket: Scale Drawing for a Little House

### Little House

When two ratios can be set equal to each other, a proportion is formed. This activity will help you understand the relationship between ratios and proportion as a way to communicate information and make decisions.

4. Orientate the paper in landscape (11" sides being the top and bottom of the page).
5. Draw a "legend" in the bottom right hand corner on each side of the paper, with these different scales:
  - Side One:  $1/4" = 1'0"$  (most graph paper boxes equal  $1/4"$ )
  - Side Two:  $1/4" = 5'0"$
6. Draw a basic, one story house "shell" plan (exterior walls only) to these different scales/ratios, with the final shell dimensions matching in both drawings (square footage, placement of windows and doors, etc.).
7. Determine the overall square footage and shape you want for your house, but you need to use these perimeters:

Front door opening = 36"

A sliding glass door = 6' in width

At least five windows = 28"