

Grade 7 Mini-Module: Solving Problems with Scale Drawings

Aligns with [CCSS.MATH.CONTENT.7.G.A.1](#): Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

PREVIEW



Objectives

In this module, you will learn and practice the following skills:

- Identify the scale used in a scale drawing.
- Solve problems involving scale drawings.

Let's get started!

Key Terms

- A **scale drawing** is a drawing that has the same proportions as the actual object or drawing, but is larger or smaller than the original object or drawing.
- The **scale factor** is the ratio of corresponding lengths in scale drawings.
- An **enlargement** is a scale drawing that is larger than the original and has a scale factor greater than 1.
- A **reduction** is a scale drawing that is smaller than the original and has a scale factor less than 1.

PREVIEW



Solving Problems with Scale Drawings

([CCSS.Math.Content.7.G.A.1](#))

In **scale drawings**, corresponding dimensions are proportional. The ratio of corresponding lengths is called the **scale factor**.

- If the scale factor is greater than 1, the reproduction is larger than the original and the scale drawing is an **enlargement**.
- If the scale is less than 1, the reproduction is smaller than the original and the scale drawing is a **reduction**.

To find the scale of a drawing, divide a dimension in the reproduction by the corresponding dimension in the original drawing.

To generate a scale drawing, multiply each dimension in the original drawing by the scale factor to find the corresponding dimension in the reproduction.

- The ratio of the perimeter of the reproduction to the perimeter of the original drawing is equal to the scale factor.
- The ratio of the area of the reproduction to the area of the original drawing is the square of the scale factor.

If your students...

Do not apply the square of the scale factor to find scaled area:

WATCH: Find Scaled Area with a Scale Factor

<https://www.opened.com/video/find-scaled-area-with-a-scale-factor/412535>

Calculate the scale factor incorrectly:

WATCH: Identify Scale Factors Using Rectangle Side Lengths

https://learnzillion.com/lesson_plans/7035-identify-scale-factors-using-rectangle-side-lengths#fndtn-lesson

Do not understand how to solve proportions:

WATCH: Three Ways to Solve Proportion

<https://www.opened.com/video/three-ways-to-solve-a-proportion/115609>

