

Isometric Perspective and Orthographic Drawing

Explore the virtual tour videos found on the website found at <http://www.summerwood.ca> Notice the shapes and figures in the various structures.

Define the following terms: (*Pearson Math 11 text book*)

scale model

front view

top view,

side view

isometric perspective drawing

orthographic drawing

orthographic projection

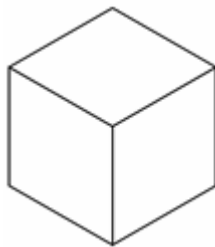
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Explain why you think scale models are used by the construction industry.

Drawing Activity

Print off the Isometric Dot Paper found at <http://illuminations.nctm.org/Lessons/Isometric/Isometric-AS-DotPaper.pdf>

Draw 8 straight line segments between the dots on the paper to create a cube.



Be prepared to explain to the instructor how your drawing looks different than an actual cube.

SAULT STE MARIE MUSEUM (FORMER POST OFFICE)



List all 2-dimensional geometric shapes found in the picture of the museum.

List all 3-dimensional geometric figures found in the picture of the museum.

Identify the building style. Why did you choose this style?

Perspective and Orthographic Drawing

Use isometric dot paper to draw an isometric perspective drawing and the corresponding orthographic drawings.

Look through the **Summerwood Products** brochure and list the different roof styles used on their sheds. If you do not have copies of the brochure an electronic copy is available at <http://www.summerwood.ca>.

Demonstration: Demonstrate how to draw isometric perspective drawings and orthographic drawings for a 10 ft. x 12 ft. shed with a gable roof style.

Unit Project: Step 1

Create both isometric perspective drawings and orthographic drawings for three different types of sheds. 1. Gable with a Dormer Roof Style. 2. Saltbox Roof Style 3. Hip Roof Style. Each shed should be 10 ft. x 12 ft with 8 ft. walls.

Assignment : Classroom and Home Activity

Finish Drawings

SHEDS

Gable Roof Style



10 ft x 12 ft

Saltbox Roof Style



8 ft x 10 ft

Gable Style Roof with Dormer



8 ft x 12 ft

Hip Style Roof



8 ft x 14 ft

Using Nets, Plans and Patterns

Define the following terms: (*Pearson Math 11 text book*)

Net

Plan

Pattern

Research:

*Ask the construction teacher at your school where **Nets, Plans and Patterns** are used during the construction process. Record your findings.*

Investigation:

Complete *Pearson Math 11 Text* Page 71 Questions 1, 2, 3

Create a model of the dog house shown on *page 72* of *Pearson Math 11 Text* using both a net and a pattern approach.

Scale Models

Unit Project:

Select one of the three different sheds

Define the following terms: (*Pearson Math 11 text book*)

scale model

Slide show on Scale Models:

Watch the Scale Model Slide show that comes with this module.

Scale Models are Important during the Design Process.

- *Models can be used in the planning stages of the project.*
- *Models can be used to identify problems in a plan or suggest improvements*
- *Models can be used to display the finished product before construction begins.*

Assignment: Classroom and Home Activity (*Pearson Math 11 text book*)

Page 84 questions 1-4

Creating a Scale Model Of A Shed

For each of the three different sheds described below, draw a net that can be used to make a scale model of the shed. From the three nets, select one to create a scale model of the shed. The model can be made out of construction paper, cardboard (cereal box) or any other appropriate material.

1. Gable with a Dormer Roof Style.
2. Saltbox Roof Style
3. Hip Roof Style.

Each shed should be 10 ft. x 12 ft with 8 ft. walls.

Designing With Constraints

List five things that need to be considered when designing a garden shed.

The items above are called **constraints** because they place limitations or restrictions on the design and construction of the project.