

House In The Wood Lesson Plan

Support Document-Marsh

Using GPS to Visit the Ecosystems of House In The Wood

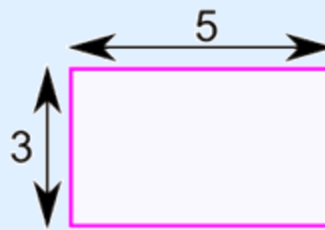
Marsh Math Lesson

- Determine the area of the marsh on both side of Bay Road
- Determine the percentage of the area that is Phragmites Grass.

AREA

If the formula for determining AREA is $w \times h = \text{area}$ then how are we going to measure the width and height (or length) of the marsh?

Example: What is the area of this rectangle?



The formula is:

$$\text{Area} = w \times h$$

w = width

h = height

The width is 5, and the height is 3, so we know **w = 5** and **h = 3**:

$$\text{Area} = 5 \times 3 = \mathbf{15}$$

Take answers and ideas.

Show them the two maps.

The map showing them the all of House In The Wood is for reference. The close-up map is for the math problem. Explain scale. One inch equals 100 ft. So if we measure one inch on the map it equals 100 feet of what we are looking at now. BUT it is NOT STRAIGHT so we need to use triangles.

The steps:

1. Outline the marsh on your map with the erase marker
2. Now make triangles.
3. Number the triangles.
4. Measure the triangles base (b) and height (h).
5. See below diagram for formula and further instructions.
6. Do it for both sides of Bay Road.

Copyright House In The Wood 2016

VJW-5/16

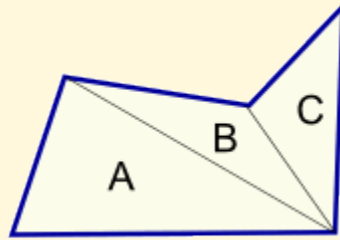
House In The Wood Lesson Plan

Support Document-Marsh

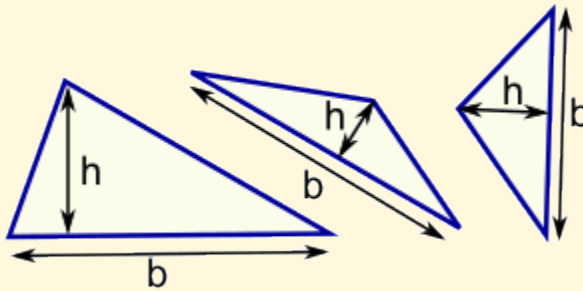
Using GPS to Visit the Ecosystems of House In The Wood

Area by Adding Up Triangles

We can also break up a shape into triangles :



Then measure the base (**b**) and height (**h**) of each triangle:



Then calculate each area (using $\text{Area} = \frac{1}{2}b \times h$) and add them all up.

PERCENTAGE

For the percentage we are just going to estimate the amount of the grass we think is covering the marsh. Have them draw the shape of the marsh and then fill in the amount that has grass. Looking at their shape and how much they filled in, how much do they think the grass is covering? Write the percentage in their notebook.

Illustrations and Online help is from: mathisfun.com