STUDENT MATERIALS

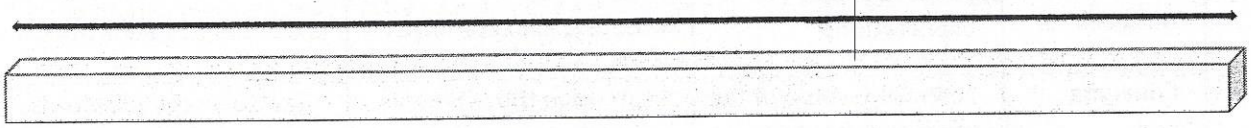
PROBLEM 1 – RECYCLING AND REUSING WOOD

Solve the following problems. Please show any work.

1. Reggie noticed that a construction crew working at his school was throwing away a lot of wood. He decided to collect some of the pieces for the school recycling club's upcoming projects. The first piece he found could be cut into blocks and would fit perfectly under the classroom door as a door stopper. It was 33 ⅓ inches long. The length of each stopper needed to be 6 ⅔ inches long. Create an equation and calculate the number of stoppers the recycling club could make. Tell how many door stoppers and how much wood (if any) is left over.

Use the model of the wood piece below to show how many pieces could be cut and label the length of each piece.

33 ⅓ inches



$\frac{20}{3} \times \frac{5}{1} = \frac{100}{3}$

$\frac{1}{3}\overline{)33\frac{1}{3}}$ → $\frac{100}{3}$, $\frac{9}{10}$, $\frac{9}{1}$

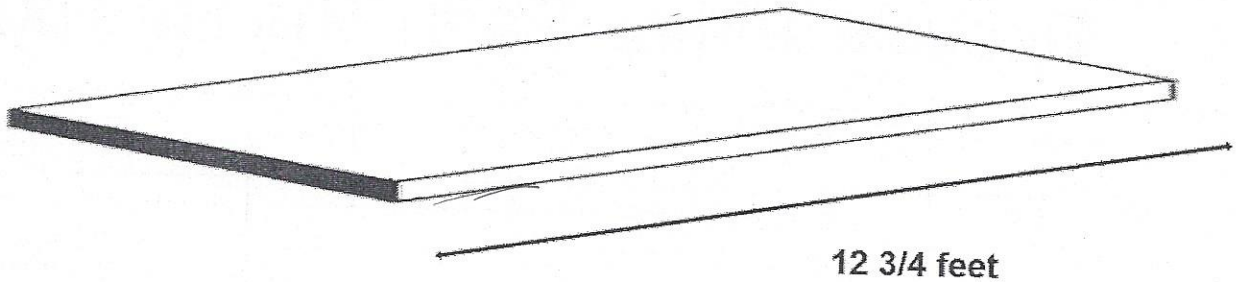
They can make 5 door stoppers with no wood left over.

PROBLEM 2 – RECYCLING AND REUSING WOOD

2. The Recycling Club plans to use a wider, thin piece of wood to make laptop desks. It is already the correct width and height. The piece being thrown out by the construction crew is 12 ¾ feet long. Each desk will use a piece that is 2 ½ feet long.

   Create an equation and calculate the number of laptop desks the recycling club could make. Tell how many desks and how much wood (if any) is left over.

   Use the model of the wood piece below to show how many pieces could be cut and label the length of each piece.



12 3/4 feet

$\frac{51}{4} \times \frac{2}{5} = \frac{102}{20}$

$20\overline{)102}$ $\quad 5$, 100, 2

There would be 5 desks with $\frac{1}{10}$ feet of wood left over.

PROBLEM 3 – RECYCLING AND REUSING WOOD

3. The Recycling Club is really excited for the next project where they will team up with the Art Club. For their recent art project, members used recycled rectangular wood pieces to make signs. On each one they painted a recycling slogan. The area of the frames is 160 square inches, and the length is 26 ⅔ inches. How wide is each frame?

   Create an equation and calculate the width.

   Label each side of the frame with its length or width in inches.

   Create your own recycling slogan in the blank frame below.

Recycle Today- Earth Thanks You!

160 ?

$26\frac{2}{3}$ in

$\frac{160}{1} \times \frac{3}{80} = \frac{480}{80} = 6$

$26\frac{2}{3}$

$8\overline{)480}$ 6

The frame is 6 in wide.

PROBLEM 4 – RECYCLING AND REUSING WOOD

4. Part 1: For their final project, the Recycling Club is going to have the students decide how to use the wood. They have a nice flat piece that is 11 ¼ feet long and 1 ¼ feet wide. They want to cut it into pieces with a length of 1 ¼ feet to create square sections. Create an equation and calculate how many they can make. Tell how many sections and how much wood (if any) is left over.

$\frac{45}{4} \times \frac{5}{4} = \frac{225}{16} \times \frac{4}{5} = \frac{180}{80}$

$16\overline{)225}$ 1, 16, 65

$8\overline{)90}$ 2, 17, 10

11 sections with $\frac{1}{4}$ ft of wood left over

Part 2: Think about your school and where you might be able to repurpose these square pieces. Describe a situation where you might solve a problem, replace an item that is normally store-bought, create a decorative addition, or use the wood in another way. Remember each piece is a square with each side a little bigger than a foot. Share your plan here. Add a sketch below that shows how you would use the pieces.

PROBLEM 5 – RECYCLING AND REUSING WOOD

5. Reggie is absent one day and leaves a note. It mentions 9/10 yards and ⅛ yards. The Recycling Club isn't sure how to use the numbers. Your job is to write a story problem with the following elements:

   It must be a division problem

   The context must be around using recycled wood

   It must include the numbers 1/8 yards and 9/10 yards.

   You must write an equation to match your story problem and show the work you did to solve it.

Share your situation here and include the equation. Explain what each value means in the situation you created.