

LESSON PLAN

Subject: Grade 5 Math

Lesson: Skein Winder: A Thread through Industry

Standard Addressed: Compute and solve real-world problems with multi-digit whole numbers and decimal numbers. (NC.5.NBT.7)

Objectives:

- Students will be able to add and subtract decimals to thousandths using models, drawings or strategies based on place value.
- Students will be able to multiply decimals with a product to thousandths using models, drawings, or strategies based on place value.

Materials Needed:

- Device for showing “A Thread through Industry” video
- “Skein Winding with Decimals” Grade 5 Math Activity

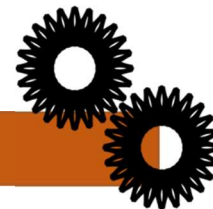
Outline:

- Prior to this lesson, students should be able to read, write, and compare decimals to thousandths.
- Show the video.
- Discuss the activity prompt.
- Students finish the activity independently or with a partner.

Take It Further: Look at the tag of your favorite piece of clothing to determine what percent of each material it is made of.

Cross-Curriculum Connection: Determine where your favorite piece of clothing was made and write a few paragraphs about the textile workers who made it, the factory they work in, and where they may live.





Skein Winding with Decimals

Grade 5 Math

Student Name: _____ Date: _____

Activity 1. For every turn of the skein winder, the first gear makes 1 tenth of a turn, and the last gear makes 1 hundredth of a turn.

- a. If you turn the winder 361 times how many times does the first gear turn?

(Show your work)

- b. How many times does the last gear turn?

(Show your work)

Activity 2. One turn of the winder will wrap 6.75 feet of thread around the wheel. If the weaver turns the winder 13.77 times:

- a. How many inches of thread will be wrapped on the wheel?

(Show your work)

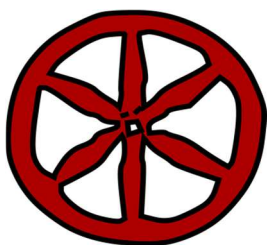
- b. How many yards of thread will be wrapped on the wheel?

(Show your work)



Activity 3. Each spoke of the skein winder costs about 0.19 shillings to make. There are 5 spokes altogether. How much will all the spokes cost to make?

Shade in the boxes below to represent the equation.



Skein Winding with Decimals

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ANSWER KEY

Activity 1. For every turn of the skein winder, the first gear makes 1 tenth of a turn, and the last gear makes 1 hundredth of a turn.

- a. If you turn the winder 361 times how many times does the first gear turn?

(Show your work) $361 \times 0.1 = 36.1$

- b. How many times does the last gear turn?

(Show your work) $361 \times 0.01 = 3.61$

Activity 2. One turn of the winder will wrap 6.75 feet of thread around the wheel. If the weaver turns the winder 5.6 times:

- a. How many inches of thread will be wrapped on the wheel?

(Show your work) $6.75 \text{ feet} \times 12 \text{ inches} = 81 \text{ inches} \times 5.6 \text{ turns} = 453.6 \text{ inches}$

- b. How many yards of thread will be wrapped on the wheel?

(Show your work) $6.75 \text{ feet} \div 3 \text{ feet} = 2.25 \text{ yards} \times 5.6 = 12.6 \text{ inches}$

Activity 3. Each spoke of the skein winder costs about 0.12 shillings to make. There are 5 spokes altogether. How much will all the spokes cost to make? $0.12 \times 5 = 0.6 \text{ shillings}$

Shade in the boxes below to visualize the equation.

