

Developing Habits of Mind

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October 27, 2016

Do Now

1. Investigate the value of each rod.

2.  = 1

3.  = 1



HELLO
my name is

**Eileen
Smith**

HELLO
my name is

**Catherine
Nam**

The Goal

CONNECTIONS

Practices & Standards

Models

Side-by-Side

The Inspiration

What do you see?



What do you think?



What do you wonder?



Determine the
Criteria

What

Math &
Science Practices

are embedded?

The Story



Tell story

Paraphrase

Agree/Disagree

What is the
Problem?

The Problem

Determine the
number of railroad
ties of each length.

If all the railroad ties
are used, what is the
perimeter of the
garden?

Design a garden

with the

largest area.

A railroad tie is

\$1.25 per yard.

Determine the cost
of your garden.

What

Math &
Science Practices

are embedded?



Time to Work!

The Solution

Side by

Side



What

Math &
Science Practices

are embedded?

The Standards

Math Standards

3rd Grade	4th Grade	5th Grade
3.OA.3. Use multiplication and division within 100 to solve word problems.	4.MD.1 Know the relative measurement units within one system. Express measurements in a larger unit in terms of a smaller unit.	5.NBT Perform operations with multi-digit whole numbers and with decimals to hundredths.
3.OA. 4. Determine the unknown whole number in a multiplication or division equation relating three whole numbers.	4.MD.2 Use the four operations to solve word problems involving distances	5.NBT.7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value...
3M.D. 8. Solve real-world and mathematical problems involving perimeters of polygons, including ...rectangles with the same perimeter and different areas or with the same area and different perimeters.	4.MD.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems.	5.M.D.1 Convert among different-sized standard measurement units within a given measurement system.

Science Standards

3rd Grade	4th Grade	5th Grade
3-LS-4 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change.	3-5 ETS 1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	5-LS2-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
3-5 ETS 1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	3-5 ETS 1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	3-5 ETS 1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.
3-5 ETS 1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.		3-5 ETS 1-2 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

Resources

Inside Mathematics

<http://www.insidemathematics.org/>

nzmaths.

<https://nzmaths.co.nz/problem-solving>

nrichmaths

<http://nrich.maths.org/frontpage>

Marin Next Generation Collaborative

<http://www.m-ngc.com/>

Novato Unified School District

www.nusdteach.org

Thank
You!

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