

Lesson Title: My Rectangular Dawgs

Course: Mathematics 5

Designer: Safa'a Hassan, Taelynn Chesney, Noah Heszheimer, Brooke Bentz, Michael Gillespie

Learning Outcomes/Intentions

Formal Unit Outcome(s):

SS5.1

Design and construct different rectangles given either perimeter or area, or both (whole numbers), and draw conclusions.

[C, CN, PS, V]

(a) Construct (concretely or pictorially) and record the dimensions of two or more rectangles with a specified perimeter and select, with justification, the dimensions that would be most appropriate in a particular situation (e.g., a rectangle is to have a perimeter of 18 units, what are the dimensions of the possible rectangles, which rectangle would be most appropriate if the rectangle is to be the base of a shoe box or a dog pen).

Objectives:

Students can communicate and work with other students to create a dog kennel.

Students can explain how they've created a calculated solution to building a dog house.

Students can find a perimeter from the given area in order to solve a calculation to build a dog house.

Mathematical Process:

Communication [C]- Students will communicate with their peers in groups to calculate rectangular measures to create a dog house.

Connections [CN]- Students will make real-world connections by either having a dog or wanting a dog, by gaining insight on finding useful measurements to create a dog house.

Problem Solving [PS]- Students will be able to use multiple strategies to make a dog kennel, and the cheapest ways they can build it.

Visualization [V]- Students will visualize creating the dog house by using either blocks or drawing their dog house.

Essential Question:

How can you design a dog kennel with only 48 blocks?

Is there more than one correct answer?

What's the cheapest cost for the **dawggggg** kennel? What's the most expensive? (4ft x \$45.98)

First Nations Content

N/A

Assessment Evidence

Formative Assessments (Assessment for Learning):

Observe students learning to create rectangles with math link cubes and graph paper. In groups, students present their rectangle to the class and explain how they discovered their perimeter.

Summative Assessments (Assessment of Learning):

The group will hand in their graph paper with their rectangle drawn on it. The teacher can see based on the sheet if the students are understanding the concept of creating rectangles with area

Materials

- Pencils
- Erasers
- Math Link cubes
- Large graph paper
- Ruler / meter stick

Learning Plan**Learning Experiences & Instruction: (5-E's)**

Engage-

Ask students if they have any pets.

Ask if any of their pets have a kennel.

What is a kennel?

Why is a kennel needed?

Explore- If I give you 48 blocks can you create a kennel with this area? Students will use their materials to create a rectangle, then to identify the perimeter.

Explain- Students will be able to explain how they came up with the different kennels and costs.

Elaborate/extend- Students will be able to elaborate using the worksheet how they came up with the kennel and the cost. Are there many rectangles you can create? How many can you create? What costs the most to build? What costs the least to build? Which one would you buy? Why?

Evaluate- Students will hand in their completed worksheet, this will allow for the teacher to understand where the students are at with the concept and their understanding.

Name _____

Math Is Going to the Dogs

We need to design a dog kennel so that my dogs have a safe place to play. For the floor of the kennel, I purchased forty-eight square floor tiles that click together. I would like you to design a rectangular kennel that will use all the tiles. How many feet of fencing will I need to buy for my kennel?

1. Design a rectangular kennel that will use forty-eight floor tiles.



2. How much fencing will I need for the kennel?

3. Can you make a second rectangular kennel? How much fencing is needed for this kennel?

From the November 2014 issue of **children** teaching **mathematics**