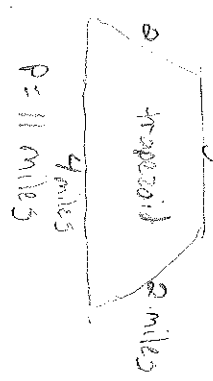
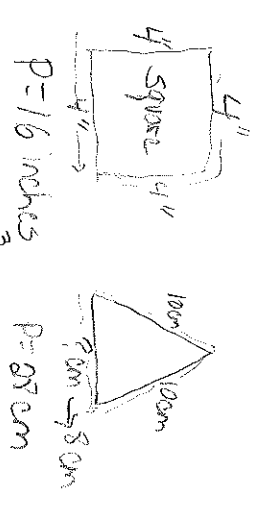


one dimensional

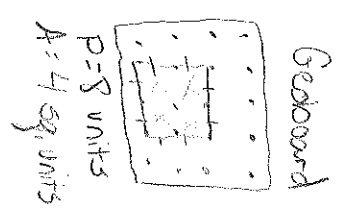
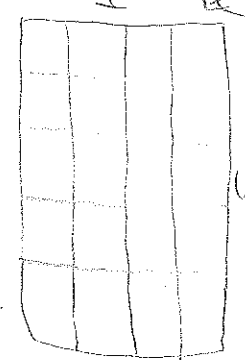
distance around a figure

Unit 6: Perimeter and Area

two dimensional (2D) square in square inch



filling a space
Number of square units inside a figure



2 by 4
8 square units
P=14

4 by 3
12 sq. units
P=14

Number of rows 4
Squares per row 5
Area = 20 sq. units
Number sentence:
4x5=20
4 by 5=20

Story Problem

Roberto has 3 rabbits that he builds a cage for. He builds a cage that is 6 feet long and 4 feet wide.

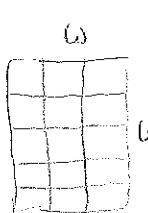
What is the area of the cage? $24ft^2$

Explain your answer.
= multiplied the sides.
 $6 \times 4 = 24$

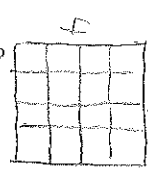
What is the perimeter of the cage? $20ft$

Explain your answer.
I added the four sides to find the perimeter.
 $6 + 4 + 6 + 4 = 20$

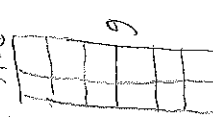
Perimeter and area don't always match.



3 by 5
P=16 units
A=15 sq. units



4 by 4
P=16 units
A=16 sq. units



6 by 2
P=16 units
A=12 sq. units

Inquiry area and perimeter

We want to learn...

Standards

1. We will understand the difference between area and perimeter.
2. We will find the area by counting squares and using multiplication.
3. We will use area and perimeter to solve problems.

Tools	
<ul style="list-style-type: none"> cube meter or yard stick top measure Oblique (miles) 	<ul style="list-style-type: none"> How long? How short?
US Customary	Metric
<ul style="list-style-type: none"> inches (in) feet (ft) yards (yd) miles (mi) 	<ul style="list-style-type: none"> millimeters (mm) centimeters (cm) meters (m) kilometers (km)

CCSSM Domain: Measurement and Data

Grade 3

AIM4S³™

(AP5 unit of study)

UNIT PLANNING TOOL

Unit 6: Perimeter and Area

Unit Goals: CCSSM

- Understand concepts of area measurement
- measure area by counting unit squares
- measure area by multiplying and understand it is the same as tiling it
- recognize area as additive
- Use area models to represent distributive property of \times

Standards:

Key Concepts

- Area measurement of a plane figure
- difference between area and perimeter
- using unit squares
- applying concepts to real world problems

Visual Models of Concepts

one dimensional → **Perimeter**

two dimensional → **Area**

Area models using unit squares:

- 2 by 4 grid: 8 square units, $A = 8 \text{ in}^2$
- 4 by 3 grid: 12 square units, $A = 12 \text{ cm}^2$
- 4 by 5 grid: 20 square units, $A = 20$

decompose shape to find area

Algorithms/Diagrams

$\text{Area} = \text{length} \times \text{width}$

length	
US Customary	Metric
inches (in)	millimeter (mm)
feet (ft)	centimeter (cm)
yards (yd)	meter (m)
miles (mi)	kilometer (km)

Connections (Real World Applications)

finding area or perimeter of a piece of art, a pet's yard, a room for carpet

Tools to measure length:

- ruler
- tape measure
- meter or yard stick
- odometer

1D - one dimensional

2D - two dimensional

Keyboard: $A = 1 \text{ sq units}$, $P = 8 \text{ units}$

The perimeter is ___ because ___. **Language Functions/Structures**

The area is ___ because ___.

The difference between perimeter and area is ___.

The area is ___ square (unit).

I solved the problem by ___.

Compare/contrast describe

length ↑	Square units	Vocabulary	millimeter	inches	Around
width →	length [↑] vs. length (units)	Sides	centimeter	feet	inside
Area	difference	rectangle	meter	yards	
Perimeter	row	square	kilometer	miles	
			metric		

focus and motivation ideas

Exploration:
find distance around (perimeter) a shape using string and
and a ruler or tiles. Find the area of the same shape using inch tiles
(Clay would be a great way to show concept of area and "filling in".)

Chart: Area, Perimeter Here There

www.brainpop.com What is area? → video clip
→ easy and hard quiz
Centimeters, meters, kilometers
inches and feet

Explorations Lesson 3.6 EDM

- A - Constructing Rectangles with Given Perimeters
- B - Comparing Pattern-Block sizes by Tiling Equal Areas