Unit 7 : Optimizing Perimeter & Area

KEY TERMINOLOGY:

To **opmize** means to find the _____ or_____ value.

EX. *"I want to opmize my profits"* means...

EX. *"I want to opmize my expenses"* means...

Investigation: Cutting a fixed length

Mr. VanHouwelingen has a piece of licorice to share.

The piece of licorice is_____cm long. Mr. VanHouwelingen can cut the piece of licorice anywhere that he chooses.

QUESTION: When he cuts the piece of licorice, what might the lengths of the two pieces be?

length of one piece (cm)	length of the other piece (cm)

DISCUSSION: What's happening?
How are the two lengths related?

What paerns do you see?

REFLECT:

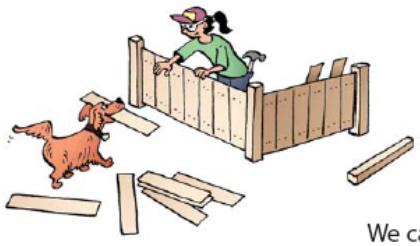
- Do the lengths have to be whole numbers? Explain.

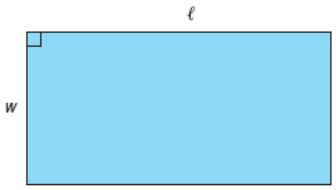
- Which measures vary? Which measures stay the same?

- What are the lengths likely to be if a student gets to choose a piece before Ms. Berry?

EX. 2

Nikki is building a rectangular dog pen.
She has 24 m of fence.





We can determine possible dimensions for the pen.

Width (m)	Length (m)	Perimeter (m)

a) Which measure stays the same?

b) Which measures vary?

c) What happens to the length when the width decreases?

EX. 3. A rectangle has an area of 12 cm^2. Determine 5 different lengths and widths for the rectangle.

RECALL: Area of a rectangle = length x width

Width (cm)	Length (cm)	Area (cm^2)

What do you noce about the lengths and widths?