

Math

Fractions: Calculating Area and Perimeter with Solar Panels



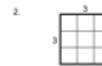
Name _____

Area of Rectangles

Find the area of rectangles.
Write the area of each rectangle.



P= _____



P= _____



P= _____



P= _____

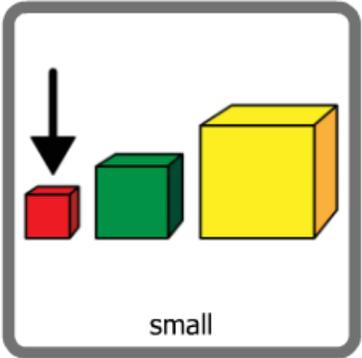
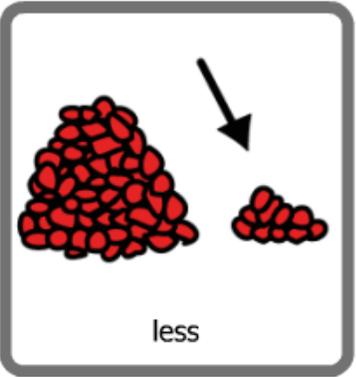
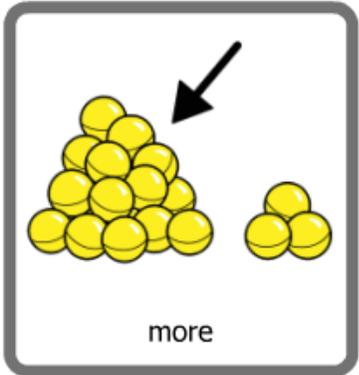
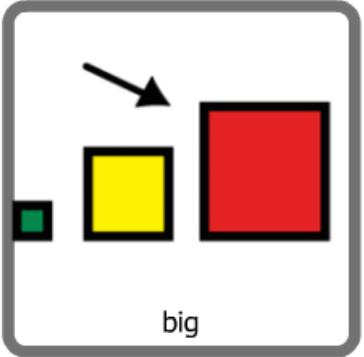
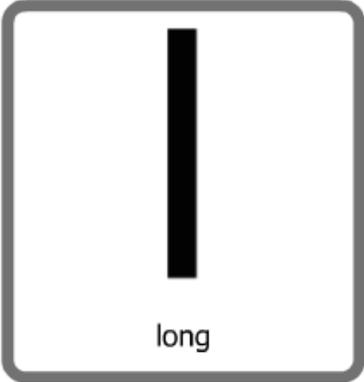


P= _____



P= _____

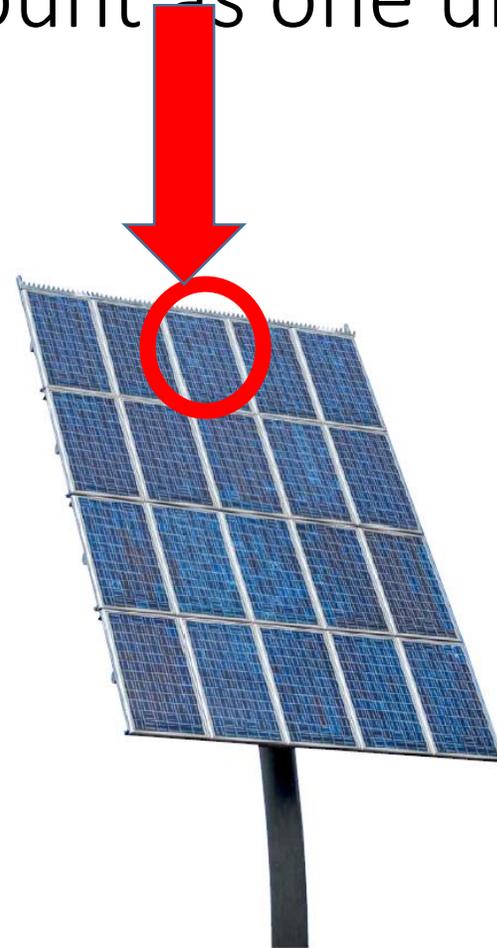
Today's Vocabulary



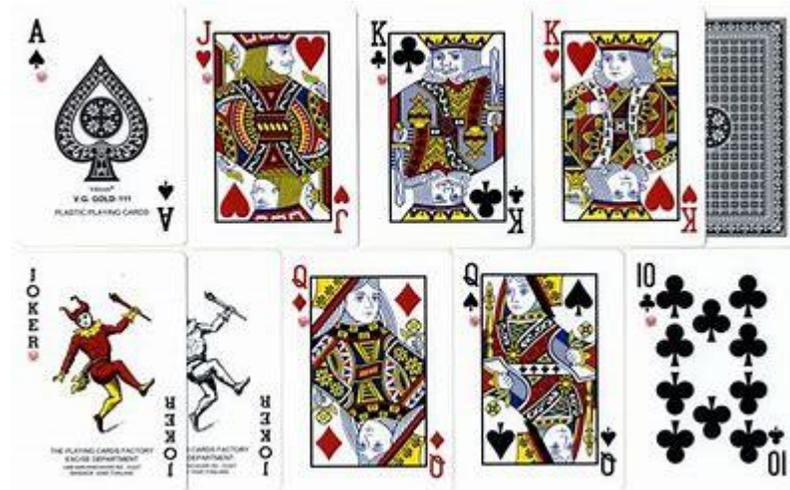
Today in math we will be using the idea of solar panels to calculate fractions with area and perimeter. We learned solar panels are set up in square grids to store energy. Each square inside it will count as one unit.



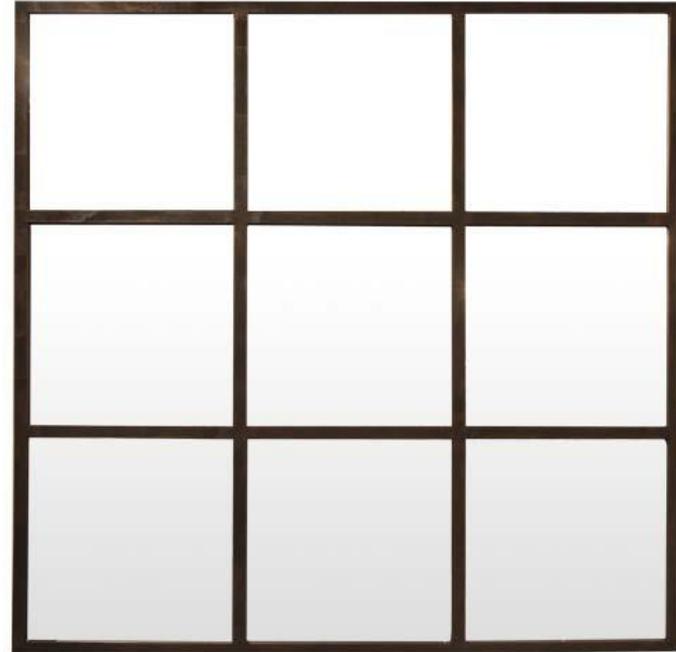
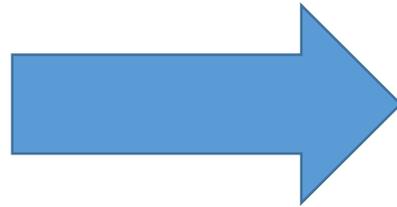
Solar panels collect energy from the Sun.



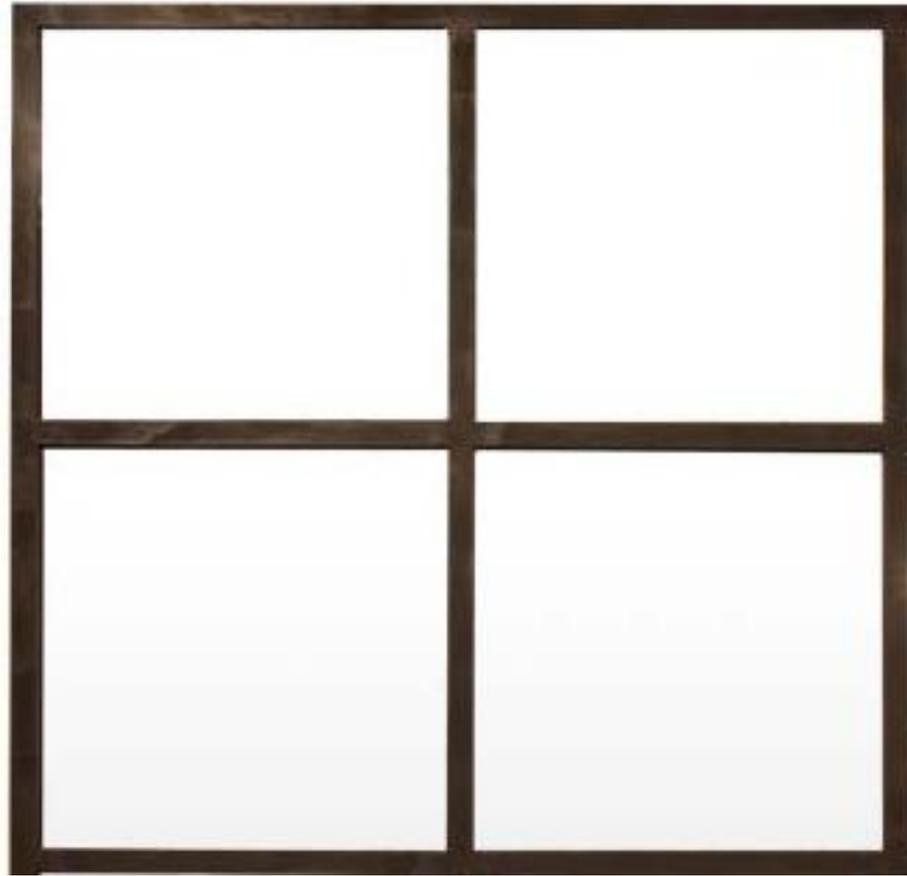
We can cover up playing cards with foil to make our own solar panel grids.



Put your cards laid out together like a puzzle to create a grid that looks like a solar panel.



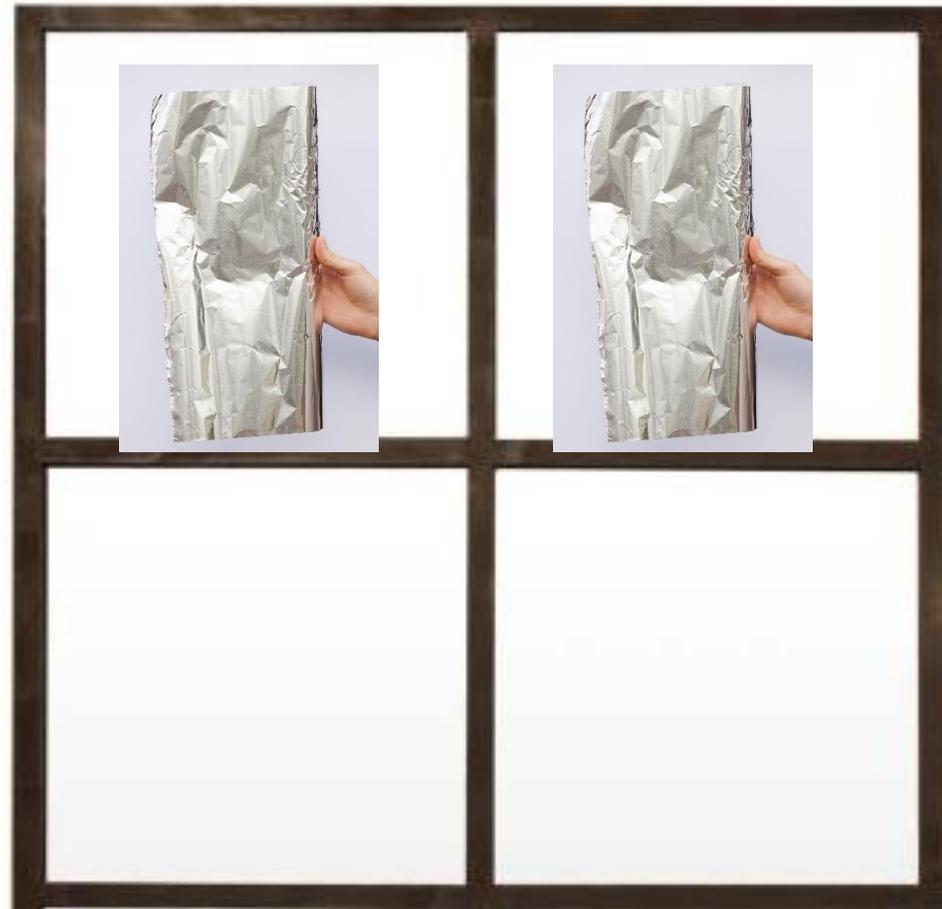
First, let's create a **WHOLE** with 4 panels made of playing cards without foil.



Next, let's cover one **FOURTH** of the cards with foil.



Next, let's cover **HALF** of the cards with foil.



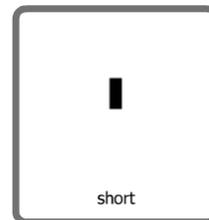
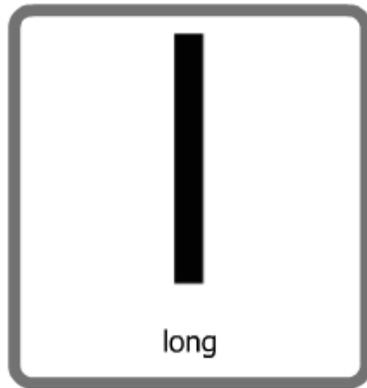
Last, let's cover the **WHOLE** grid with foil.



Next slides are optional on area and perimeter....

Now, let's learn how to calculate!

Perimeter means adding the long and short sides together to find the total square unit distance AROUND the shape. Count the perimeter of the solar grid you made by touching and adding the squares.

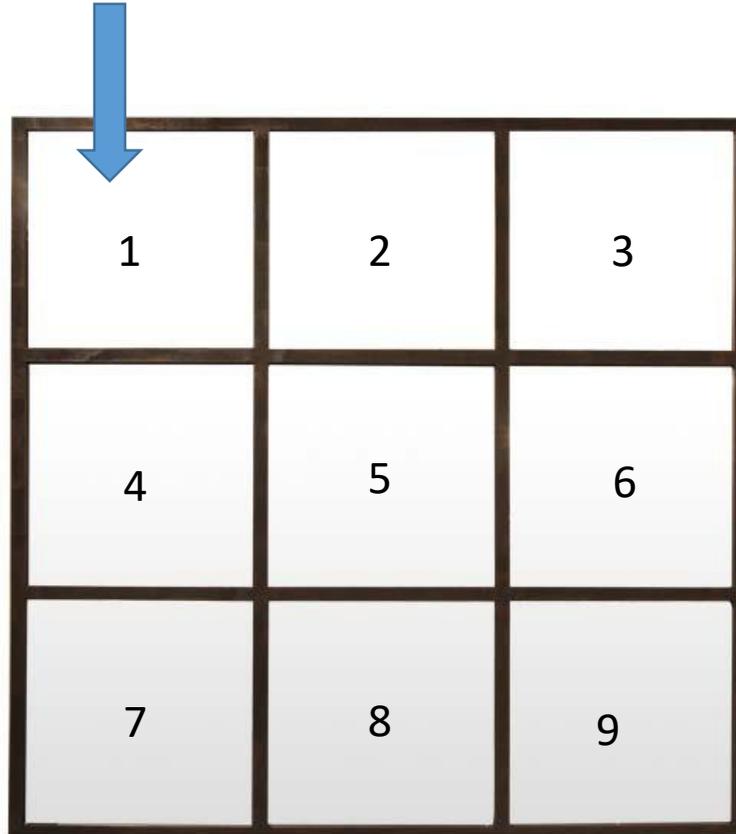


Total Perimeter is 32 square units

$$\text{Long Sides} = 10 + 10 = 20$$

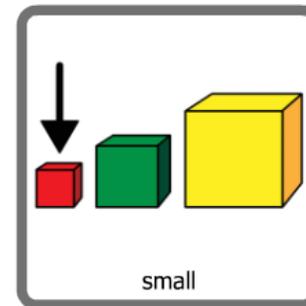
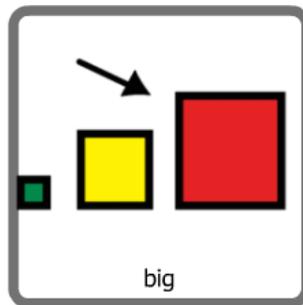
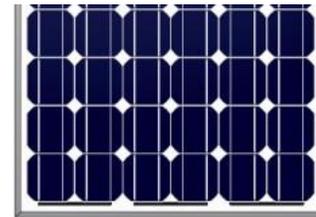
$$\text{Short Sides} = 6 + 6 = 12$$

Area means finding the total number of square units INSIDE the shape and adding them together. Count the number of squares inside the grid you made by touching each foil card.

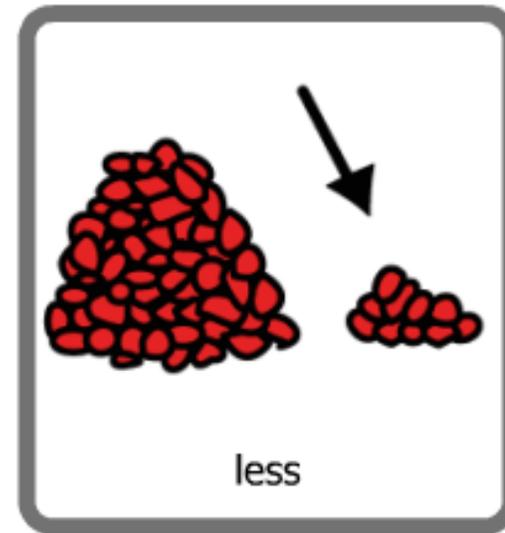
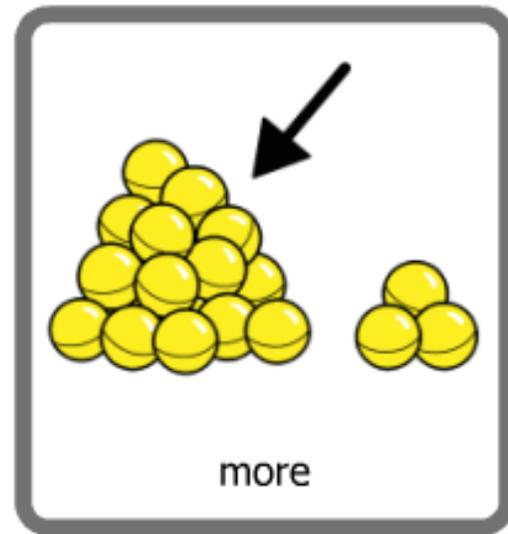


Total Area
is 9 square units

Some of the areas are big and some are small. Let's look at each size next to its matching picture on a lightbox, feltboard, or lap tray. Which one is big and which one is small?



Compare the sizes of your grid with a friend's grid.
Who has a grid that has more than you? Who has
a grid that has less than you?



Quiz

- Which one shows measuring perimeter?
- Which one shows measuring area?

