Math Virtual Learning

6th Grade Math

Nets of Three-Dimensional Figures

April 27, 2020

6th Grade Math
Lesson: April 27, 2020

Objective/Learning Target:
Students will represent three-dimensional figures using nets made up of rectangles and triangles.

First, let's warm up!

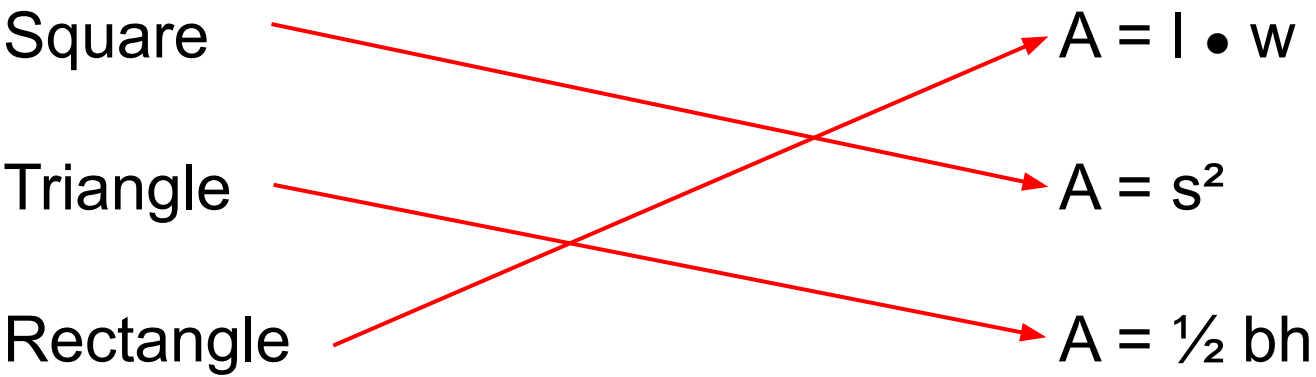
Match the following shapes with their area formula

Square	$A = l \bullet w$
Triangle	$A = s^2$
Rectangle	$A = \frac{1}{2}\, bh$

What is a composite figure?

First, let's warm up! answers

Match the following shapes with their area formula



What is a composite figure?

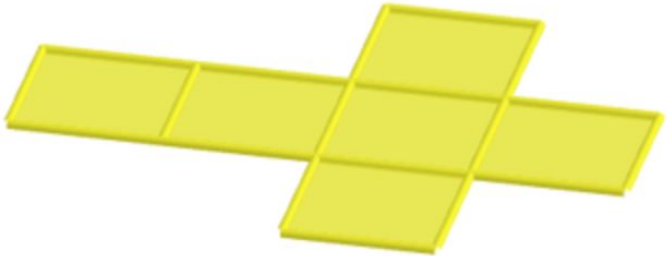
A figure that can be divided or split into smaller, more basic shapes such as rectangles and triangles.

So what is a net?

A net is a two-dimensional (flat) shape that can be folded to form a three-dimensional figure.

Cube

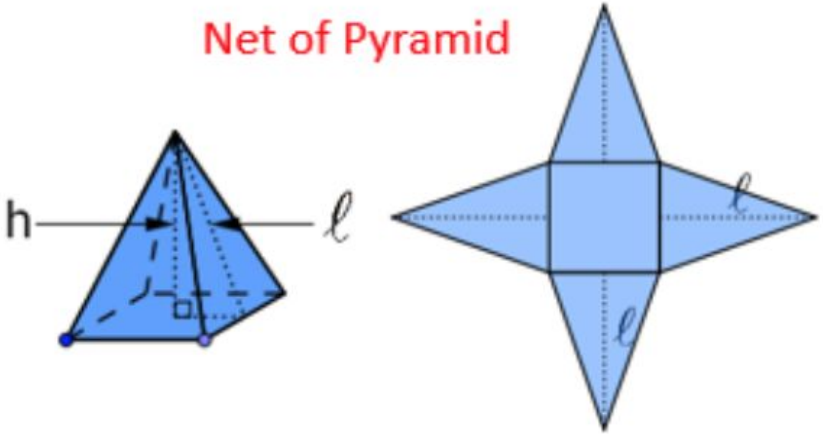
Net of a Cube



*Did you know there are 11 different nets for a cube?

WOAH!

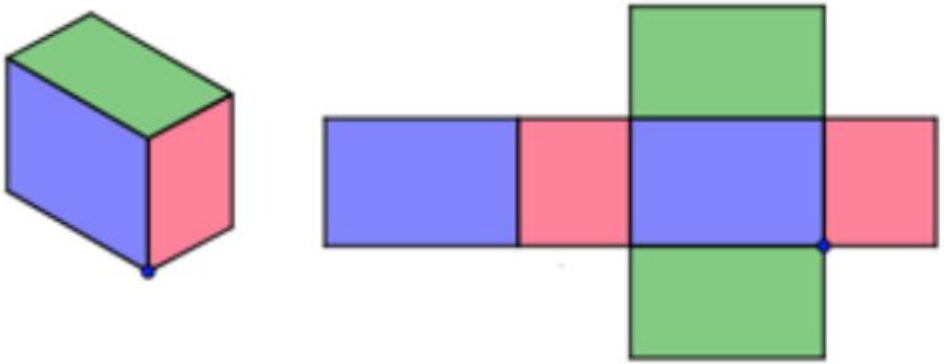
Net of Pyramid



*Pyramids are named for their base (bottom). The one pictured is a square pyramid (square base). You can also have a triangular pyramid and a rectangular pyramid.

WOW!

Net of Rectangular Prism



Here's some more!

Watch This!

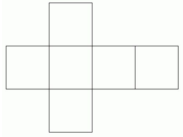
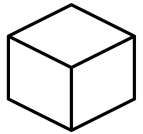
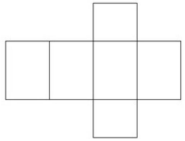
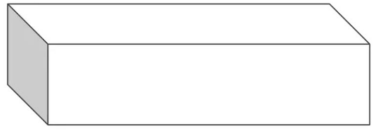
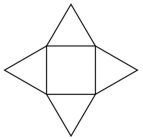
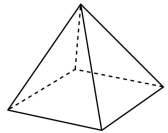
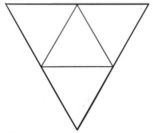
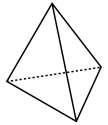
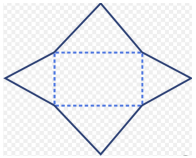
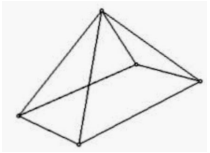
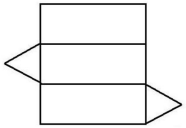
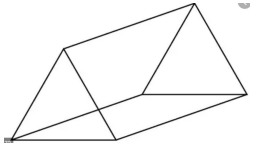
After watching the video, scroll down to see how some nets can be folded into solids!

More Animations!

Don't click the big green buttons (ads), instead scroll down to the *Nets of a Solid-Animations* and drag the cursor left and right to animate.

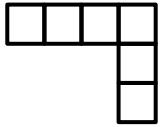
There are many different nets that be turned into solid figures. On the next slide, we will explore what some of the nets look like and what figures they form.

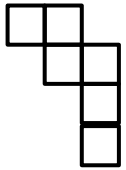
Let's Go!

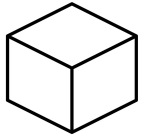
Figure Name	Composed of...	Net	Solid
Cube	Six squares, all equal in size		
Rectangular prism (sometimes called a ‘cuboid’)	Six rectangles, opposite faces are always equal in size		
Square pyramid	One square and four triangles		
Triangular Pyramid (tetrahedron)	Four triangles		
Rectangular pyramid	One rectangle and two pairs of equal sized triangles		
Triangular prism	Three rectangles and two triangles		

Practice

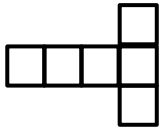
In the following groups, choose one net that would NOT make the figure shown

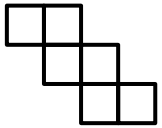


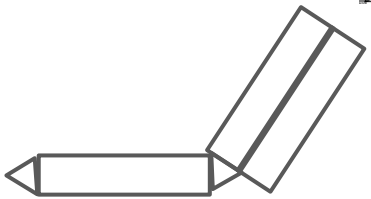


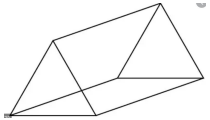


cube

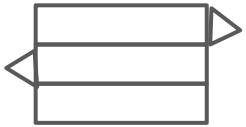


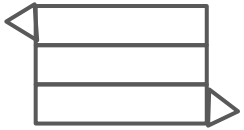


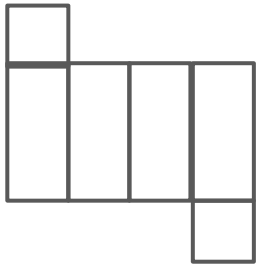




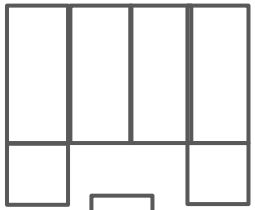
triangular prism

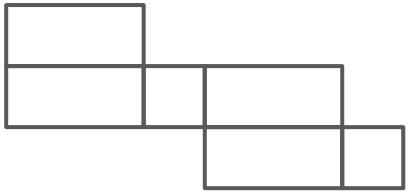


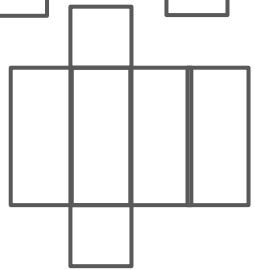


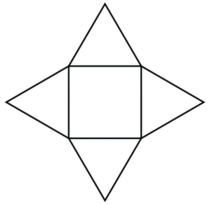


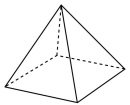
rectangular prism



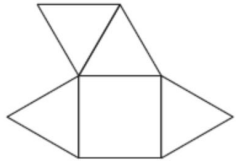


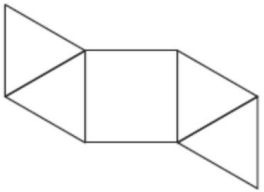


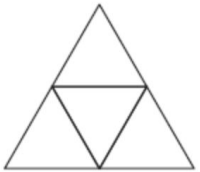




square pyramid

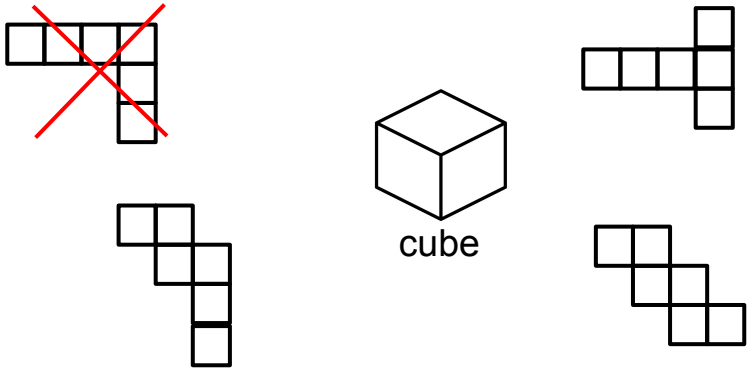


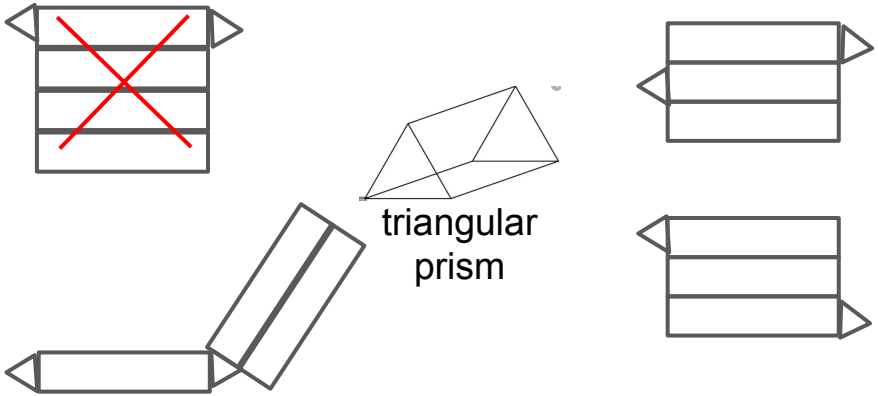


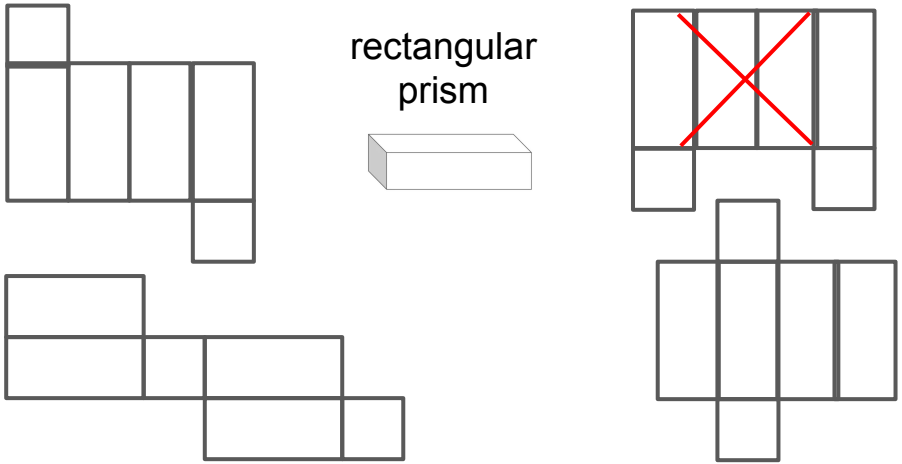


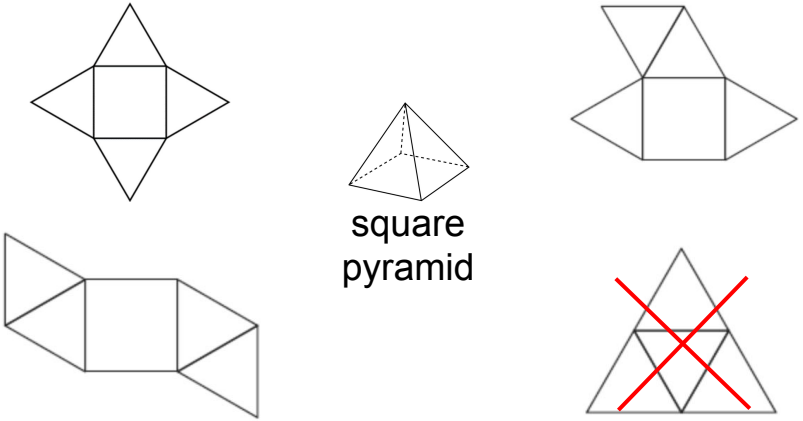
Practice answers

In the following groups, choose one net that would NOT make the figure shown





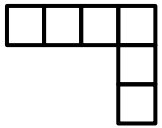




More Practice

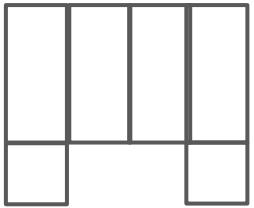
Now that we've identified the nets that don't work, can you explain WHY the net doesn't make a...

Cube

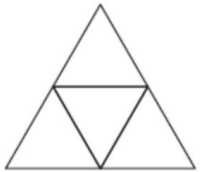


Triangular prism

Rectangular prism



Square pyramid



More Practice answers

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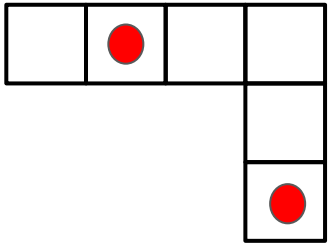
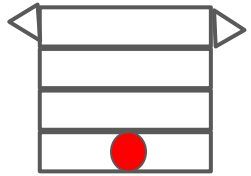
Cube



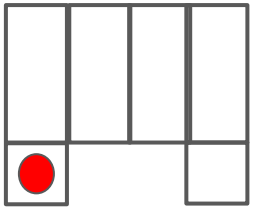
Two faces will overlap and will leave one side of the cube without a face.

Triangular prism



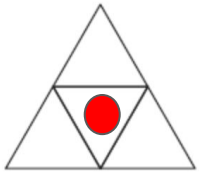
There's an extra rectangle. The triangles only have three sides, so only three rectangles can connect them.

Rectangular prism



One of the smaller sides should be on the opposite side of the rectangles. The way it's drawn, the two smaller pieces will overlap and it will leave a hole on the opposite side.

Square pyramid



A pyramid is named for its base, and this pyramid has a triangle on the bottom. It should be a square and have one more triangular side.

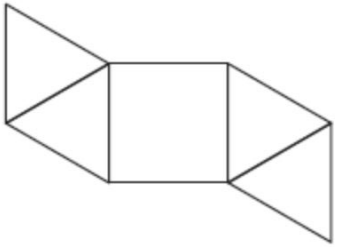
Reflection

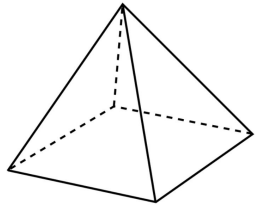
On a piece of paper, write your understanding of today's lesson. Use the chart to help you. Go into detail explaining where you are struggling, or where you are succeeding.

Email your teacher if you feel like you need further assistance with today's lesson!

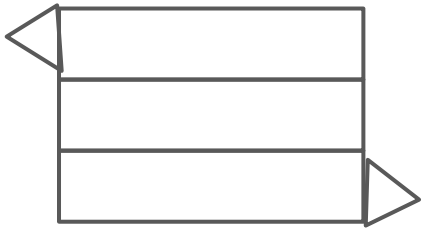
Rate Your Understanding

0	1	2	3	4
				
I am so lost.	I don't really get it.	I'm starting to get it.	I got this.	I could teach it.



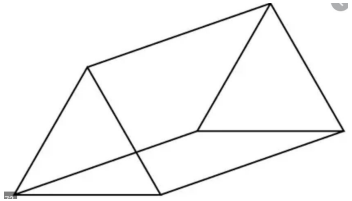


Want More?
Additional Resources



IXL Practice

Khan Academy



Game Time!