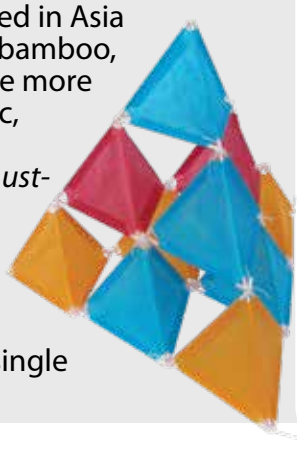
ACTIVITY 1
FACING THE WIND

It is believed that the first kites were created in Asia more than 11,000 years ago using leaves, bamboo, and pineapple fiber. Similar kites today use more common materials such as paper or plastic, sticks, and string for their construction. Credit: *SEAsia.co/2018/06/02/the-top-10-must-know-facts-about-the-world-s-first-oldest-kite*

In this activity, you will construct 10 tetrahedral cells while looking at the relationship between the surface area of single cells and the whole KaZoon Kite.



DID YOU KNOW?

There are many other types of cellular kites based on the same concept as the KaZoon Kite. Some of the more popular include the Box, Delta Box, Conyne, Waldof, and Circoflex. Credit: *BlueSkylark.org/zoo/single/cell/*

LET'S MAKE

GATHER YOUR SUPPLIES

So we can, you know, do this thing!

10-CELL KAZOON KITE KIT

2 PAPER CLIPS*

GLUE STICK

NOT INCLUDED: SCISSORS AND RULER

***ITEM CAN BE FOUND IN ANOTHER KIT IN THE INNOVATOR BOX AND CAN BE USED FOR MULTIPLE ACTIVITIES.**

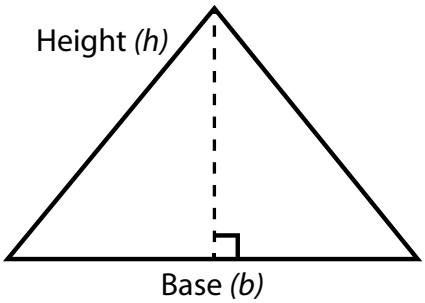
STEP 1

Follow the instructions in the *10-Cell KaZoon Kite User Guide* to construct your cells.

NOTE: Only construct the 10 cells at this point. You will connect them in a later activity. When the cells are constructed, move to Step 2.

STEP 2

Measure the base length and vertical height of the covered sides of the cells. Then, calculate the area for each of the covered sides using the formula $A = 0.5bh$ and record each area in the following table.



	Base (*b*) cm	Height (*h*) cm	Area ($0.5bh$) cm^2	Number of Covered Sides	Total Surface Area of Wing cm^2
Cell 1				**2**	
Cell 2				**2**	
Cell 3				**2**	
Cell 4				**2**	
Cell 5				**2**	
Cell 6				**2**	
Cell 7				**2**	
Cell 8				**2**	
Cell 9				**2**	
Cell 10				**2**	
			Total for KaZoon Kite	**20**	

THINK ABOUT IT

ASK THE QUESTION

Because understanding the why is important.

What is the relationship between the surface area for each of the cells to the total surface area of the whole KaZoon kite?

Using this relationship, what would the surface area be if four KaZoon kites were put together to make a bigger kite?

What do you think the relationship for the volume of the cells ($V = (1/3)Bh$, with B as the area of the base) to the total kite volume would be?