



Yucca's Perfect Pom-Poms

(All Seasons | Grades 2-8) • **Map Stop 6** • Look around the cross path at the top of the hill. Please stay on the path! Fragile, tiny plants adapted to growing on limestone grow around this stop

How is the yucca's geometry unique?

Background Information:

This plant is a type of **yucca**. Yuccas have adaptations that allow them to grow in warmer, **drier climates**, like the desert. These adaptations help the plant conserve water.

The **spiky leaves** help collect rain, and the leaf tissues hold a lot more water than the leaves of other types of plants. The thick **waxy outer layer** of the leaves slows down evaporation. They are very different from the flat thin leaves on most other plants at Twelve Hills.

For the Activity:

Compare the shapes you see in the yucca with the shapes you see in most of the other plants here at Twelve Hills. Do you notice anything else unique about their leaves?

Do you have your ANSWER ? Yucca leaves grow from the **center** of the plant in a **sphere-like shape**, to maximize sunlight reaching each leaf and increase the amount of energy it can produce through photosynthesis. This is different from many of the other large plants and trees at Twelve Hills, which have leaves growing from branches!

When older leaves die off, they gather around the lower parts of the growing trunk, creating a shaggy "**skirt**". The shade this skirt creates helps keep the plant cool, preventing it from drying out in the sun and letting it better conserve water.

As you walk through Twelve Hills, can you find any other plants or flowers that grow in sphere-like or other unusual shapes? What adaptations do you think might have resulted in those structures? Use the **chart** on the next page for our suggestions of what to watch out for, and to keep track of some of your observations!





Complete the chart below comparing the yucca with some of the other plants you see growing all around it. Write your answers and observations in the appropriate columns!

CHARACTERISTICS	YUCCA	OTHER PLANTS
ARE THE LEAVES STIFF OR FLOPPY?		
DO THE LEAVES HAVE SHARP POINTS THAT CAN POKE YOU OR ARE THEY SMOOTH?		
ARE THE LEAVES THICK OR THIN?		
DO THE LEAVES GROW FROM ONE CENTRAL PLACE OR FROM MULTIPLE PLACES ON BRANCHES AND STEMS?		
DO YOU HAVE ANY OTHER OBSERVATIONS?		