







walkSTEM at the Dallas Arboretum

Experience the Arboretum in a new way! Explore our 66 acres with your whole family using science, technology, engineering, and mathematics.

Your journey begins at Stop 1: All American Vegetable Trial Garden.

Each Activity is divided into 4 parts. Work as a group to complete each part.



t!

Explore/Investigate It!



Challenge Yourself!

Visit dallasarboretum.org/walkSTEM for more information

STOP 1: ALL AMERICAN VEGETABLE TRIAL GARDEN



The All American Vegetable Trial Garden is a great opportunity to test how different plants grow in our spaces. Explore the edible plants that grow here during each season. What season is it now? What plants do you see growing in each of the trial beds?



You are challenged to grow a plant in a new space. Without stepping in the plant beds, choose one fruit or vegetable plant. How can you estimate the amount of space a single plant needs to grow?

Hint: These plants have the correct spacing for mature, full-grown, plants. We've added a ruler on the back to help.



The new space for growing your plant is the same size as the table top for one of the picnic tables. How many plants can we grow in a garden the size of one picnic table? Hints: How can you use your earlier estimation? How long is each side of the new, rectangular garden?



How many fruits or vegetables will this new garden produce? Hints: Which part of the plant do we eat? How many fruits or vegetables are growing on one plant? How can I use this information along with the number of plants I estimated earlier? Explore our All American Trial Gardens



STOP 2: JONSSON COLOR GARDEN



Look around the garden. Do you see any pollinators? A pollinator is an animal or insect that moves pollen from flower to flower, which helps plants make new fruit or seeds.

Pollinators and flowering plants need each other to survive. Scientists call this interdependence. What do you think pollinators get from the flowers?

Observe one kind of pollinator and see what types of flowers that pollinator visits most often. Is there a pattern in the color? Shape? Scent? If you were unable to find any pollinators, why do you think it was challenging?



Choose a flower and look closely. Note the flower's shapes, colors, and smells. What characteristics of this flower do you think would make a pollinator want to visit? What features does a pollinator have that make it able to visit the flower? Characteristics like these that help a living creature survive are called adaptations. As you explore the garden, look for other kinds of plant and animal adaptations!

Learn about pollinators and the plants they visit



STOP 3: A WOMAN'S GARDEN, PHASE I



Examine the tiles in this fountain and the photo of coins. Which coin do you think is most similar to the size of a single tile?



Imagine that the Arboretum hired you to replace each tile on the bottom of the fountain with a coin. How can you estimate the number of coins you will need?





Now that we know which coin is most similar and the number of coins you need, what will be the total value of the coins?

In 2012, the water in the reflecting pool was dyed jet black to enhance the colorful Chihuly art glass exhibit. Use the QR code to see a photo!

How many ounces of dye were used for the whole reflecting pool? Hints: \rightarrow 16oz of dye can turn 8000 gallons of water black. \rightarrow Average depth = 33 inches

→1 gallon = 231 cubic inches

Relive our colorful Chihuly display

Investigate structures

and strength



STOP 4: KAREN'S GAZEBO

Welcome to Karen's Gazebo! What a lovely place to stop. Notice that this area has many different shapes. How many different shapes do you see?



Repeated shapes can be used to form unique and interesting patterns. Are there any repeating patterns?



Patterns, shapes, and designs are not only decorative, but may be purposeful and structural. Investigate the shapes used in this gazebo. Will the gazebo remain standing if you completely remove one or more shapes?



People have been building gazebos since the time of ancient Egypt, more than 5,000 years ago. Use what you have investigated to design your own gazebo. What materials do you need to design your gazebo? What shapes or patterns can you use? Where might you build it?



33

12

2

റ

ω

ഗ

ഹ

4

က