

Engineering Never Ends!

If you were going to keep making your model better, what modifications would you make next and why? _____

What other ideas do you have to make Parks in our community better for people and the local plants and animals? _____



Parkitects

Design a New STEM Adventure Park for
Children's Museum Tucson

Engineer: _____

Additional Engineering Team Member(s)



Designed by Anna Heyer and DaNel Hogan

More Sciencing and Engineering Journals,
like this one, can be found here:
<https://braidedstem.org/stemazing-sciencing-and-engineering-journals/>



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Who has a problem?

Children's Museum Tucson will be changing their north lawn into an accessible, nerdy STEM adventure park.

What is the problem?

Your team has been hired to design a new STEM adventure park for Children's Museum Tucson. The park must be environmentally friendly, use sustainable practices, meet the needs of the community, and have elements that connect to science, technology, engineering, and mathematics.

Engineering Design Challenge:

Design a **3D model** of a **STEM adventure park** that:

- Promotes environmental sustainability**
(uses native plants, conserves water, supports wildlife)
- Encourages community use** (has features for people of all ages and abilities)
- Considers local climate** (shade, heat mitigation, drought-tolerant design)
- Includes park elements that connect to science, technology, engineering, and mathematics**

Engineering Design Story

How did you work as a team to incorporate ideas from all group members in your park model? Share ideas that came from each group member. _____

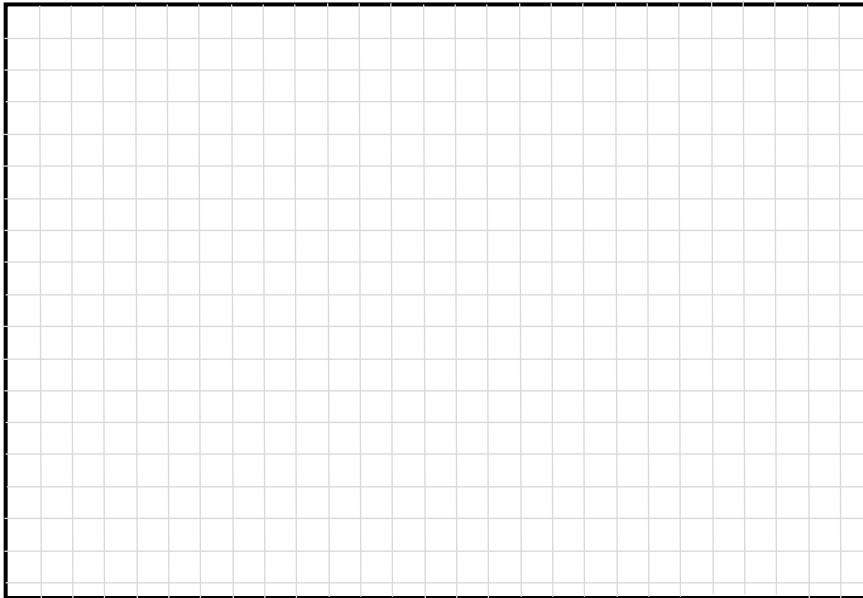
Describe something your engineering team changed as you were building your park model and describe why you made the change. _____

Marketing

Name of Park _____

Slogan _____

Park Signage

A large rectangular grid with a thin black border, intended for drawing or sketching park signage. The grid consists of approximately 20 columns and 25 rows of small squares.

Key Features _____

Brainstorming Idea Posts

#1

Place Idea Posts here with your favorite idea on top.

#2

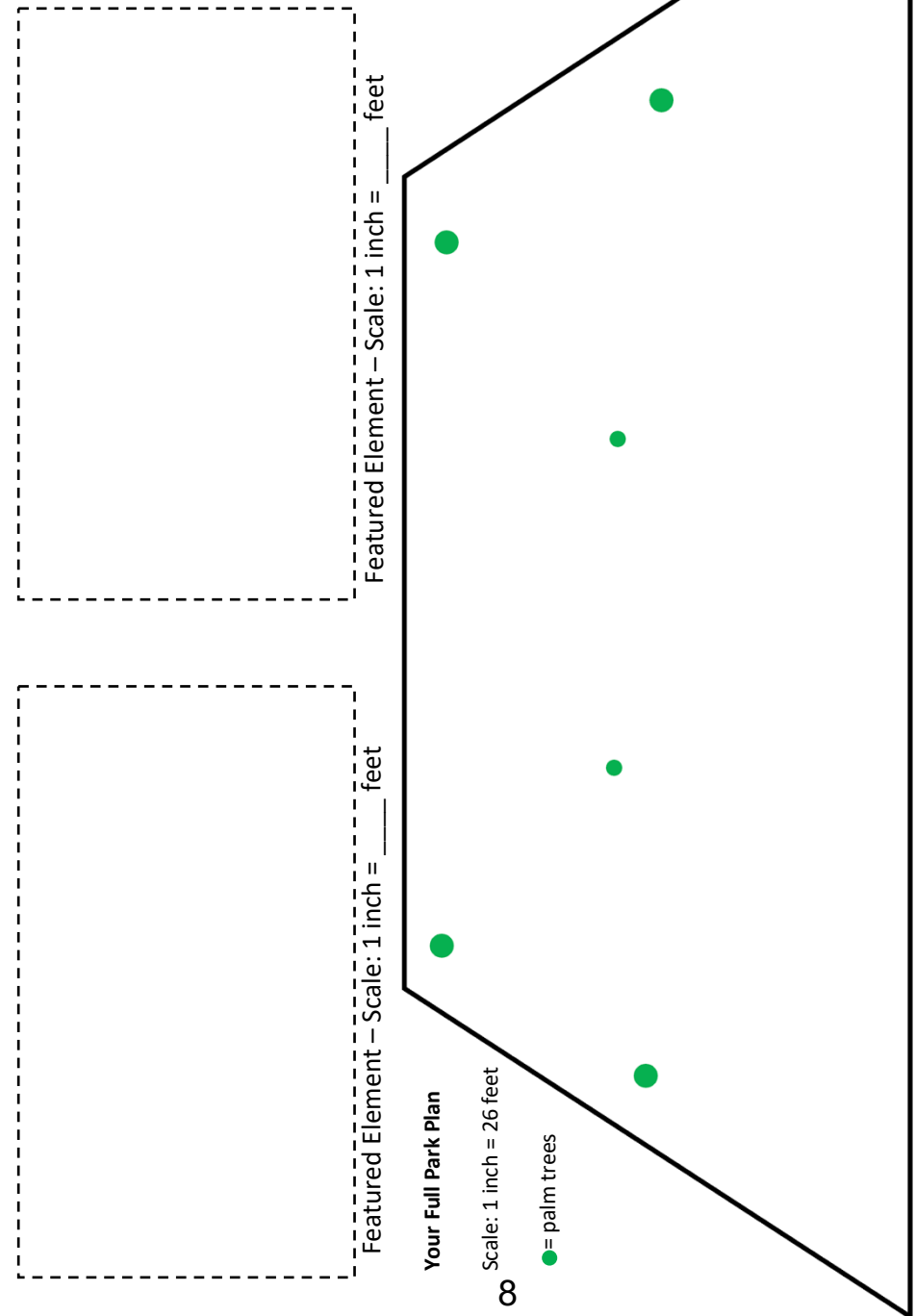
Place Idea Posts here with your favorite idea on top.

Criteria (requirements for success)

- Uses **native plants** that require little water
- Includes **shade structures or natural shading**
- Provides **places for recreation, relaxation, and learning**
- Includes elements to engage visitors with **science, technology, engineering, and mathematics (STEM)** in creative ways.
- Incorporates **stormwater management** (rain gardens, permeable pavement, etc.)
- Encourages biodiversity** (supports pollinators, birds, or local wildlife)
- Accessible** to people of all abilities
- _____
- _____



Individual Park Design



Brainstorming Idea Posts

#3

Place Idea Posts here with your favorite idea on top.

#4

Place Idea Posts here with your favorite idea on top.

Constraints (limitations)

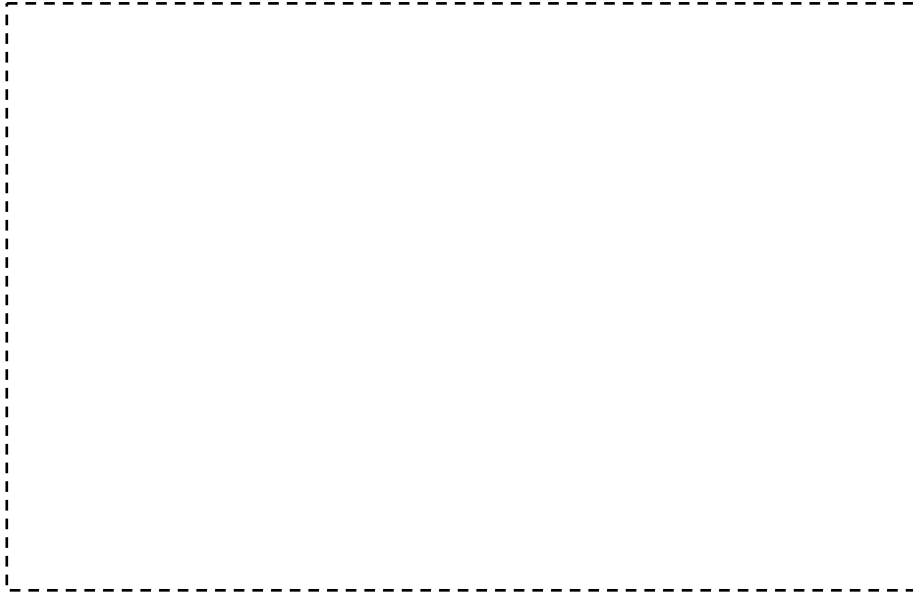
- Park must fit within trapezoidal shape enclosed by current sidewalks
- The six palm trees located in the space must stay where they are
- Exhibit design model must fit on the **14" x 18" plastic lunch tray**
- Your design **must use available materials** provided
- _____
- _____
- _____
- _____

Time Limit (due date): _____

People to right are scaled to 1 inch = 12 feet and should be used in your model.

Group Park Design

Featured Element – Scale: 1 inch = ____ feet



Include ideas from each group member.

Featured Element – Scale: 1 inch = ____ feet

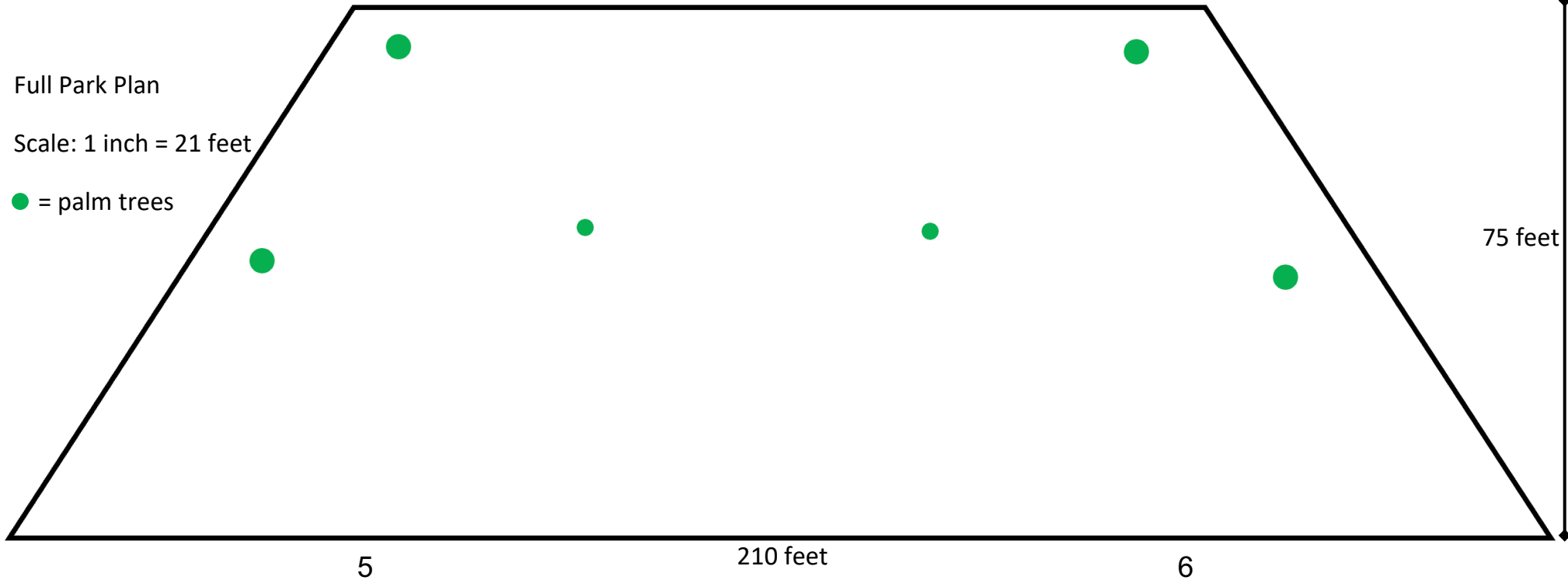


115 feet

Full Park Plan

Scale: 1 inch = 21 feet

● = palm trees



5

210 feet

6

75 feet