Plant Coordination

TEACHER PAGE

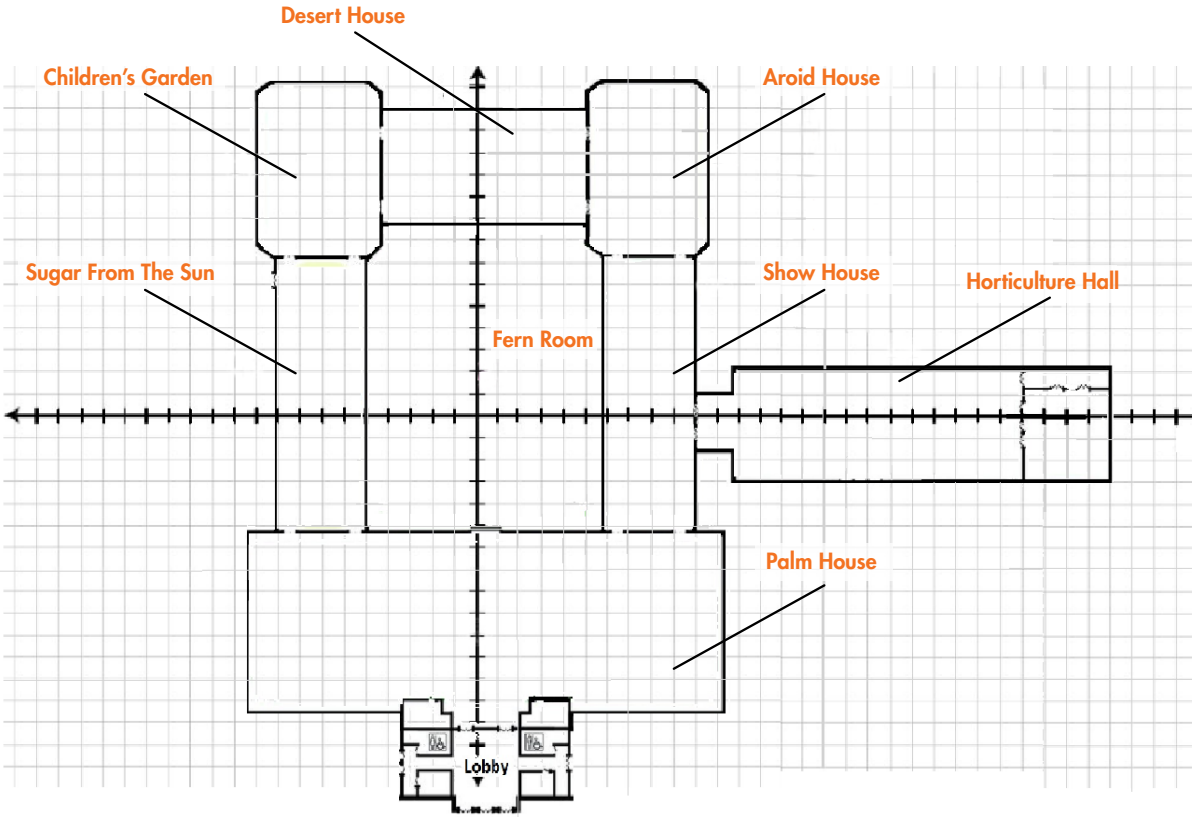
Use the coordinate plane to explore the Garfield Park Conservatory. Incorporate graphing skills into an interactive, educational, and fun experience with your students!
For middle school grades and up.
Common Core Standards: CS.5.G, 6.NS., 7.NS., 8.F., A-CED, F-LE

Activity Description: This is a graphing activity—with a twist! We superimposed a map of the Conservatory onto a coordinate plane, so students can explore our collection and practice graphing simultaneously! Pick the version that is most appropriate for your class!

- **Version A:** In this version, students will go on a scavenger hunt through each room searching for specific plants and will plot the location of these plants on the coordinate plane provided.
- **Version B:** In this version, students will pick one plant per room from a provided list and graph their locations. Afterwards, students will challenge their classmates to find their plants, with only the coordinates to help them!
- **Version C:** This version is the trickiest of them all! Without a suggested list of plants to choose from, students must find their own plants to plot and then challenge their friends to identify the plotted plant!

After your trip: (30 min-1 hour) Extend your field trip experience by bringing the conversation back to the classroom! Have students draw lines between the points of two plants they found at the Conservatory and use this to investigate slope: is the slope of the line they drew positive or negative? Is the slope steep? What is the slope of a horizontal versus a vertical line? Go even further and have your students write the equations of the lines they draw!

Plant Coordination — Version A



Directions: Use the diagram above to answer the questions

1. Label the x and y axis and scale your axes.

2. What quadrants do the following rooms correspond to? (Hint: Some may have more than one answer.)

   A. Children's Garden: _____
   B. Fern Room: _____
   C. Horticulture Hall: _____
   D. Palm House: _____

3. Visit the room in which the origin is located based on the diagram. Describe what you see and then draw it on your coordinate plane. Origin Coordinate Pair: _____

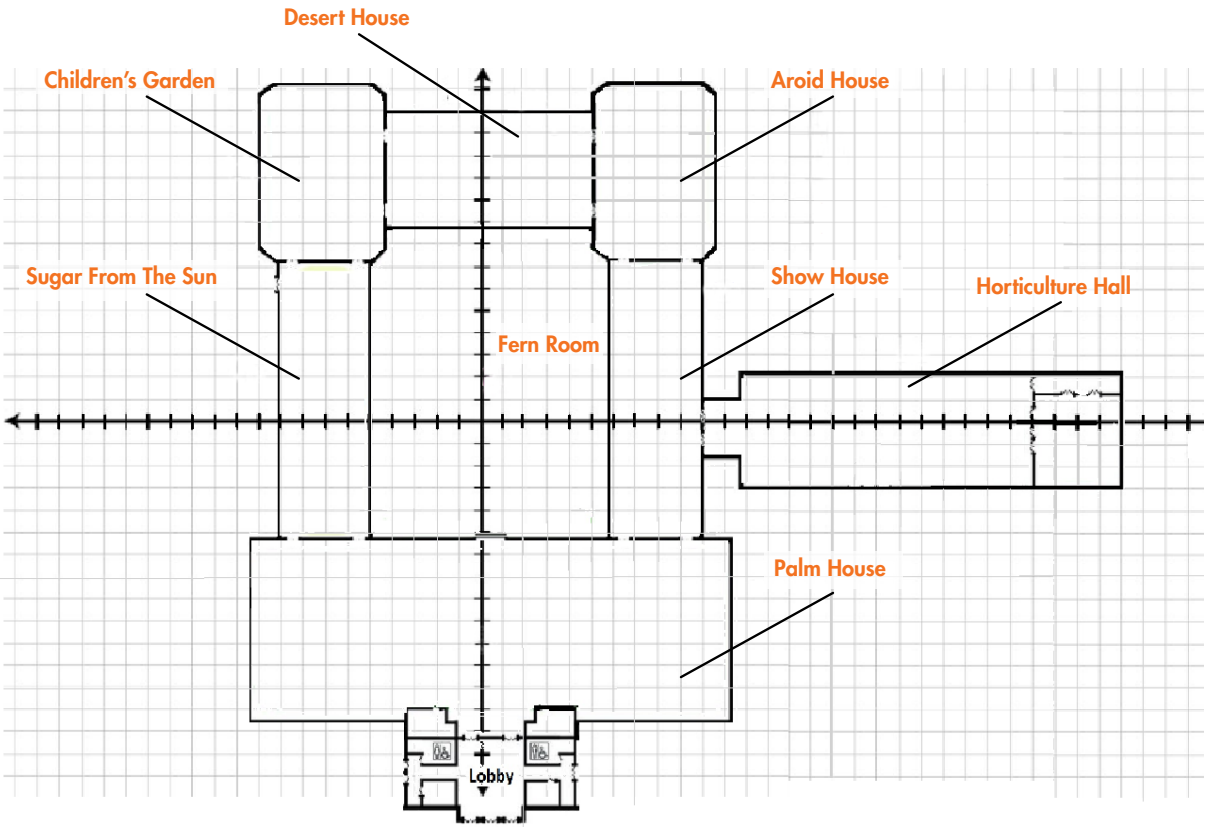
4. Locate the following plants, plot them on the graph, and label them A-H. On the following table record the coordinate corresponding to each plant's location.

PLANT NAME	ROOM NAME	PLANT LOCATION/ COORDINATE PAIR
A: Teddy Bear Palm	Palm House	
B:Torch Ginger	Horticulture Hall	
C: Black Cherry Anthurium	Aroid House	
D: Century Plant	Desert House	
E: Polka Dot Plant	Children's Garden	
F: Chocolate Tree	Sugar from the Sun	
G: Palmetto Palm	Palm House	
H: Holly Fern	Fern Room	

5. Plants that are on the y-axis are also known as the _____ in a coordinate plane. Similarly, plants that are on the x-axis are called _____. Find one plant that is located on the x-axis and one plant that is located on the y-axis. Plot the location of each plant on your graph and fill out the table below.

PLANT NAME	THIS IS ALSO KNOWN AS THE...	COORDINATE PAIR
I:		
J:		

Plant Coordination — Version B



Directions: Use the diagram above to answer the questions

1. Label the x and y axis and scale your axes.

2. What quadrants do the following rooms correspond to? (Hint: Some may have more than one answer.)

   A. Children's Garden: _____
   B. Fern Room: _____
   C. Horticulture Hall: _____
   D. Palm House: _____

3. Visit the room in which the origin is located based on the diagram. Describe what you see and then draw it on your coordinate plane. Origin Coordinate Pair: _____

4. Use the Plant Possibilities list on pages 7-11 to locate at least one plant in each room, plot them on the graph, and label them A-H. On the following table record the coordinate corresponding to each plant's location.

PLANT NAME	ROOM NAME	PLANT LOCATION/ COORDINATE PAIR
A:		
B:		
C:		
D:		
E:		
F:		
G:		
H:		

5. Plants that are on the y-axis are also known as the _____ in a coordinate plane. Similarly, plants that are on the x-axis are called _____. Find one plant that is located on the x-axis and one plant that is located on the y-axis. Plot the location of each plant on your graph and fill out the table below.

PLANT NAME	THIS IS ALSO KNOWN AS THE...	COORDINATE PAIR
I:		
J:		

7. Fill out ONLY the first column of the table below. Then, rip the page along the dotted line and exchange this table with a partner. See if you can identify your partner's plants and room names using only their coordinate points!

PLANT NAME	ROOM NAME (TO BE FILLED OUT BY YOUR PARTNER)	PLANT NAME (TO BE FILLED OUT BY YOUR PARTNER)

Plant Possibilities

Palm House:

Carnauba Wax Palm

Chocolate Ti Plant

Neoregelia

Palmetto Palm

Seychelles Stilt Palm

Horticulture Hall:

Queen Emma

Red Stalked Calathea

Torch Ginger

Prayer Plant

Lance Calathea

Aroid House:

Black Cherry Anthurium

Borneo Giant Elephant Ear

Giant Sea Grape

Red Leaf Philodendron

Calabash Tree

Desert House:

Crested Euphorbia

Apple Cactus

Brazilian Opuntia

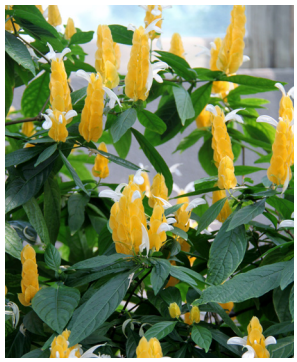
Century Plant

Silver Torch Cactus

Children's Garden

Croton

French Fry Tree



Lollipop

Polka Dot Plant

Bird of Paradise

Sugar from the Sun:

Grapefruit Tree

Chewing Gum Tree

Yellow Strawberry Guava

Chocolate Tree

Pineapple Plant

Fern Room

Fishtail Sword Fern

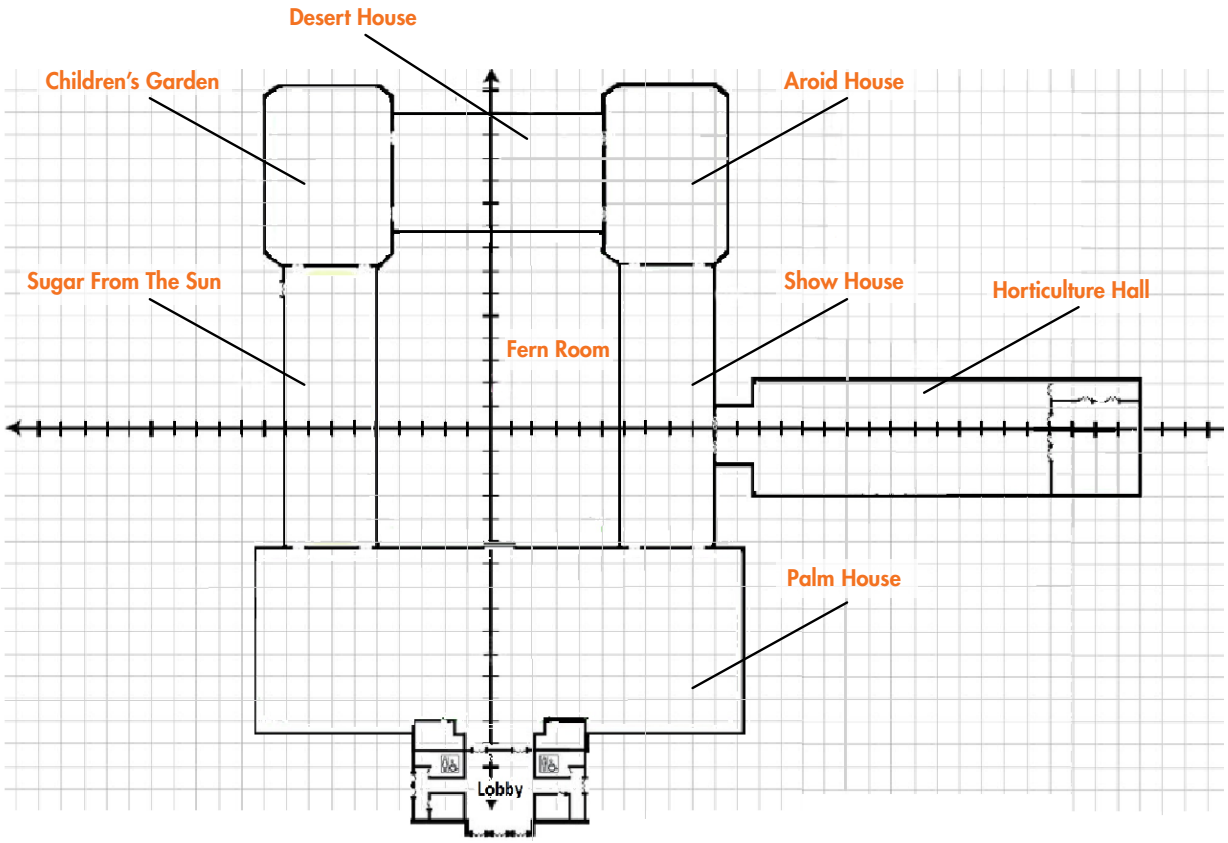
Giant Dioon

Mother Shield Fern

Giant Fern

Please note: Due to the ever changing and growing nature of the Conservatory, plants may move locations, and flowers and fruit may not always be visible.

Plant Coordination—Version C



Directions: Use the diagram above to answer the questions

1. Label the x and y axis and scale your axes.

2. What quadrants do the following rooms correspond to? (Hint: Some may have more than one answer.)

   A. Children's Garden: _____
   B. Fern Room: _____
   C. Horticulture Hall: _____
   D. Palm House: _____

3. Visit the room in which the origin is located based on the diagram. Describe what you see and then draw it on your coordinate plane. Origin Coordinate Pair: _____

4. Locate 5-8 of your favorite plants (at least one in each room!) plot them on the graph, and label them A-H. On the following table record the coordinate corresponding to each plant's location.

PLANT NAME	ROOM NAME	PLANT LOCATION/ COORDINATE PAIR
A:		
B:		
C:		
D:		
E:		
F:		
G:		
H:		

5. Plants that are on the y-axis are also known as the _____ in a coordinate plane. Similarly, plants that are on the x-axis are called _____. Find one plant that is located on the x-axis and one plant that is located on the y-axis. Plot the location of each plant on your graph and fill out the table below.

PLANT NAME	THIS IS ALSO KNOWN AS THE...	COORDINATE PAIR
I:		
J:		

7. Fill out ONLY the first column of the table below. Then, rip the page along the dotted line and exchange this table with a partner. See if you can identify your partner's plants and room names using only their coordinate points!

PLANT NAME	ROOM NAME (TO BE FILLED OUT BY YOUR PARTNER)	PLANT NAME (TO BE FILLED OUT BY YOUR PARTNER)