

Playground Designer

5th Grade Math Project · Design & Community

Grade 5 · Advanced

Name: _____ Date: _____ Class: _____

The Challenge

The town is building a new playground, and you are the designer! Everything must be placed on the town's coordinate grid.

You will make: Playground Map

What you will learn

- Plot and read ordered pairs in the first quadrant
- Find distances along grid lines
- Solve problems with figures on the grid
- Interpret coordinates in context

Materials

- Pencil
- Coordinate grid paper
- Colored pencils

How to do it

1. Part 1: Plot the Equipment
2. Part 2: Fence the Play Area
3. Part 3: Visitors
4. Part 4: Your Design
5. Check your work and share your playground map.

Part 1: Plot the Equipment

Swings at (3, 2), Slide at (11, 2), Sandbox at (11, 9).

1. Plot and label each point. How far is the Swings from the Slide?

2. How far is the Slide from the Sandbox?

Part 2: Fence the Play Area

The Swings, Slide and Sandbox are three corners of a rectangle.

3. Where is the fourth corner?

4. What is the perimeter of the fence?

5. What is the area inside?

Part 3: Visitors

Each hour, 7 more families visit. Make ordered pairs (hours, families) for 0 to 4 hours.

6. List the ordered pairs.

7. What does the point (3, 21) mean?

Part 4: Your Design

Add two more pieces of equipment to your map. Give their coordinates and the distance between them along a grid line.

8. Coordinates and distance:

⭐ Extension Challenge

A water fountain should be exactly halfway between the Swings and the Slide. Where should it go?

How your project will be scored

Category	4 Excellent	3 Good	2 Developing	1 Beginning
Math accuracy	All answers correct	Most answers correct	Some answers correct	Few answers correct
Shows work	Clear work for every step	Work for most steps	Some work shown	Little work shown
Explains thinking	Clear, complete explanations	Mostly clear explanations	Some explanation	Little explanation
Final product	Complete, neat and creative	Complete and neat	Partly complete	Not complete