Accessible Playground Design

Students Design Inclusive Play Spaces with Ramps, Activity Zones, and Accessible Paths

Grade Level: 4–8 **Time Required:** 60 Minutes
Subject Areas: STEM • Engineering • Landscape Architecture • Community Design • Accessibility

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Project Overview

Playgrounds should be welcoming, safe, and enjoyable for everyone. In this activity, students become playground designers by creating an inclusive playground that can be used by children of all abilities. Using graph paper and drafting tools, students will design a playground that includes accessible pathways, ramps, sensory play areas, traditional playground equipment, and quiet spaces.

Students will learn how engineers, landscape architects, and community planners work together to create public spaces that are safe, inclusive, and accessible while applying measurement, geometry, and creative problem-solving skills.

Learning Objectives

Students will:

- Create a scaled playground site plan.
- Practice measurement and drafting skills.
- Design accessible pathways and activity areas.
- Apply engineering and design principles.
- Understand the importance of inclusive public spaces.
- Improve spatial reasoning and planning skills.
- Present and explain design decisions.



Materials Needed

- Graph paper
- Drafting pencils
- Ruler
- Triangular scale (optional)
- Templates
- Eraser
- Colored pencils or markers
- Compass (optional)

Vocabulary

Accessibility – Designing spaces so they can be used safely and comfortably by people of all abilities.

Inclusive Design – Creating environments that welcome and support everyone.

Site Plan – A top-down drawing showing the layout of a property or outdoor area.

Ramp – A gently sloped pathway that improves accessibility.

Sensory Play – Activities that engage sight, sound, touch, movement, or other senses.

Scale Drawing – A drawing where measurements are reduced proportionally.

Project Instructions

Step 1 — Plan the Playground

Students should decide which features their playground will include.

Possible areas include:

- Swing area
- Slides
- Climbing structure
- Sandbox
- Sensory play zone
- Music station
- Quiet garden
- Picnic area
- Open play field
- Nature exploration area

Encourage students to create spaces that support different ages, interests, and abilities.

Step 2 — Choose a Drawing Scale

Select an easy drawing scale.

Example:

1 graph square = 2 feet or 1 graph square = 5 feet. Students should use the same scale throughout the project.

Step 3 — Draw the Playground Layout

Using graph paper:

- Draw the playground boundaries.
- Add pathways.
- Include activity zones.
- Place playground equipment.
- Label each feature.
- Add measurements where appropriate.

Students should keep lines neat and organized.

Step 4 — Add Accessible Features

Students should include features such as:

- Wide accessible pathways
- Gentle ramps
- Wheelchair-accessible play equipment
- Inclusive swings
- Transfer platforms
- Sensory activity stations
- Shaded seating areas
- Rest areas with benches
- Drinking fountains
- Accessible entrances

Discuss how these features help everyone enjoy the playground.

Step 5 — Complete the Design

Add finishing details, including:

- Trees
- Gardens
- Safety surfacing
- Bike racks
- Lighting
- Trash and recycling bins
- Directional signs
- Decorative landscaping

Students may use colors to identify different activity zones.

Extension Activities

Challenge students to expand their playground by adding:

- Splash pad
- Outdoor classroom
- Butterfly garden
- Obstacle course
- Storytelling circle
- Fitness stations
- Community gathering area
- Rain garden
- Solar-powered lighting
- Interactive educational play panels

Students can also design the playground for a specific age group, such as preschool children, upper elementary students, or multi-age community use.

Classroom Discussion

Discuss the following questions:

- Which playground feature is your favorite?
- How does your design support children with different abilities?
- Why are accessible pathways important?
- Which activity area required the most planning?
- How did measurement and scale improve your design?
- What additional features would make the playground even better?

Encourage students to compare their designs and explain how different layouts create enjoyable experiences for all users.

Assessment Checklist

- ☐ Used an accurate drawing scale
- ☐ Included clearly labeled activity zones
- ☐ Designed accessible pathways
- ☐ Incorporated inclusive playground features
- ☐ Applied accurate measurement
- ☐ Used neat drafting techniques
- ☐ Organized space efficiently
- ☐ Presented and explained design decisions

Real-World Connections

Landscape architects, playground designers, civil engineers, educators, and community planners collaborate to create playgrounds that are safe, engaging, and accessible for everyone. Every successful playground begins with a detailed site plan that carefully organizes equipment, pathways, safety zones, landscaping, and accessible features. Through this project, students experience the same design process used by professionals while developing skills in drafting, engineering, mathematics, collaboration, and inclusive design.