

Designing an Accessible Garden

Overview: Ensuring a school garden can be accessed and enjoyed by all students (and garden visitors) is critical. In this lesson, students will engage in the process of designing an accessible garden space to better understand the garden features that help meet the needs of all students.

Grade Level/Range: High school

Objectives:

In this lesson, students will:

- Consider the needs of neurodivergent and/or disabled students when gardening and brainstorm ways to create an accessible garden space
- Conduct online and primary research
- Gather measurements for the design and draft a design
- Compile a list of supplies, including various plant materials
- Use software or art to design the garden's layout

Time: Multi-day project

Materials:

- Computers for research
- Primary sources to consult such as:
 - Students who are neurodivergent or disabled, if appropriate
 - Parents, teachers, or aides of students with disabilities, Autism, ADD, ADHD, Dyslexia, Dyspraxia, Sensory Processing Disorder, or other physical or neurological differences,
 - Organizations that build accessible gardens
- Measuring supplies: tape measurer, string, stakes, level
- Software such as Google Drawings, Google Sketch Up, Adobe InDesign, Adobe Illustrator OR art supplies to hand-draw the design (graph paper, pencils, rulers, etc.)
- Optional: Wheelchairs or other equipment that aids disabled people



Background Information

Gardens are engaging spaces full of learning opportunities; however, without proper planning, they may present challenges and restricted access for some students. For example, a rough pathway or planting beds low to the ground could make the garden inaccessible to students in wheelchairs. A garden program being conducted in a loud and chaotic environment may add extra challenges for a neurodivergent student trying to focus. A garden with signs only with English text would feel exclusionary for students who are blind or communicate in another language.

Planning a garden that can be accessible to all the students who attend your school is an important consideration when beginning a garden program. To learn more about considerations during the design process check out the following KidsGardening articles:

Create an Accessible Garden for Those with Physical Limitations:

<https://kidsgardening.org/resources/designing-a-school-garden-create-an-accessible-garden/>

Design Spaces for Youth with Autism Spectrum Disorder:

<https://kidsgardening.org/resources/designing-a-school-garden-youth-with-autism-spectrum-disorder/>

Designing Garden Programs for All:

<https://kidsgardening.org/resources/designing-a-school-garden-designing-garden-programs-for-all/>

Design and Materials for Accessible Garden Paths:

<https://kidsgardening.org/resources/designing-a-school-garden-designing-accessible-garden-paths/>

Advanced Preparation

- Compile a preliminary list of research tools that students can use
- Decide on what medium students will use to design their garden and have enough supplies for each student/team
- Collect supplies



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Laying the Groundwork

Engage students in a discussion around the accessibility of your planned or existing school garden. You may want to ask questions such as:

- What types of neurodiverse or disabled students attend your school or are a part of the community?
- What needs might different neurodiverse or disabled students have in a garden space?
- How can we design a garden space that is enjoyable and welcoming for neurodiverse or disabled students?
- How does accessible garden design benefit all students? (E.g. Wide, smooth pathways make it easier to push a wheelbarrow.)

Introduce students to background information about the American with Disabilities Act (<https://www.dol.gov/general/topic/disability/ada>). Check to see if your school district has a specialist that could come talk to your class about accommodations provided in your schools.

Exploration

1. Ask students to begin the design process by identifying any accommodations students at your school may need to participate in the garden. If there are multiple accommodations to consider, you may want to break students into teams so they can focus on varying populations (e.g. designing an entire garden specifically for blind people), enabling them to get more in-depth and creative in their design.
2. After they determine what populations will be considered in their garden design, ask students to use online and primary research to compile a list of the most important considerations.
 - If they will be interviewing neurodiverse or disabled students, they may want to consider asking questions such as:
 - What do you enjoy most about being in the garden?
 - What does your dream garden look like?
 - How do you feel when you are in the garden?
 - Is there anything that is difficult about being in the garden?
 - Encourage them to think. For example, if there is a student who has a service animal, the design could include a space for a drinking bowl near the water supply.
 - If students will be considering people in wheelchairs, for example, measuring supplies can be used by students to take measurements for things such as:
 - Wheelchair dimensions

- Slope/gradient of an existing garden space or ADA pathway
 - Measurements of garden beds
 - For additional support on the design process, have them read the following KidsGardening article: [Designing and Placing the Garden](#)
3. Either digitally or by hand, students will design an accessible garden space that includes any of the following (but not limited to):
- Structure, measurements, and materials for garden beds
 - Styles of garden beds (i.e. sensory garden, vertical garden, etc.)
 - Signs
 - Pathways
 - Fences/gates
 - Types of plants
 - Types of user-friendly garden tools
 - Water supply/hand washing areas
 - Shade areas
 - Learning spaces / outdoor classroom
 - Safety equipment (e.g. storage for a first aid kit, fire extinguisher, etc.)
4. Have a list of things that students must include in their design, such as:
- Color key
 - Labels
 - Measurements
 - Icon key
 - Orientation (compass)
 - Scale
5. When students have completed their designs, give them an opportunity to present them to their peers and give one another feedback.

Making Connections

In follow up to their project, ask student to consider the following:

- How can design impact the way people interact with a space?
- In what ways can design be limiting or enabling?
- What tools can be utilized to create accessible spaces?



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Branching Out

Depending on what subject you'd like to focus on, this activity can focus and/or expand up on any of the following:

Science – Students can research different plant compounds and why they have varying effects on our physiology.

E.g. The smell of lavender can have a calming effect and peppermint can be invigorating or create alertness.

Technology – Students can brainstorm innovative ways technology can create more accessible spaces.

E.g. 3D printing a garden sign in Braille.

Engineering – Students can use their engineering skills to design functional, practical spaces for neurodiverse or disabled people.

E.g. Design and construct an ADA pathway with the proper gradient.

Art – Students can practice their artistry by creating visuals that celebrate or welcome neurodiverse or disabled people.

E.g. Able-bodied students work with disabled students to create a collaborative garden mural.

Math – Students can use their math skills to create accessible components of a garden.

E.g. Build a set of garden beds with the appropriate width for accessing the center of each and measurements for pathways in between them.

Additional activities:

- If resources are available, build the garden students designed or integrate part of the design into an existing garden.
- Take a field trip to an accessible garden.
- Conduct an audit of an existing garden and ways it could be improved for accessibility.
- For additional feedback, designs can be shared with an organization that works with the specific neurodiverse or disabled group.



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