

Youth & Education in Science (YES)

Lesson Title	Lesson 6: Map Grids
Grades	k-3
Length	35-minutes
Topics	<ul style="list-style-type: none">• By using a grid of imaginary lines, it is possible to identify the absolute location of any point on the Earth's surface.• Grids, like directions, help to identify the location of objects or features on a map.
Materials Needed	<ul style="list-style-type: none">• Illustration 3, showing a map of the park.• The 15 black-and-white sections of illustration 3.• Four 60-inch strings.
NGSS Alignment	<p>The skills developed in reading maps may help support NGSS for kindergarten Interdependent relationships in Ecosystems: Animals, Plants, and their environments by identifying and describing patterns and location, specifically in the crosscutting concepts.</p> <p>For Second grade, the activities may help support concepts in the Earth's Systems: Processes that shape the Earth (2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area).</p> <p>For Third grade the skills developed in the following lessons may help enforce skills in the NGSS 3. Inheritance and Variation of Traits: Life Cycles and Traits by enforcing the description and identification of patterns.</p>
Overview	Students will learn how grids are created and used to locate positions of objects or features on a map.

Related Links

None.

Vocabulary

Location

Grids

Directions

Feature

Absolute location

Relative location

Teacher Background

See Nikki's Story in Lesson 1 of Map Adventures.

Lesson Plans

Suggestions for teaching this lesson:

- Begin by telling the students that a grid is a network of evenly spaced horizontal and vertical lines. Do this while drawing a simple grid of five horizontal and five vertical lines on the chalkboard. Explain that maps use similar grids to help locate specific places or objects.
- Place illustration 3 on the floor. Have the students sit on the floor or in chairs on the south side. Point out the numbers 1, 2, 3, 4, and 5 on the left side; also, point out the letters A, B, and C along the top. Explain that each letter or number identifies a section of the map.
- Using string, run lines from top to bottom midway between letter A and letter B. Do the same midway between letter B and letter C. This identifies section B on the map. Now do the same at midway between number 2 and number 3 and again midway between number 3 and number 4. This identifies section 3 on the map. The space that is framed by the four lines is called B3. Tell the students they could identify the location of the star by giving these coordinates (B3). Continue framing different sections until students have a working understanding of the activity. Note that each section of the grid has its own letter-number label, such as A2, C1, and B5.
- Students are now ready to identify the absolute location of certain features by section letter and number.

Suggested subjects for discussions and writing exercises:

- Recall in the story that Nikki landed the balloon in the pasture near the barnyard. Ask the students to identify the location of the landing area by giving the letter-number coordinates (A2).
- Have students choose any section they want. They should list its letter-number coordinates and write about what they see inside.

Reinforcement activity:

- Reproduce the 15 sections of the black-and-white map illustration.
- Randomly place the pages on the floor around illustration 3. Call out the name of a section from illustration 3. Ask a student to find the page showing that section. They should then write the letter-number coordinates in the balloon and place the page on the third illustration. Continue this activity until all of illustration 3 (Figure 7) is covered.
- Using the map on Activity sheet 2 (Figure 8) have the students locate and list the letter-number coordinates of the following features: the island, the statue, the tractor, the picnic benches, and the rest rooms.