

Lines and Line Segments

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Title / concept or skill Solids and Shapes – Lines and Line Segments

Grade level: 3rd Grade

Subject area: Mathematics

DESIRED RESULTS

TEKS and SEs

TEKS 3.8 Identify, classify, and describe two and three dimensional geometric figures by their attributes. Compare two dimensional figures, three dimensional figures, or both by their attributes using formal geometry vocabulary.

Vocabulary Focus

point, line, line segment, intersecting lines, parallel lines

Learning Objectives

Students identify lines and line segments and explore their different relationships.

Materials Needed

ruler

ASSESSMENTS

Performance Tasks

Other Evidence

Informal assessment- Teacher observation: I will be watching the students while they are working on their task and sharing with their group members. I will be looking that they are (1) Taking turns & cooperating with each other (2) Use Positive interactions with each other (3) Using mathematical knowledge to complete the assignment

LEARNING PLAN

Engage

Using your ruler, create a number line from 10 to 12. Then draw a line that crosses the number line and a line that does not cross the number line. Explain that a point is an exact position in space. A line is a set of points continuing endlessly in two directions. A part of a line that begins at one point and ends at another point is called a line segment. When lines cross, they meet at a point and are called intersecting lines. When 2 lines never cross, they are called parallel lines. You can use number lines to show all these things. On the board, draw a number line for numbers 10, 11, and 12. Identify the parts as you draw and have students check their drawings. To make a number line, start with a line that continues in both directions without end. Use arrowheads to show this. Mark the positions of 10, 11, and 12 with tick marks. Each of these

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small marks is a line segment that intersects the number line. At each intersection you can show a point. These points tell you exactly where the numbers are located. The distance from one point to the next point is a line segment. Indicate a line segment on your number line by darkening the line between two points. You can draw a line parallel to your number line. On the board, draw a line that intersects the number line and a line that is parallel to the number line.

Explore

Give each student several index cards to write each letter of their name on. Once students have written their letters, ask the students to answer the following questions:

- How many line segments are there?
- Are any of the line segments parallel?
- Are any of the lines intersecting?

Make sure students identify these on each one of their letters. Have students share their letters with their table group and discuss their findings.

Explain: Teacher lead discussion

- How is a line different from a line segment?
- What does it mean to say that intersecting lines have a point in common?
- Can intersecting lines have more than one point in common?
- What does it mean to say that parallel lines have no points in common?
- How are intersecting lines and parallel lines different?

Elaborations

- Prompt each student to complete their name letters and assess the members of their group as they present their letters.
- Teacher should actively monitor the groups and encourage them to make corrections if necessary to their letters.
- Give students independent practice to complete. Independent practice will include looking closely at a map and being able to identify unit vocabulary.
- Actively monitor student work and ask probing questions to check for understanding. Grade student independent work.

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- Pull students for small group that need more support.

Evaluation

Students will apply their knowledge of lines and line segments with the group and independent work they have completed in class.

Student will be graded on individual and group participation during architecture final project. How was student able to implement concepts learned from concept lessons into his/her final project.

Time guidelines

Completion of line and line segment lesson will take about 45 minutes.