



Lines Around the School

Unit/Lesson Plan Title: Lines Around the School

Subject: Math

Grade Level: 4th **Length of Lesson:** 2 - 45 min. lessons

Unit/Lesson Summary: Students will learn about line types such as parallel, perpendicular and intersecting. They will take digital pictures around the school that are examples of these types of lines. Students will create a chart in Numbers that shows an image, line type and definitions to check for understanding.

Key Vocabulary: parallel, perpendicular, intersecting lines, images, 90° , lines, review spreadsheet terms: row, column, cell

Essential Question(s): How are various lines created in everyday life? How are various line types related to each other?

NCSCOS Essential Standards Addressed in Unit/Lesson:

Math:

3.02 Describe the relative position of lines using concepts of parallelism and perpendicularity.

Technology:

2.03 Identify, discuss, and use the spreadsheet terms/concepts (e.g., cell, column, row, values, labels, graph, formula).

2.05 Use spreadsheets and graphs to organize, calculate, and display data in content areas.

Materials/ Resources

Digital cameras for pairs of students

Math book

Numbers Program

iPhoto

Resource Folder

Procedure:

Lesson One:

Teacher will need to teach lesson and vocabulary on parallel, perpendicular, intersecting lines using the Math Book. Approx. 10 min.

Teacher will demonstrate how to take a picture with the camera that shows each of the line types. For example, zooming in on cinder blocks can show perpendicular lines or zooming in on blinds in the window may show parallel lines. Approx. 10 min.

Students will be sent in pairs to find examples of all three line types around the school. They can take as many pictures as they have time to complete, making sure that each student gets a chance to use the camera. Instruct the students to be polite if entering other classrooms. Instruct them to also not repeat same pictures, for example if you take a picture of

blinds in Mr. Jones' room do not take a picture of blinds in Mrs. Smith's room. Assign a time to be back in the room. Approx. 20 min.

Close by asking what pictures they were able to take and describe what will be done with the pictures in the next lesson.

INTERIM: Teacher will have Tech Facilitator upload all pictures into a resource folder.

Lesson Two:

Teacher and Tech Facilitator will have the students download the pictures from the resources folder to I-Photo.

Teacher and Tech Facilitator will have students open the Numbers Program.

Students will choose the Home Improvement Template.

Next they will choose the Product Options chart within the template.

Students will change the titles to reflect the following:

Title: Lines Around the School

Column One: Image

Column Two: Line Type

Column Three: Definitions

Students will delete the remaining 4 columns.

With the help of the Tech Facilitator the students will learn how to pull their pictures into the Images column. Teacher will stress that the students must have at least one example of each line type.

The students will correctly label the picture and also correctly type the definition of the line type.

The students will print their completed data table.

Unit/Lesson Accommodations for Differentiated Instruction

Enrichment: Students may also be instructed to find line segments, or rays.

Remediation: Partner students who are comfortable moving about the school with those who are more shy. All photos will be shared, therefore if a student did not successfully get a picture of one of the line types they will have access to their classmate's photos.

Assessments: Teacher will be able to check for understanding by seeing if the students correctly took pictures and identified them correctly in their table.

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