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Lesson Plan for Sterling Hill Mine

Hallway Mine

Goals:

1. Acquire a sense of metric linear measurements.
2. Practice three-dimensional drawing.
3. Practice a scale drawing.
4. Create comfortable classroom environment.
5. Encouraging group work.
6. Presenting the students with hands-on activities.

Objectives:

Student will be able to:

1. Use meterstick to measure length, width, and height in meters.
2. Make a 3 dimensional sketch.
3. Make a scale drawing.
4. Understand the cost for running a company.
5. Understand the profit of the mine.

Materials:

Metersticks
Pencil
Paper
Santimeter grid paper
Student worksheet
Calculators

NJCCCS:

4.1.8.A,B, 4.2.8.A,C,D, 4.5.A-F

Activities and Procedures:

Day 1

1. Divide the class into groups of four.
2. Have the students measure (in meters) the hallway (length, width, and height) and treat it as a mine.
3. After they take the measurements, have them back in the classroom.
4. Hand out centimeter grid paper to each student and have them do scale drawing of the hallway mine.
5. Have students make three-dimensional sketch of the hallway mine.

Day 2

1. Group the students into groups of two.
2. Hand out the Student Worksheet, and have them work on the problem.

3. Discuss the solutions.

Accommodations:

Have the students with disabilities participate in measurement of the hallway mine as much as possible.

Assessment:

Have the students write about experiences they had measuring the hallway mine. Was it fun? Any difficulties?

Walk around the groups and make sure all of the students work on the problem.

Check their solutions.

Student Worksheet

Student:

Date:

Imagine the hallway being a mine. Assume it takes one day (16 hours) for 9 linear ft to be mined.

1. Using the dimensions of the hallway mine and the scale drawing, find how many days it would take to mine the entire hallway?

Nine linear ft is equal to 22 tons of ore. To mine 9 linear ft in one day following workers are necessary:

	Salary per hour
(1) Toolmen	\$4.25
(5) Miner	\$4.25
(5) Laborer	\$3.75
(1) Laborer, Boss	\$4.25
(1) Diamond Drill runner	\$4.75
(2) Dimond Drill runner helper	\$4.25
(1) Structural Iron Worker	\$5.00

Aproximate cost per day for tools, materials, transport and separation of zinc from ore is 780\$.

2. How much does it cost to mine the 9 ft hallway mine (a day)?

3. How much does it cost to mine the entire hallway mine?

