

(A) Fast Five

- Define Mathematics

(B) Lesson Objectives

- Define Mathematics
- Understand what “interrelations” means in the context of data generated in a simple experiment
- Develop some ideas on HOW to model data in order to make predictions within the context of the “experiment”

(C) Explorations/Development

- Perform the [“Marbles” activity](#)

(D) Key Terms/Key Ideas

- Definitions: Mathematics:
- (WEBSTERS) the science of numbers and their operations, interrelations, combinations, generalizations, and abstractions and of space configurations and their structure, measurement, transformations, and generalizations
- (OXFORDS) the abstract science of number, quantity, and space , either as abstract concepts (pure mathematics), or as applied to other disciplines such as physics and engineering (applied mathematics)

- Q? What are the “interrelated quantities” in the Marble activity?

- Q? What do we mean when we talk about the quantities being “interrelated”?

- Q? In what mathematical ways can we show the “interrelation” between the quantities?

- Q? How can you predict the height at which to set your ramp in order to make the marble travel the targeted distance?

- Q? How confident are you that your prediction is right?

- Q? Why are you (not) so confident?

(E) Examples

- N/A

(F) Homework