

Math and Technology

Unit of Practice

Title: **Math Olympics with Graphing and Measuring**
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Subject: Math -- Data Analysis, Measurement
Learning Level: Grade 2

SNAPSHOT: *What is a summary of this lesson/project?*

Students will use *ClarisWorks for Kids* to display and analyze data from our Math Olympics.

INVITATION: *What are the questions students will answer?*

Does physical size of a person affect the outcome of an athletic event?
How can graphs help us to answer our questions?

SITUATIONS: *Where will it take place?*

Outdoors, Classroom and computer lab

TASKS: *What actions will the students perform?*

Students in the class will be assigned to 5 different teams. Students brainstorm events. Each day for a week, a team will participate in an event where student activities can be measured. Events could include long jump (distance), ball throwing (distance) shooting baskets (accuracy), jump rope (number of jumps per given time) and Frisbee throwing (distance or accuracy) Students will keep track of their data for graphing on a teacher-created paper chart. Students will create a rough graph of the data using graph paper and then write three questions in their journals about the graph. Then they will input this data into *ClarisWorks for Kids* bar graph in the computer lab. Students will keep a journal of their daily interactions.

INTERACTIONS: *How do students interact with others?*

This unit begins as a teacher directed whole group instructional session. Small groups will collect, organize, and analyze their data. The PE teacher can be included in the pre-instruction of events and collection of data.

STANDARDS: *Which standards are addressed in this lesson?*

Mathematics

2M Data Analysis and Probability

2M-F1 Collect and analyze data using the concepts of largest, smallest, most often, less often, and middle

2M-F2 Construct, read, and interpret displays of data to make valid decisions, inferences, and predictions

5M Measurement and Discrete Mathematics

5M-F2 Explain the concepts related to units of measure and demonstrate the process of measurement with non-standard (e.g. using paper clip lengths), U.S. customary and metric units

Technology

1T Technology Skills.

a. Communicate about technology using developmentally appropriate and accurate terminology.

- b. Use appropriate keys and keyboard commands to input information and operate the computer.
- c. Use a mouse, trackball, and adaptive devices (when necessary) to successfully operate computers.
- d. Launch, navigate, and quit software applications.
- e. Follow appropriate procedures to save and retrieve documents and information.
- f. Follow appropriate procedures to start up and shut down computers and other technological devices.
- g. Demonstrate proper usage and care of hardware and software.
- h. Read instructions in order to construct a model or product.

2T Technology Applications

- d. Use technology resources for problem solving, communication, reporting, and illustration of thoughts, ideas, and stories.
- e. Illustrate and analyze mathematical problems through the use of technological tools.
- f. Gather information and communicate with others using telecommunications, with support from teachers, family members, or student partners.

ASSESSMENT: *How will you evaluate student learning?*

Graphs, questions, journals, *ClarisWorks for Kids* graph printouts

TOOLS: *What materials will the students need?*

Graphing paper

Chart paper

ClarisWorks for Kids software

Computer, Printer

Journals

Various materials for activities

RESOURCES: *What else could you utilize in planning or expanding this lesson?*

Student teams can create HyperStudio or Power Point presentations with each team creating a stack displaying their graphs. Student's graphs can be displayed on a class Web page.