AlphaSmart

What Goes Up . . .
Six Traits: Organization Lesson

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Grade level: Middle School – High School

Content areas: English Language Arts
Science
Six Traits Writing – Developing Organization

Invitation: The first of the six traits, developing ideas and content is the heart of the message. This second trait – organization – gives the writing a sense of direction and purpose. Good writers employ any one of a number of writing organization schemes: compare and contrast, deductive logic, point by point, using a timeline – just to name a few.

Activities that seem distant from the writing process often develop important writing skills. In this lesson, students use motion detection probes to measure distance, velocity and acceleration. As they engage in the activities, they develop lab notes and other narratives that are highly organized. Specific to this activity, they use the hypothesis, test, conclusion organization scheme. In literacy circles, it's known as compare and contrast.

Assessment: Students develop organization in writing as they make predictions, record notes and share what they learn about distance, velocity and acceleration.

Technology tools

Dana by AlphaSmart or Dana Wireless
Printer
Computer
AlphaWord software
Sketchy (http://www.goknow.com)
Vernier motion detector probes (http://www.vernier.com)
Vernier LabPro interface
DataPro software
Volleyball or basketball

Internet sites:

Learn about Six Traits writing from the Northwest Regional Education Laboratory
http://www.nwrel.org/assessment/scoring.asp?odelay=3&d=1&r=1#definition

Download a sample lab from Verneir
http://www2.vernier.com/sample_labs/handheld/balltoss.pdf

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National Standards for Students

National Educational Technology Standards
- Understand basic concepts and operations
- Practice responsible use
- Use technology tools to enhance learning, collaborate, publish and promote creativity.
- Use telecommunications and a variety of media and formats to communicate.
- Locate, evaluate and share information

National Science Teachers Association
- Science as inquiry
- Physical science
- Science and technology

National Council of Teachers of English
- Employ a wide range of writing strategies
- Apply knowledge of language structure and conventions
- Conduct research
- Use technological and information resources
- Participate in literacy communities

For a detailed explanation of NETS for Students visit: http://cnets.iste.org/students/s_stands.html
Learn more about NCTE Standards at: http://www.ncte.org/about/over/standards/110846.htm
For a detailed explanation of NSTA Standards for Students visit: http://books.nap.edu/html/nses/6a.html

Step-by-Step

Step 1: Preparation

Download the sample Vernier lab step-by-step instructions from http://www2.vernier.com/sample_labs/handheld/balltoss.pdf.

Step 2: Preliminary Questions

Introduce the purpose of the lab. Explain that students will use probes to measure distance, velocity and acceleration as they toss a ball and track its movements. To stress the power of organization in writing, explain that students will be careful notes to record predictions and explain results. Refer to the list of preliminary questions (see the Vernier Software and Technology Ball Toss Sample Lab, page 34 - 1)

PRELIMINARY QUESTIONS
Ball Toss Sample Lab by Vernier Software and Technology

1. Think about the changes in motion a ball will undergo as it travels straight up and down. Make a sketch of your prediction for the distance *vs.* time graph. Describe in words what this graph means.
2. Make a sketch of your prediction for the velocity *vs.* time graph. Describe in words what this graph means.
3. Make a sketch of your prediction for the acceleration *vs.* time graph. Describe in words what this graph means.

Students use Sketchy to draw their predictions and AlphaWord to explain what they expect to see.

Step 3: Conduct Ball Toss experiments using Vernier probes.

Using DataPro software from Vernier, students collect data from the experiments.

Step 4: Writing scheme

Students launch AlphaWord and develop narratives using a compare and contrast organizational scheme. Students the AlphaWord document with their original narratives – written during the preliminary question step of the Ball Toss Sample Lab. Edit, revise and elaborate comparing the prediction to the actual event.