Standards-Based Lesson Planning
Springfield Schools

Standard(s): Science and Technology/Engineering

Strand # 4 Technology/Engineering
Learning Standard # 1: Identify materials used to accomplish a design task based on a specific property, (i.e. weight, strength, hardness, and flexibility)
Learning standard # 2: Identify relevant design features (e.g. size, shape, weight) for building a prototype solution to a given problem.

Standard(s): Mathematics

Learning Standard 6.M.3:
Solve problems involving proportional relationships and units of measurement (e.g. same systems unit conversions, scale models, maps and speed)

Standard(s): English Language Arts

Strand: Composition
Learning Standard # 19: Writing - Students will write with clear focus, coherent organization, and sufficient detail.
Strand: Language
Learning Standard #2: Questioning, listening, and contributing – Students will pose questions, listen to the ideas of others, and contribute their own information or ideas in group discussions or interviews in order to acquire knowledge.

Desired Results

Scope and Sequence

Topic: Changes in Nature: Floating and sinking
Suggested Time Frame: Two day environmental education experience at **ECOS (Environmental Center for Our Schools)** in Forest Park, Springfield, MA

Essential Questions	Content and Skills (Progress Indicators)
• How can you measure the speed of water flowing down a stream? • How does the speed of the water cause changes to the stream? • How do the design and materials used in making the boat help it float?	• Design and build a boat that will float down a stream. • Measure a distance and record elapsed time. • Calculate speed.

Assessment Evidence

- Students will observe boats and discuss the different designs and materials used.
- Students will record the time, distance, and calculate the speed of the boats.
- Students will record reflections about the boat race into their journals.

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Learning Activities

- Students research, design and build a boat to be entered in the “race”.
- Students and ECOS teacher brainstorm on how to use boats to measure speed of stream.
- Students measure distance and record elapsed time of each boat.
- Students calculate speed and write reflection on how speed was determined.