

Bubbles: Teacher Notes

Sunshine State Standards

MA.B.3.3.1

MA.E.1.3.1

Math Abilities

Conceptual Knowledge

Data Collection

Measurement

Graphing

Interpret Data

Procedural Knowledge

Organize Data

Graph Data

Make Predictions

Process Standards

Problem Solving

Reasoning

Communication

Connections

Representation

Hook

How big is a bubble?



Group Arrangement

Students work in pairs



Tools

- Σ 4 kinds of liquid dishwasher detergent such as Joy, Ivory, Dawn, Palmolive
- Σ commercial bubble liquid
- Σ water
- Σ glycerin
- Σ rulers
- Σ straws
- Σ pie tins



Procedure

1. Mix the bubble liquid using 1 part detergent to 6 to 10 parts water for each liquid dishwasher detergent in separate pie tins. Have a container for the commercial bubble liquid also
2. Using a straw, blow gently into each soapy liquid
3. Time the duration of the bubbles
4. Also, using a ruler, measure the diameter and height of the largest bubbles.
5. Make a bar graph for each measurement.
 - One bar graph for detergent names and duration of bubbles
 - One bar graph for detergent names and diameters
 - One bar graph for detergent names and heights
6. Repeat the previous experiments, but this time add glycerin to the liquids
7. Using your graphs, explain if and how the glycerin made a difference to the bubbles

8. Explain how the home-made liquid compared to the commercial liquid



Math Connection

As a result of this activity, students collect, graph and interpret data