

Lesson Plan, Level One. (using any combination of Microsoft excel, project interactive or TI-83)

- a. Topic description: **Ice Cream Graphing Lab**
- b. A comprehensive description of the activity itself and what is to be done during the activity (including what computational tools/materials will be required)
  1. Guided reading about Ice Cream.
    - i. pre-printed reading material
  2. Guided data collection through graphing with provided example.
    - i. Pre-printed data to manipulate into organized data collection procedure.
    - ii. Overhead projector for group guided data collection
    - iii. Excel software (or a portion of students use graphing calculators if available).
    - iv. One work group may use the teacher's graphing calculator.
  3. Student survey will be conducted in the classroom, focusing on the (3) favorite flavors of ice cream, frequency of eating ice cream, soft versus hard and preference for brand of ice cream.
  4. Group work: students will set up data tables and graph their results. (Two graph types of their choice).
  5. Students will make ice cream in the lab.  
Optional :
  6. Students will graph results for all students in the grade
- c. A set of questions to be answered by the activity participants.  
(Graph interpretation).
  1. What advantage does the graph have over the written text?
  2. Based on the data, which flavor and brand is most popular in the class?
  3. Which graphing design is easiest to interpret? (i.e.: histogram, pie, scatter, etc.)
  4. Which graph type gives you the most usable information.
  5. Survey: use of technology.
  6. Identify one question you could ask about this graph (Quiz question).

d. An assessment rubric (how would you grade this activity?)

Procedure	Graduate	Middle	Novice
Lab report Completeness and neatness	Lab report is handed in with all questions and areas of work complete, and the writing is neat, with correct spelling. Whole sentences must be predominant.	Demonstrated through minimal errors, completeness or neatness. Greater than 80% in all areas.	Lab report is incomplete, with less than 80% of report completed, and/or 80% illegible, and/or 80% improper grammar.
Class room Participation in graphing	Student is on task. Evidenced through progress in the work task.	Redirection less than two times.	Redirection by the instructor more than 3 times.
Lab participation in ice cream making	Student is showing care and laboratory knowledge in measuring and preparing ice cream (techniques for measuring and handling ingredients/materials).	Re-direction less than two times.	Evidence that lab materials have been spilled or thrown . Re-direction more than 3 times.
Use of technology (appropriate use and care of tools)	Students show respect of the equipment, demonstrated by appropriate use and care through attention and participation in the task.		Student demonstrates misuse of equipment through throwing, tossing, dropping, sliding, banging, etc, of the equipment.
Lab Clean up	The students work area is clean and ready for the next lab. Student offers help in preparing other work sites needing clean up.	Student has invested in 80% clean up to the work area, but more clean up is necessary.	Student does not clean up the work area.

Group work	Student demonstrates working with other team members. Evidenced by all members working at or near the same pace.	Student demonstrates difficulty with working within a group, evidenced through being off task or conflict with other group members (less than two re-directions).	Students demonstrates inability to work in a group (re-direction more than two times), or inability to work in the group assigned to (refusal to work in assigned group).
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