**“Yeast Beast” Lesson Plan**

**Science and Writing Lesson (5 days)**

**4th grade CA Standards:**

Life Science: 2. All organisms need energy and matter to live and grow. c. Decomposers, including many fungi, insects, and microorganisms, recycle matter from dead plants and animals.

Investigation and Experimentation: 6. Develop their own questions and perform investigations. a. Differentiate observation from inference and know scientists’ explanations come partly from what they observe and partly from how they interpret their observations. c. Formulate and justify predictions based on cause-and-effect relationships.

Written Conventions: 1.1 Use simple and compound sentences in writing.

Writing Applications: 2.3 Write informational reports: a. Frame a central question about an issue or situation. b. Include facts and details for focus.

Writing Strategies: 1.3 Use traditional structures for conveying information (chronological order, cause and effect, similarity and difference, posing and answering a question).

**Objectives:**

Students will identify the steps of the Scientific Method, and apply the process to an experiment.

Students will identify the characteristics of a decomposer, and recognize that yeast is a decomposer.

Students will write a detailed and coherent paragraph with varied sentence structure describing their conclusions that uses traditional structures for conveying information.

**Opening:**

Sing “Something I Didn’t Used to Know” (the Scientific Method Song, see attached).

 -Emphasize hand motions and key vocabulary.

-Review the steps of the Scientific Method.

**Introduction:**

Review how energy moves through an ecosystem, and emphasize the role of decomposers.

Discuss examples of decomposers, and introduce yeast with visuals.

Model the procedure whole class.

**Experiment Timeline:**

**Ongoing: (reinforce concepts and vocabulary of song as appropriate)**

Monday develop question and record in Learning Log (first think-pair-share, then whole class).

Monday make predictions and record in Learning Log (first think-pair-share, then whole class, then individually).

Tuesday complete procedure and record in Learning Log (first review whole class, then complete individually with group support).

Wednesday and Thursday make observations and record in Learning Log (first model whole class, then complete individually with group support).

Thursday draw conclusions in Learning Log and draft conclusion paragraphs separately (first discuss in groups, then discuss whole class, then complete individually).

Friday edit and revise conclusion paragraphs (peer editing, use rubric to self-assess).

**Assessment:**

Assess student usage of vocabulary and scientific method via observation of discussions with partner, in groups, and with whole class.

**Extensions for Workshop:**

Students use their conclusions to ask new questions and develop new experiment (emphasize cyclical nature of Scientific Method).

Students use their observations and conclusions to write a descriptive poem.

Students use their observations and conclusions to write a dialogue between the yeast and banana (possibly in comic form).

Students research the role of yeast in cooking and use a recipe including yeast.

Students make PowerPoint presentation of their research (emphasize data collection and conclusions).