**Lesson 7b Abstract Summative Assessment for Bioplastics PBL**

*Resolve the Problem*

**LEARNING OBJECTIVES:**

* Students will be able to demonstrate their learning during the Bioplastics PBL by writing a concise scientific abstract summarizing their lab experience.

**MATERIALS:**

* Samples of scientific abstracts, bioplastic abstract scoring sheets
* Scientific Abstract PPT
* Copies of Post-Assessment

**LESSON PREPARATION:**

* Print copies of sample abstracts (2 are provided) and abstract scoring sheets.
* Schedule access to computers if needed.

**TIME REQUIRED:**

* 15 minutes for student group review of sample abstracts.
* 15 minutes for group discussion and PPT presentation.
* 30 minutes for students to write rough drafts of abstracts (this may be assigned as homework)
* 10 minutes for peer review (optional)
* Students may word process final drafts for homework or in class (allow 45 minutes).
* 15 minutes for Post-Assessment

**PROCEDURE:**

* Hand out sample abstracts to student teams. Ask them first to read their abstracts quietly—about five minutes.
* In teams, students will identify what they believe are the required parts of a scientific abstract. They should write this on a white board, or on a sheet of paper. Each group should select a spokesperson.
* The teacher should lead a whole class discussion to come to consensus on the parts of a scientific abstract. Each spokesperson should give their group’s consensus opinion on the key elements of a scientific abstract. A PPT is provided for review.
* Hand out the abstract grading sheets, and explain grading criteria. Sample grading sheets are provided in the student folder, and teachers may want to modify for their classroom use. Teachers can use a check off system, a point based-system or expand the grading sheet into a rubric.
* Students should first write a rough draft by hand or using a computer if available, using their lab notebook as a reference. Teachers will probably want to ask students to have another student peer edit the rough drafts, checking against the grading sheet, and then word process their final draft.
* Distribute Post-Assessment for students to complete individually.

**ACCOMMODATIONS:**

The length of the assignment may be shortened for ELL or IEP students. Provide extra time for students on 504 plans if required.

**EXTENSIONS:**

Teacher may choose to conduct a Socratic Seminar. (see Lesson 7A)

**RESOURCES:**

Abstract grading sheet, sample scientific abstracts, Scientific Abstract PPT, Post-Assessment