**Using Small Group Reading of Scientific Articles to**

**Increase Student Engagement in Learning**

**Science Departmental Professional Development Session Guide**

**OVERARCHING QUESTIONS:**

How can we use scientific news articles to build students’:

* understanding of the applicability/relevance of science content
* interest in science content
* critical analysis reading skills
* academic discussion/writing skills
* skills at working in groups

**Group Discussion Questions (5 minutes)**

To what extent do you use brief articles or texts in your science class to build student non-fiction reading and analysis skills? To increase interest in science content? What are some of the obstacles or challenges to doing this? How does this work in a small group setting?

**Reviewing Lesson Plan Activity**

**Intro (5 minutes)**

We have prepared an example of a science lesson plan focused on class discussion of an article about a current science issue. The learning activity for you as teachers is to discuss the lesson plan and identify strengths and weaknesses you see in it. After this discussion we will ask you to focus on how you might apply this type of framework to your own science content and to think about how you might plan a similar lesson for one of your own classes.

**Individually read over the lesson plan/materials (10 minutes)**

**Lesson Plan Discussion (20 minutes)**

You can use the sheet below to take notes, writing positive elements in the “plus (+)” column for each section, and changes you would make in the “delta (Δ)” column of each section.

While reviewing each of the sections below, keep the following overarching questions in mind:

* How feasible is it to execute?
* How would your current students react to such a plan? Would they be engaged?
* What changes would you suggest to improve this lesson plan?
* What learning activities/performance tasks are involved, and what do you think of them?

|  |  |  |
| --- | --- | --- |
|  | **+** | **Δ** |
| **Objective**  What relevant content standards/learning goals does it address? |  |  |
| **Hook**  How does it connect the content of the lesson to students’ interests/lives? |  |  |
| **Building/Connecting to Required Content Knowledge**  How does the lesson provide the necessary content knowledge for students to understand the article? |  |  |
| **Small Group Discussion**  How are students encouraged to work together to build their understanding of the article? |  |  |
| **Large Group Discussion/ Summary**  How does the lesson review and reinforce the key takeaways of the article? |  |  |
| **Homework Assessment**  How does the performance task provide opportunity for students to demonstrate understanding and learning? |  |  |

**Applying This to My Science Classrooms**

**Department group should discuss the following questions (10 minutes)**

* How likely is it that you might use something similar to this lesson? What adaptations do you foresee having to make?
* How feasible would it be to fit particular science topics in your classroom into this framework?
* What kinds of topics would both be of interest to students and relevant to your course content?

**Wrap-up and teacher reflection (5 minutes)**

**Resources for Science Articles**

* Science News for Students <https://www.sciencenewsforstudents.org>
* STEM Articles from New York Times <https://www.nytimes.com/spotlight/learning-stem>
* Newsela Science Articles <https://newsela.com/search?needle=Science>