



## 1.8 Teacher Tool Box- Lesson Preparation

### Pre-Lesson Preparation

- **Student materials:** Make sure that all students have a **composition notebook**, all of the **student sheets** are photocopied, one for each student and there are **adhesive materials** for students to be able to insert the student sheet from the lesson in the notebook. Finally make sure that the **exit slips** are ready for student reflection at the end of the lesson period.
- **Instructional Resource:** Make sure that you have the **PowerPoint presentation** and any videos for the lesson downloaded and ready for students to view during the lesson
- Understanding the standards is an important aspect of student learning. During the first activity, the students may personalize the learning by unpacking the standards. The standards and a standards statement is provided in the lesson along with the aligned NGSS and Common Core ELA or Mathematics standards. Throughout the lesson, the teacher will need to check for understanding of the major concepts by monitoring the student discussions and reflections on the student sheets and in the notebook.
- **Class Scribe-** Think about designating a student to be the “class scribe” who will write information down for the class during instruction. This will help you to have time to lead discussions and help with reflection.

### Activity 1: Preparation for the Class

**Multimedia Presentation:** This lesson will have a multimedia presentation that will help to get the students thinking about the lesson and walking them through the information. Download the presentation in the folder to have the videos attached.



#### Preparing the notebooks-

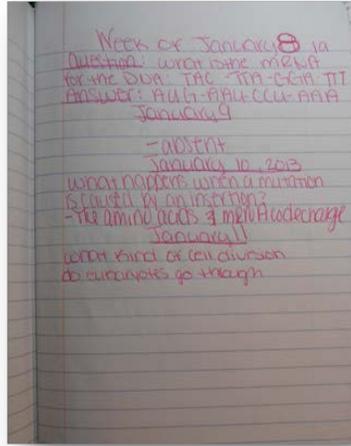
**Note to teachers:** Recording information in science and particularly engineering is crucial for developing a product. Throughout the Engineering design process there will be extensive changes, modifications to the original ideas that must be documented. These modifications will allow you to create a product that will serve the needs of your stakeholders and community partners.

1. Make sure that each student has a composition notebook. These are the most durable medium that works best for students Grades 1-College.
2. Have each student take the **first two pages** of the notebook to be the **Table of Contents**. This allows for easy access to project artifacts as the class progresses.
3. For pages 3 and 4, these will be the Line of Learning. The line of learning is a personal history of the student’s learning. With each of these entries, the student will date the entry and reflect on their learning. The time frame is at your discretion depending on how much you have covered and The progress of the project.



Example of Student notebook Table of Contents

4. **Line of Learning-** The line of learning is a chronology of the learning for each student. This is a personal reflection and a way to track the progress of the unit and learning.



**Notebook entry-**

**Question:** Each day the students will have a different question in the lessons to reflect and document their learning and progress toward their project goals.

**Students will date the entry and put a line after each entry.**