[Title of Unit]

Science Grade X

[Please write a three or four sentence summary of the unit here]

This unit is…. Students will….. At the end of the unit….

Please save this file with the title and grade level in the file name.

**Please provide us some background information on the unit development.** In order to help others who are interested in this topic understand a bit more about what you created, we will write a short introduction to each unit and provide some images, in addition to posting the completed units on the Cape Cod Regional STEM Network website ([www.capecodstemnetwork.org](http://www.capecodstemnetwork.org)). Please help us by answering the questions below after you have completed your unit.

1. Who helped to create this unit?

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| --- | --- |
| Names | School (Grade/course taught) |
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1. What were some sources of inspiration for this unit?
2. In your own words, what are you hoping students learn—big picture—through this unit?
3. What might students find exciting in this unit?
4. What science standards or real-world content did you strive to emphasize?
5. How would you say that this unit “matters” to the STEM community? Or to our community on Cape Cod? Or to the larger community?
6. What’s the most important lesson you learned as you created this?
7. **Anything else you would like fellow teachers or others to know about this unit?**

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| **Stage 1 Desired Results** | |
| **MA STE Standards** | **ESSENTIAL QUESTIONS** |
| **UNDERSTANDINGS**  ***Students will understand that…***  ***Students will be skilled at…..*** |
| **TRANSFER**  ***Students will be able to independently use their learning to…*** |
|  | **Cross-Curricular Connections** |
| **Stage 2 Evidence** | |
| **Formative Assessment Ideas:** | |
| **Summative Assessment Ideas:** | |
| **Stage 3 Learning Plan** | |
| **Summary of Key Learning Events and Instruction** | |

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| **Introductory Lesson**  Lesson that introduces the content. More teacher directed | **Constructing Lesson**  Lessons that engage students in building and linking together understanding. Guided/collaborative. Student/teacher or partners/small group | **Practice Lesson**  Lessons or activities that students can complete relatively independently | **Assessment Lesson**  Formative: Check-ins along the way to see if students “get it”  Summative: Students showing what they know, when you feel they are ready |

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| **Stage 3 Learning Plan** | | | |
| **Summary of Key Learning Events and Instruction** | | | |
| **Lesson Name** | **Type** (Introductory, Constructing, Practice, and Assessment) | **Content Addressed** | **Standards Included (by number)** |
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**Lesson 1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Lesson 2: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Lesson 3: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Lesson 4: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Lesson 5: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Lesson 6: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Overview of the Lesson:** What will students be doing?  **Time (minutes):** |
| **Standard(s):** What standards (s) will be the focus of the lesson? |
| **Essential Question(s):** What essential questions will be addressed in this lesson? |
| **Science Objectives** |
| **Language Objectives and/or Targeted Academic Language** |
| **Anticipated Student Pre-conceptions/Misconceptions (optional)** |
| **Instructional Materials/Resources/Tools** |
| **Assessment:** How will you know that the students got it? |
| **Science and Engineering Practices included (put the included ones in bold):**  1. Asking questions (for science) and defining problems (for engineering)  2. Developing and using models  3. Planning and carrying out investigations  4. Analyzing and interpreting data  5. Using mathematics and computational thinking  6. Constructing explanations (for science) and designing solutions (for engineering)  7. Engaging in argument from evidence  8. Obtaining, evaluating, and communicating information  **Notes about Science and Engineering Practices included:** |
| **Lesson Overview:** |
| **Opening/Engagement:** |
| **During the Lesson:** |
| **Lesson Closing** |
| **Instructional Tips/Strategies/Suggestions for Teacher:** What other ideas would you like to highlight? What grouping strategies are important? What are adjustments for struggling learners, enrichment, or for students who are English Learners? |

**Information to Support Teaching Learning**

What additional resources can support teachers in developing background understanding of content or ideas in this unit?

**List of Unit Resources (in lesson sequence)**

What additional resources can support the teaching and learning of this unit? What resources can support the teacher in implementing the unit?

**Curriculum Embedded Performance Assessment (CEPA; if applicable)**

Detail the performance assessment and include any rubrics or resources