 

**STEM Middle School Mini Lesson Template**

STEM lessons will take a transdisciplinary approach. This template is designed to aid in the development of a transdisciplinary STEM lesson.

Title: **Element Infomercial/Advertisement**

Grade Level: **8**

Questions to ask before designing a lesson:

1. What is the essential question(s) for the lesson?

What determines an element’s chemistry?

* 1. Why is the question relevant?

The elements and the Periodic Table are the foundation of chemistry.

* 1. What is the connection to real life?

Chemistry plays many roles in the world from the food we eat, to the air we breathe, and the household cleaners we use.

1. What techniques are used to make the lesson:  
   1. Inquiry-based? Revising and Reflection Process
   2. Project-based? Research, Planning, and Building Phase
2. What are the lesson outcomes? See Standards Chart
3. How is participant discourse promoted? Through presenting to the class and the reflection process.
4. How are science, technology, engineering, and mathematics addressed in the lesson? While the lesson is mainly focused in science content, math plays an important role in chemistry and will therefore play a role in the infomercial/advertisement. Technology will be used to create the infomercial/advertisement. Engineering design process can be used in the designing of the element model.
5. Use the table below to match standards.

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| **Standard** | **Standard Number(s)** | **Activity** |
| **Common Core Standard for Mathematical Practice** | 3 | Infomercial/Advertisement |
| **International Technology Education Association Standards for Technological Literacy** | 8 10 | Infomercial/Advertisement  Infomercial/Advertisement |
| **Common Core Reading Standards for Literacy in Science and Technical Subjects** | 7  8  10 | Background Research  Infomercial/Advertisement  Background Research |
| **Common Core Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects** | 1  2  6  9 | Infomercial/Advertisement  Infomercial/Advertisement  Technology use  Background Research |
| **Maryland Science Skills and Processes Standards** | C1  D | Background Research  Element Model |

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| **STEM Lesson Title:** Element Infomercial/Advertisement |
| **Higher-Order Question:** |
| **Objective(s):**  -What determines an element’s chemistry?  -What properties do all elements share?  -What makes one element different from another? |
| **Materials:**  -Periodic Table  -Computer/iPod/iPad  -Video Camera/Flip Camera  -Voice Recorder  -Craft Supplies for building elements |
| **Engagement:**  You are an advertising executive who has been put in charge of a new account. Your client (element) has asked you to design an advertising campaign explaining why they are the best element of all, even if it is a toxic or dangerous element. You may create a print or electronic advertisement for your client highlighting the elements important points. Math must be included in the advertisement [Cost, Element Calculations (atomic number, atomic mass, temperatures, etc.)]. |
| **Exploration/Explanation:**  -Assign elements  -Encourage students to watch some commercials and infomercials identifying advertising strategies  -Encourage students to view some print advertisements identifying advertising strategies  -Allow time for students to conduct research, plan advertisement, and complete advertisement |
| **Extension:**  -Students are to construct a model of their element. This model should be included in the advertisement or presentation of the advertisement. |
| **Evaluation:**  -Rubric Scoring |
| **Homework:**  -Finish what is not completed in class |
| **Reflection:**  -After seeing all the advertisements presented in class, what could you have done differently to your advertisement?  -What role does advertising play in the promotion/selling of a product?  -Is it important that a model of the element be part of the advertisement? Support your answer. |