Maureen M. Drees

Physical Science Lesson Plans

August 28-September 1, 2017

Note: Wednesday is a 2:25 dismissal for professional development.

Essential concepts and skills emphasized in the week’s lessons will be highlighted.

Disciplinary Core Ideas

Life Science

1. From molecules to organisms: Structures and processes
2. Ecosystems: Interactions, energy, and dynamics
3. Heredity: Inheritance and variation of traits
4. Biological Evolution: Unity and diversity

Earth and Space Science

1. Earth’s place in the universe
2. Earth’s systems
3. Earth and human activity

Physical Science

1. Matter and its interactions
2. **Motion and stability: Forces and interactions**
3. Energy
4. Waves and their applications in technologies for information transfer

Science and Engineering Practices

1. **Asking questions and defining problems**
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 and designing solutions**
7. **Engaging in argument from evidence**
8. **Obtaining, evaluating, and communicating information**

Cross-Cutting Concepts

1. Patterns
2. **Cause and effect**
3. **Scale, proportion, and quantity**
4. **Systems and system models**
5. **Energy and matter**
6. **Structure and function**
7. Stability and change

Monday—

1. Practice heading papers and then handing in papers using physical science numbers
2. Oral Scavenger Hunt of book, pull student numbers to give information needed
3. Students work in twos or threes to put events having to do with matter in chronological order, discuss as a whole class—Sir Alexander Fleming discovers Penicillin (1928 #3), Silly Putty (1949 #5), Current separates hydrogen and oxygen (1800 #2), Robert Boyle determines that elements cannot be broken down by chemical reactions (1661 #1), Hindenburg explodes (1937 #4)

Tuesday—

1. Read and discuss together “Would You Believe…” chapter uses development of the Proteus as an example of the scientific method
2. Read and take book notes together over Section 1—Exploring Physical Science—as a model of how students will read and take book notes this year
3. Students put together paper helicopters and try them out
4. Brainstorm ways that the helicopter can be changed “Ask a question”

Wednesday—shortened schedule

1. Look at the steps of the scientific method with students—Ask a question, Form a Hypothesis, Test Hypothesis, Analyze Data, Draw Conclusions, Communicate Results
2. Draw numbers to put students into groups
3. Groups come up with a question that they could answer about the paper helicopter and make a hypothesis

Thursday—

1. Groups try out helicopter hypothesis and collect data, Analyze data, Draw conclusions
2. Demonstrate original helicopter and improved helicopter to class—Communicate Results

Friday—

1. Review six steps of Scientific Method as shown by paper helicopter experiment, relate to Proteus development that students will read about
2. Students read and take book notes over Section 2—Using the Scientific Method