Lesson Plan for ED 5680 – Great Lakes Maritime Transportation Teacher Institute

The Great Lakes Storm of 1913

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Target grade/subject: Middle/High School Earth Science (grades 7,8,9)

Lesson overview:
The lesson will cover the causes and effects of the Great Lakes Storm of 1913. Topics covered will include the meteorological causes of the event, as well as the human impact. The lesson will serve as an extension of the unit on weather, will connect to social studies topics, and will involve writing across the curriculum, a major school improvement goal in my district.

Sources consulted:


Learning objectives:
At the end of this lesson, students will be able to:
1. Describe how interacting weather systems can produce great storms.
2. Generate questions about natural events.
3. Explain how science and technology can improve our understanding of the natural world.
4. Describe how major weather events can affect human activity.

Michigan Content Expectations addressed:
E1.2k – Analyze how science and society interact from a historical, political, economic or social perspective.

E4.3A Describe the various conditions of formation associated with severe weather (thunderstorms, tornados, hurricanes, floods, waves, and drought).

E4.3C Describe severe weather and flood safety and mitigation.
E4.3D Describe the seasonal variations in severe weather.

E4.3E Describe conditions associated with frontal boundaries that result in severe weather (thunderstorms, tornadoes, and hurricanes).

**Materials needed:**
- PowerPoint presentation on Great Lakes Storm of 1913
- Chalkboard or whiteboard
- Sticky notes
- Lined paper & pencils

**New vocabulary:**
Fetch - the distance of water over which the wind can blow, which affects the size of waves developed.

**Focus questions:**
- Have you heard of the Edmund Fitzgerald?
- Have there been other shipwrecks on the Great Lakes?
- How many? (Numerous – nearly 6,000 between 1878 & 1897 alone.)
- How many have died? (During the twenty years referenced above, 1,166 died; estimated deaths over the 300 year history of Great Lakes shipping is 25,000.)

**Classroom activities:**
After discussing the focus questions, show the first part of the PowerPoint.

Give the students a few minutes to discuss and generate questions. After collecting the questions on sticky notes, categorize them in groups on the board, reading them aloud, and thinking aloud while doing so. For example, “This question is about the causes of the storm.” and “This question is about how the storm affected humans.” Of course, some of the questions will be very similar, and a few may be off the wall.

After discussing the questions, continue the Powerpoint presentation, while trying to address as many of the questions as possible.

As described on the final slide, the assessment portion is a quick-write exit paper.

**Assessment:**
The assessment component of this lesson is the quick-write exit paper. Because it is a quick draft, it should not be graded for spelling and grammar, so long as it makes sense.

An assessment rubric could look like this:

- Topic and closing sentence: 2 points
- Three reasons for severity and effects of the storm: 3 points
- Would a similar storm today be as disastrous?: 1 point
- Two supporting reasons for above: 2 points
- **Total**: **8 points**