Planning the inquiry

1. What is our purpose?

To inquire into the following:

- **transdisciplinary theme**: How the World Works An exploration of the physical and material world; of natural and human-made phenomena; of the world of science and technology.
- **central idea**: Weather conditions and how they affect our lives.

Summative assessment task(s):

What are the possible ways of assessing students’ understanding of the central idea? What evidence, including student-initiated actions, will we look for?

Using teacher rubric, students will write a three-paragraph report on a natural disaster. The students chose from six natural disasters, including earthquakes, tornados, hurricanes, blizzards, floods, and thunder/lightning storms. The first paragraph will introduce the disaster and describe it. The second paragraph tells where the disaster occurs and how it affects people’s lives. The third paragraph tells three interesting facts about the disaster.

2. What do we want to learn?

What are the key concepts (form, function, causation, change, connection, perspective, responsibility, reflection) to be emphasized within this inquiry?

- **Causation**: When the occurrence of one event happens then a second event takes place because of the first, this is when causation occurs. Students will understand when an extreme weather hits, how that impacts a structure, home, building, etc.
- **Connection**: We learn about our world when it is made relevant to us. We make it relevant when we make connections. Students will make connections of how a weather happens in a pattern and will learn to watch that pattern to make connections with the weather.
- **Function**: A function is the why of a situation. The how it is occurring and what will happen because of it. It is a process. Students will understand the function of various objects naturally and human made to help protect people from destructive extreme weather.
- **Form**: when things happen if there is order and a procedure that occurs consistently, there is form created with in the process. Students will understand the form that takes place to create structures that are secure and stable to withstand extreme weather.

What lines of inquiry will define the scope of the inquiry into the central idea?

- How weather is affected by the water cycle. Causation
- The connection between the seasons and weather. Connection
- How weather conditions at home and around the world affects people’s lives. Function
- Natural disasters. Form

What teacher questions/provocations will drive these inquiries?

1. What makes rain?
2. Why can’t we have summer all the time?
3. What causes thunder and lightning?
4. Why can some people sit in the sun, while we watch it snow?
5. How do people survive after a natural disaster?
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3. How might we know what we have learned?

This column should be used in conjunction with “How best might we learn?”

What are the possible ways of assessing students’ prior knowledge and skills?
What evidence will we look for?

Students will write a 1st person paragraph pretending to be a specific type of cloud. This will demonstrate the students understanding of the types of clouds that are formed. Students will keep a journal in the science labs, keeping a log of all the experiments and their meaning. Students will create a graphic organizer of what they know based off of the lines of inquiry. We will have each line of inquiry on a different chart. Students will have a set amount of time to write with their group what they know of that question then they will rotate around the room to have a chance for the different posters.

What are the possible ways of assessing student learning in the context of the lines of inquiry? What evidence will we look for?

Class discussion on what is weather? What is the difference between weather and climate? What are the different seasons we live in? Create a KWL board.

Weather conditions around the World: I take students into the computer lab and we researched temperatures around the world using the Wikis on the Mac computers. I assessed students by walking around and observing if they were able to complete the task. Student

4. How best might we learn?

What are the learning experiences suggested by the teacher and/or students to encourage the students to engage with the inquiries and address the driving questions?

Students will each be given the opportunity to be the “Weather Reporter” for the day. They will research the weather forecast for the day and present it to the class.

Each student will maintain a daily weather calendar, learn how to graph the data for daily highs and lows and produce a fully labeled graph as their activity for assessment.

Students will engage in note taking activities utilizing non-fiction texts on weather and produce final writing samples which demonstrate their learning.

Review water cycle. Students create condensation by combining ice and hot water in a jar to discover what makes rain. Students make working thermometer using household items - peer assessment; students will describe how the thermometer works. I also had different students go outside and take the daily temperature using a thermometer. Then, as a class, we recorded the high and low temperature on a Weather Chart. Students observe different types of clouds in the sky, discuss their characteristics and classify. (Students make poster of various cloud formations using cotton balls) Students write short 1st person paragraph pretending to be a specific type of cloud having a conversation with another cloud. Students use globes with a marker for Chicago. They tilt the globe toward the sun (flashlight), which illustrates the summer season. The area of the globe that is away from the light illustrates winter in various countries. Where the globe is straight, illustrates spring or fall season. Students will use balloon and foil rod to demonstrate how lightning is made. Read together and discuss how lightning occurs more in warmer months due to sudden temperature changes. Students identify lightning safety. Students put jar of water in sunny place with a sheet of white paper next to it. Students observe the effect that the sunlight has. They will make inferences about what types of clothing to wear in different climates. Show pictures of people in various countries. Students observe the types of clothing worn and compare with the climate of the people. Distribute weather section of the

5. What resources need to be gathered?

What people, places, audio-visual materials, related literature, music, art, computer software, etc, will be available?

Books form school library on weather and climates around the world

* Encyclopedias and Computers from School Library Media Center

Facts4me website

How will the classroom environment, local environment, and/or the community be used to facilitate the inquiry?

books, laptops, photos, maps, classroom thermometer, laminated weather chart, science lab resources. The students developed their own questions for research about weather and climate around the world. They learned to record current weather data from their own classroom instruments and from analysis of text, video, and weather forecasts. Students kept daily charts of data on weather, clothing worn, types of clouds present each day, and wrote daily updates of weather data and construction data for the Wildwood annex project. Field trip to local news channel to talk with a meteorologist.
6. To what extent did we achieve our purpose?

Assess the outcome of the inquiry by providing evidence of students’ understanding of the central idea. The reflections of all teachers involved in the planning and teaching of the inquiry should be included.

Students were very involved about being inquirers about natural disasters and how these elements affect people’s lives. Students were specifically interested in the specific disasters that were capable of happening in our local climate. Students also inquired about how structures stayed up in these different disasters and created their own models of what they researched structures to be successful to stand through. Students then created their own skits in which they represented puppets or actors that walked us through a natural disaster and the ways in which people protect themselves.

How you could improve on the assessment task(s) so that you would have a more accurate picture of each student’s understanding of the central idea.

Students were very excited in the actual hands on of the unit. Because of this hands on involvement I had some difficulty with gathering evidence to support their math, and reading portions during this. As I see now, I could have assessed math through measurement as they were building their structures to see if they understand the size of their structure as they were building it. I used the assessment of rubric and checklist through this unit, however I wish I would have used a more intense version of rubrics. The input that some students put into their final project differed in time spent however, they had the items in which they were being scored and received the same scores as much as others spent much more time for.

What was the evidence that connections were made between the central idea and the transdisciplinary theme?

Students have referred to this unit as they have continued to inquire about the natural disaster of their choice. Students have continued to check out library books and wanted to take action to those whom have experienced a disaster since. As we have had several 5th graders at our school really work at taking action to help people in need in different areas it has created a want to help others within my room. As we look at newspaper pictures for our morning journals, some pictures that come up are with blizzard pictures. The pictures have created a conversation at the table each time they see the picture. They have discussed how they could help the people in the picture, what the people are going to need to do, etc. Some students have also continued by asking parents if they can check a book out of private libraries of tornadoes, earthquakes.

7. To what extent did we include the elements of the PYP?

What were the learning experiences that enabled students to:

- develop an understanding of the concepts identified in “What do we want to learn?”
- Causation: Students gained an understanding for what the different types of weather are as well as how they affect daily life and the outcome of individuals.
- Connection: Students gained an understanding between weather and their effects on human life by researching and understanding the consequences and outcomes that people experience due to the after effects of extreme weather.
- Form: Students were able to gain an understanding of how each of the weather conditions was created and what happens during the course of the weather (how a tornado is formed and what it does in the process of destruction, same with hurricanes, wild fires and typhoons)
- demonstrate the learning and application of particular transdisciplinary skills?
  - Research skills: Students had the opportunity to research various extreme weathers and understand how they were created, what they are capable of doing, and how they affect humans.
  - Thinking skills: Students had to analyze how the information that they researched was connected to how they wanted to share and present their research. Students also utilized their thinking skills by continuously making connections from how the different types of weather are similar and different as well as how they had similar effects on people and their lives.
  - Self-management Skills: Student took what they learned and was more appreciative about living in a place where these weather patterns do not necessary affect them. They were also more apathetic to those who do have to experience these unfortunate occurrences where they live.
- develop particular attributes of the learner profile and/or attitudes?
  - Thinking and Knowledgeable were traits used throughout this unit. Students must think about how the extreme weather connects to how people in the course of it survive and how it effects their lives. Students also experience knowledgeable as they are researching each of the different types of weather and they refer back to this
8. What student-initiated inquiries arose from the learning?

Record a range of student-initiated inquiries and student questions and highlight any that were incorporated into the teaching and learning.

Students were very concerned about what people do to make sure nothing will happen in these places where natural disasters happened. They also inquired that if people knew these weather patterns occurred where they lived, why did they still live there?

As we also had the opportunity to go to the local news station and talk with a meteorologist, students were very excited about predicting the weather where we were, and how we knew if severe, or natural disasters were going to occur.

At this point teachers should go back to box 2 “What do we want to learn?” and highlight the teacher questions/provocations that were most effective in driving the inquiries.

What student-initiated actions arose from the learning?

Record student-initiated actions taken by individuals or groups showing their ability to reflect, to choose and to act.

As of now, students action has been that they continue to check out books at the library that are about natural disasters. Some students are more curious as we have daily discussions, and parents have indicated that their child watches the weather with them. Some students are slowly asking about other countries and the weather disasters that they encounter as we have transferred to a new unit indicating culture connections.