

1. What is our purpose?

To inquire into the following:

- **transdisciplinary theme**

How the World Works

- An inquiry into the natural world and its laws, the interaction between the natural world (physical and biological) and human societies; how humans use their understanding of scientific principles; the impact of scientific and technological advances on society and on the environment.

- **Central idea**

Weather and atmosphere shape interdependence of humans and the environment

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?

Students will act as a weather reporter who gives the next day's weather forecast. They will be able to choose the forecast. Students will describe the condition of the weather using descriptive words, and give at least three suggestions to their audience. They can choose from weather events ranging on a small scale such as rain or unseasonal warmth, or large scale such as tornado or hurricane.

Evidence: Students will be able to describe a weather forecast and know how weather can affect decisions made by people. For example, if they report on a storm coming, they may advise that the government will be sending a severe weather conditions advisory warning and that people should drive safely and if possible, stay indoors. If they were reporting on unseasonal conditions for summer, they may suggest that families stay indoors, keep hydrated, don't let children and pets inside of the car, etc.

Class/grade: 2nd Grade

Age group: 7-8 years

School: Wharton K-8 Dual Language

School code: 903970

Title: Photography & Science: The Forecast for Today...

Teacher(s): Sifuentes, Iglesias, Sandoval

Date: March-April 2016

Proposed duration: 5 weeks



PYP planner

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?

Key Concepts: causation, change

Related Concepts: cycle, adaptation, transformation

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

- Types of weather.
- Effects of weather.
- How humans adapt to weather.

What teacher questions/provocations will drive these inquiries?

How do wind and air temperature affect the weather? (function)

What would you do to prepare yourself for the weather? (responsibility)

What are the different types of weather? (form)

Why can weather events cause change around the world? (causation)

How are different seasons related to weather changes? (change)

How are the different types of weather linked to people's way of life? (connection)

What leads people to choose certain areas to live in because of its weather? (perspective)

In what ways can people react to different types of weather? (reflection)

Provocation

Show a clip of a movie that shows a weather event. (video streaming) Discuss how humans are affected by this event.

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 make a weather comic to explain what they already know about weather.

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

Students will create 3-D models of different types of weather.

Teacher will give weather event scenario. Students will reflect, through illustrations or writing, what actions people will take based on the weather event. They will be given the choice to reflect on an individual, school, town, or state level. For example, in the case of a hurricane, students may write about how their families might have enough food stocked in their house, just in case they can't leave for a few days. Schools will cancel class. Government will prepare emergency plans and send advisory warnings through the media.

Students will engage in experiments to explore how weather can be affected.

We will look for the students to use correct vocabulary.

- Students will notice the different cloud formations as they make a collage using photography as a medium. Students will learn to identify the variety of clouds.
- Students reflected and wrote what they felt as they watched slides of dramatic weather events. This gave them an opportunity to express the emotion reflected in photography as well as to notice the variety of weather phenomena.
- Students will demonstrate their ability to observe and document weather changes throughout a number of weeks. This will teach them the importance of information gathering as one of the skills in the Scientific Method.

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?

3-D models of different types of weather.

Weather log- students will record the daily weather using symbols and use this log to show weather patterns.

Types of clouds- stratus, cumulus, cirrus- create different types of clouds using cotton balls.

Perform experiments i.e. make a cloud, wind direction, etc.

Severe weather conditions drill (Shelter in place plan)- Prepare for emergency weather events at school.

Making announcements a few times a week for our school and give the next day's forecast and friendly reminders about how to dress and what to prepare for school.

- Students will document weather patterns for a number of weeks using a chart with icons
- Students will incorporate writing / poetry with art and cloud identification by using their imaginations to create cotton "cloud creatures" they imagine in the sky.
- Students will create a weather booklet to understand how weather affects us and forces humans to make decisions based on the forecast.

What opportunities will occur for transdisciplinary skills development and for the development of the attributes of the learner profile?

Transdisciplinary skills: Communication – students will be viewing weather patterns and speaking and presenting information based on their research and experiments. Research – throughout the unit, students will be observing, collecting data, and recording data on weather logs and other graphic organizers. Self-management – as students become knowledgeable about how weather affects human actions, students will learn to make informed choices to show they can prepare for weather conditions.

Learner Profile: Through research and experiments, students will become knowledgeable about how individuals and societies are impacted through weather events. Students will apply their knowledge of weather to make balanced choices based on forecasts and changing seasons. Students will be expected to be thinkers to predict, experiment, and participate in meaningful discussions about weather events that cause change in the world.

5. What resources need to be gathered?

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

The Magic School Bus video “Stormy Weather”. Students will watch local weather and news at home. Best Book of Weather by Simon Adams; Come On, Rain! By Karen Hesse; Rain Drop Splash by Alvin Tresselt; Four Seasons for Little People by Jerry Ballard; Cloudy with a Chance of Meatballs by Judi Barrett; Science Vocabulary Readers series by Justin McCory Martin Weather including Weather!, Hurricanes!, Lightning!, Blizzards!, My Favorite Seasons by Dandi.

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

Children will use the outside spaces of the school to discuss weather and environment. The classroom will showcase weather related vocabulary.

Guest speaker – 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 developed an understanding of how weather impacts human life and our environment. During the summative assessment (a presentation with a meteorologist) they were able to share what people had to do to prepare for inclement weather conditions.

Students were recording daily weather data during three weeks and found weather change patterns (due to the change of the season), and they also noticed the change of temperature in the same day.

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.

The summative assessment would be more effective by presenting to the students the weather report and let them share individually what preparations would have to be made for that weather event.

We also would need to provide a better structured routine in order to prepare the students to present the weather forecast.

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

Students were able to make connections between different types of weather and their corresponding life styles. They showed their understanding by building 3D weather models. Also, they chose their favorite type of weather and made a weather graph during the class discussion. Students recorded in their Science journals their favorite weather type in connection with the activities they enjoy doing in their spare time. Discussions during the teaching of other disciplines (Spanish Reading) led students to make connections between different scenarios and the weather they in which they took place.

We shared with students the most current weather events and showed the Weather News regarding the Typhoon in the Philippines since we have also students with Philippines ancestry.

We had a meteorologist leading a weather related discussion with the second grade students and students were provided with multiple opportunities to answer and make questions. Students got many answers and explanations, and showed understanding of the concepts taught in this unit of inquiry.

What was the evidence that connections were made between the central idea and the trans-disciplinary theme?

- Students were able to make the connection that people have learned to prepare and live with certain weather patterns and cycles. They observed that some farmers prepare for yearly floods that benefit their crops. They also noticed that certain schools are prepared for certain weather and others are not – HISD is not very prepared for a winter storm because it is not common.
- Students also made the connection in their personal lives, as they realized that they have articles that keep them dry during Houston rainy weather (umbrellas, raincoats, etc.). They also reflected that we have preparation guides for hurricanes.

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?"
- demonstrate the learning and application of particular transdisciplinary skills?
- develop particular attributes of the learner profile and/or attitudes?

In each case, explain your selection.

Concepts:

Change: (Adaptation). We talk about how humans adapt to weather-related disasters that occur all around the world.

Causation: (Impact). Discussions, weather logs, and graphs to create visuals helped students to see weather patterns, seasonal patterns, and predictions that can be made based on patterns. The summative projects allowed the students to deepen their understanding of how weather impacts human actions and decisions.

Reflection: (Interpretation). Students were more thoughtful as they prepared for daily weather conditions with their clothing. They also reflected on weather patterns with logs.

Transdisciplinary skills:

(Communication, Research, Self-management)

Presentations involved communicating for a weather report, as well as researching for the report. The students also collected data with their weather logs. The students used time management and self management skills working with patterns to create their presentations.

Learner Profile/Attitudes:

Students demonstrated that they were knowledgeable by creating weather logs. They were demonstrating knowledge by including correct information during their presentations. The students showed that they were balanced by making appropriate clothing choices based on weather. Students demonstrated they were thinkers by making predictions based on the daily weather observation patterns.

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.

A student shared its knowledge of the Philippines' Typhoon which drove a thoughtful discussion in class.

Students did independent research by reading non-fiction texts during class time.

Students' questions:

How are tornados (other extreme weather) created?

Which has stronger winds (a hurricane or a tornado)?

What kind of storm produces tornadoes?

Why do the seasons change?

Why does it not snow in Houston when the weather is cold?

What does a meteorologist do?

How does the snow form?

Why is it colder in some parts of the world?

How does the sun affect weather?

Can we change the weather?

Why do some plants grow while others don't in a desert?

Why does the temperature change from the morning to the afternoon?

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.

Students brought in books to research weather.

Students brought in "google" research on the Philippine's Typhoon.

Students shared their family stories related to the Ike hurricane.

Students made informed wardrobe choices.

Students are still naming the clouds at home and school, which prompted impeding weather discussions.

Students returned from Winter break wanting to continue weather logs. Students suggested that they watch the news for the weather report more frequently to make the right wardrobe choices.

Students suggested that they can help their families plan activities by becoming aware of weather patterns and conditions.

9. Teacher notes

This inquiry should take place after the Water Cycle inquiry in order to make the teaching/learning process more meaningful.

We need more classroom books related to the topic.

We need to provide students with more opportunities to explore the topic by performing some experiments in the class. We made snow but it would have been interesting to perform other weather-related experiments like tornadoes, rainbows, or rain. We need the materials and we need to prepare for this kind of experience in the classroom.

Students enjoyed incorporation photography (art) with weather lessons. We hope that Fotofest will continue to work with us to create interesting and stimulating activities.