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 principals; the impact of scientific and technological advances on society and on the environment. • **central idea** Weather impacts human existence.	Class/grade: Kindergarten Age group: 5-6 years School: Poe Elementary School code: 49497 Title: Weather- Cloudy with a chance Teacher(s): Antonia Adams, Kathy Blake, Alicia Carranza, Morgan Ray, Tere Robinson, Wendy Ulrich Date: March – April, 2021 Proposed duration: 70 hours over number of weeks: 6

1b) 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?

The students will act out or write a report on how weather impacts human lives.
They will be able to verbalize how weather impacts human lives.
Students will create choose a summative project including either creating a brochure about weather types and benefits of each or creating a weather report that demonstrates tools used to predict weather and how to plan for weather.

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: Change, Form
Related Concepts: Cycle, Environment, Natural Resources

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

- How humans are affected by patterns of weather
- Ways people are changed by weather
- Patterns of weather
- How humans in other parts of the world affected by weather

What teacher questions/provocations will drive these inquiries?

- How do scientists investigate things in the natural world?
- What tools help in their investigations?
- How do seasons change?
- How do people adapt to weather patterns?
- What do you observe in the sky?
- Is the weather the same in all areas?
- How do people in other parts of the world prepare for weather?

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?

Teachers will collect evidence of prior knowledge with what the students already know and understand about weather and its effects on people using a KWL chart. This will take place in whole group. Small groups may stimulate further discussion.

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

Predicting the weather changes in the morning during calendar and graphing weather.
Identifying changes in seasons.
Identifying events that have repeating patterns.

- How humans are affected by patterns of weather – Students will be able to articulate patterns and how humans prepare for/are impacted by patterns of weather in morning discussions and small groups.
- Ways people are changed by weather – Students will be able to identify and label how people are changed by weather by writing about it in journals. They will be able to connect clothing choices for different weather or seasonal events.
- Patterns of weather – Students will create projects that demonstrate an understanding of weather patterns including journal writing, weather wheels (with paper plates), and science experiments (water cycle in a bag, clouds in a cup, states of matter demonstrations).

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?

Teacher-initiated experiences
The students will go outside and observe the clouds daily and track different types of clouds to connect it to weather changes.
A visit from the Meteorologist to help students understand how weather tools help scientist understand weather and how tools track changes in weather.
Facilitate investigations and discussions based on students' ideas and experiences, eg "When it's cloudy I think it will rain."
The teachers will use a stimulus, eg photos, books, and videos, to promote discussion on cloud types, types of weather, and tools that measure weather events.
Student explorations
The students will have access to a science station in the classroom to investigate different weather tools and how the tools function – i.e. thermometers, rain gauges, anemometers.
Students will create cloud pictures that demonstrate different forms of weather based on cloud formations.
The students will use art materials to show the water cycle using paper plates to make a water cycle wheel.
The students will write about changes in the weather and how it impacts human existence.
Students will identify different types of weather through nature walks.
Students will have the opportunity to become Weather Reporters and explain thinking about weather events and predictions.
Students will also read books about weather and weather events in other parts of the world.
Students will identify that different parts of the world experience seasons at different times based on location on the globe.

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

Thinking Skills: Observational drawings of weather changes.

Communication Skills: Reading a variety of sources for information about weather to gain knowledge for discussing, writing and using other forms of communication to explain thinking.

Research Skills: Describing and recording observations by drawing and note-taking, participating in experiments and recording results.

Learner Profile:

Inquirers: They will develop their natural curiosity about weather and how it impacts human

	existence. **Communicators**: They express ideas and information confidently and creatively. **Caring:** They show empathy and compassion for others when weather impacts their existence.

5. What resources need to be gathered?

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

Books and posters about weather from library; thermometers, wind vanes/socks, rain gauges, anemometers (borrowed from 5th grade) United Steaming, Brain Pop Jr., YouTube, Field Trips (Weather Museum).

Books: Reason for Seasons by Gail Gibbons, Cloudy with a Chance of Meatballs, It Looked Like Spilt Milk, Apple Tree Apple Tree, I know Clouds, Claudette, Sun and Moon are Friends, What's the Weather Like Today, Rain Talk

People: a Meteorologist

Steve Spangler Tornado Kit

Paper plates, baggies, and other art supplies to create experiments.

www.generationgenius.com

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

A library will be set up in each classroom with nonfiction books on weather. We will set up posters, a science station, anchor charts, and a wonder wall for students to make provocations. We will walk around outside to observe weather clouds.

Reflecting on the inquiry

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.

The kids are really into weather and storms this year. Since the beginning of the year, we have been tracking the weather and using a kid meteorologist to predict and share the weather. This has provided a great opportunity for more in-depth discussion on types of weather. Having our arctic blast in Houston was a good hands-on experience for how weather impacts us. Nature walks outside were very useful in teaching the kids about the different types of clouds and their impact on weather. Using the science experiment with make your own tornado in a bottle provided a good discussion.

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.

Next year, we will have students self-reflect on how they feel about the planner and their summative assessment will be to draw two types of weather conditions and explain how weather impacts human existence. We can talk more about comparing seasons in different parts of the world. We can also discuss how people's lives are affected in different parts of the world due to extreme weather conditions and location on the globe.

Research: Students have been researching weather forecasts to predict the future weather and sharing their findings with their classmates. Students created weather reports, conducted experiments and recorded results. Students
Self-management: Students are self-managing as they choose appropriate clothing to the weather.
Communication: Students are talking with their peers about the clouds and the shapes they make. Additionally, students wrote about weather events in journals and created art pieces to demonstrate weather understandings.
At recess, students were pointing to clouds and identifying them and relating it to weather.

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?"

Change and Form: Through our experience, students learned about the water cycle, tornados, and air. Through daily research, students learned about types of weather and weather trends. Students observed and discussed changes in weather and seasons and temperature.
Students wrote and illustrated about such topics as:

- How weather impacts
- The reason for the seasons
- How seasons change
- Water cycle

Related Concepts covered in the above learning experiences:
Climate, seasons, temperature, water cycle

- demonstrate the learning and application of particular transdisciplinary skills?

Thinking skills, Communication skills and Self-management skills :

Students are immersed in discussion about several learning topics, such as clouds, air, types of weather, and storms. They work on choosing the appropriate clothing for each type of weather. They participate in predicting and sharing the weather in our morning calendar meeting. They identify cloud types and how those clouds impact weather.
Research skills:
They researched using non-fiction books and searched the newspaper for weather forecasts.
Communication skills:
The students wrote acrostic poems about types of weather.

- develop particular attributes of the learner profile and/or attitudes?

Enthusiasm- Tornado in a bottle experiment
Communicator- They shared weather predictions daily- Kid Meteorologist
Curiosity- Lots of interest in tornados and hurricanes and intense weather events
Independence- Dressing themselves in the morning according to the weather

Reflecting on the inquiry

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.

- When do hurricanes come?
- Do tornados come to Houston?
- What is it like in spring?
- What is winter like in other parts of the world?
- Where does rain come from?
- Which clouds create rain?

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.

The students were much better about wearing appropriate clothing for the weather. A student shared about a storm they lived through. One student compared tornados to hurricane during journal time.

9. Teacher notes

Next year, we will discuss ways to stay safe during extreme weather.
We will try to get a meteorologist to come and talk to our classes next year.
We want to look into the Site based field trip for *A Snow Day* (we will rent a fake snow machine).