

CLIMATE CHANGE: LET'S TALK WEATHER AND CLIMATE: PREK-2 (LESSON 1-5)

Elder Quote/Belief: “Rainbow is Mary’s belt. Pray to it and say thank you.” -Simeon Kvasnikoff, Juanita Melshiemer, John Mooninⁱ

Grade Level: Pre K-2

Overview: *Weather* is what conditions are happening outside that we see on a daily basis and during a short period of time. Seeing what the weather is determines how we will approach the day and how we dress. If it is chilly, what would we wear? We might wear layers. If it is warm, what might we wear? We might wear shorts and tank tops. What if it is rainy? We might wear raingear or a snowsuit. The weather makes us decide what to wear and what we will do for the day. So, let’s talk about climate. What do you think ‘climate’ is? *Climate* is weather conditions over a long period of time. For examples, we live in Alaska, so we are usually a cold climate and have all four seasons. What do you think Hawaii’s climate is? Hawaii is a tropical climate which is usually hot and can rain a lot.

Standards:

<i>AK Cultural:</i>	<i>AK Content Science:</i>	<i>CRCC:</i>
A3 Acquire and pass on the traditions of their community through oral and written history.	F3 Develop an understanding of the importance of recording and validating cultural knowledge.	S2 Students should know the importance of being prepared for the elements:

Lesson Goal: To learn the difference about weather and climate.

Lesson Objective(s): Students will:

- Learn four Sugt’stun/Eyak vocabulary for weather
- Understand the different kinds of weather
- Understand the difference between weather and climate
- Know how to dress appropriately for the weather

Vocabulary Words:

Sugt’stun Dialects

English:	Prince William Sound:	Lower Cook Inlet:	Eyak:
Weather	Llakcaq	Lla’m cimiucia	
Cloudy	Taluluku	Taluluku	q’ahs (clouds)
Rain	Qitaq	Qiteq	k’uleh
Snow	Qaniq	Qaniq	xAtl’
Foggy (to be)	Umegtuq	Umegtuq	q’Ayiiny

Wind	Aqllaq	Aqllaq	k'uuy
Rainbow		Puusim qilau'utii	yaajilah
Sunny	Macaruaq	Macaruaq	sAndii (sun)

Materials/Resources Needed:

Invite Elder/Recognized Expert

Websites:

<https://www.rainforest-alliance.org/articles/how-to-talk-to-kids-about-climate-change>

<https://www.education.com/activity/article/weather-mobile-kindergarten/>

<https://fun-a-day.com/weather-graphs-free-printables/>

<http://www.eyakpeople.com/dictionary>

Two sturdy sticks

Paper plates

Colored tissue paper

Cotton balls

Glue

Yarn

Crayons/markers

Watercolor and paint brushes

Paper Plates

White construction paper and yellow construction paper

Scissors

Hole punch

Camera

Teacher Preparation:

- Invite a local Elder/Recognized Expert to share their TEK on weather and climate.
- Review being respectful to our guests in the classroom.
- Review the lesson on making a mobile and collect all needed supplies.
- Make your own mobile to share with students.
- Review websites on climate change to help find key words start the conversation about climate change.
- Review the Eyak Dictionary website to help with the pronunciation. Display all materials for students to view.
- Dedicate a bulletin board for display with **WEATHER** and **CLIMATE** written on top.
- Prepare students with questions they can ask the Elder/Recognized Expert. Use these same questions to send home with students to ask their grandparents or parents what they have witnessed in their lifetime.
- Send an informational letter describing the class lesson and attach the letter to the questions for students to share with their parents.
- Make copies of pictures taken during the walk and working together

To extend lesson go to:

Traditional Weather Forecast, lesson on Wind Direction Grades Pre K-2

<https://climatekids.nasa.gov/menu/watch/> (activities, games, videos...)

<https://climatekids.nasa.gov/climate-change-meaning/>

<https://climatekids.nasa.gov/nasa-research/>



Photo courtesy of Rhoda Moonin

Opening:

Read the following quote... *“Don’t verbally be happy for the sun, or you will make it go away (quietly is okay).” Juanita Melshiemerⁱⁱ*

Now, let’s talk about weather; what is your favorite? What is your least favorite? (Using your mobile to start the conversation of weather) As you point to the different kinds of weather symbols, ask students what each symbol represents, and then ask how would they dress for this kind of weather? In this lesson, we will be learning more about weather, climate and changes that you may have noticed. We will be creating a “weather mobile” similar to the one I am holding.

Class I:

1. Introduce and thank the Elder/Recognized Expert for sharing their knowledge about weather and climate changes they have seen.
2. Allow the students to ask the Elder questions:
 - Can you describe the weather today?
 - Can you tell us how to watch for weather by looking at clouds? Or the direction of wind?
 - What kind of weather do you remember when you were little?
 - Was the weather different?
 - What is your favorite weather and why?
 - What do you think climate is?
 - What kinds of changes have you seen on our climate?
3. Review Sugt’stun or Eyak vocabulary words with class.
4. Introduce your mobile to the students and let them know they too will be making one similar to yours.



Class II: Weather Mobile

1. Take students outside to gather two sticks the same length.
2. Take pictures while students collect sticks.
3. When you are back in the classroom ask students:
 - What was the weather like outside?
 - Was the weather like this yesterday?
 - How do we dress appropriately for the weather, give me some examples?
 - Did we dress appropriately for today?
4. Place students in pairs to help one another.
5. Cut enough yarn for students to use in the next exercise.
6. Have students place their sticks in an 'X' formation and instruct their partner to wind the yarn around the center of the 'X' several times and tie a knot. They are to switch and let the other student tie off in the center.
7. Give each student a paper plate (tell students to write their name on the back) and hole punch the plate on the edge of plate.
8. Provide yellow water color paints, instruct students to paint their plate yellow. Set aside to dry.
9. Have students outline their hands on the yellow construction paper six times or more.
10. Help students cut out their hand prints and glue the prints onto their paper plate just below the ridges of the paper plate. Set aside to dry.
11. Ask each student to get five sheets of white construction paper.
12. Instruct the students to write their name on the back and then paint the top section of the (1st sheet) construction paper light black and the bottom section blue, set aside to dry.

13. Once the first sheet has dried, have students make the shape of a cloud on the light black portion and on the blue section have students make raindrops. Hole punch these in the center near the top.
14. On the second sheet of construction paper have students write their name on the back and make a rainbow, giving them an option to paint, and color or use tissue paper to make their rainbow with. Set aside to dry.
15. On the third sheet (the top half) of construction paper students make a shape of a cloud, cut it out, have students get cotton balls and glue them on their cloud. Set aside to dry. Hole punch near the top edge centered.
16. On the bottom of the third sheet have students make fog and cut it out. Hole punch and write their name on the back.
17. On the fourth sheet of construction paper have students draw what they think how fog looks and color and glue some cotton balls to it. Set aside to dry. Hole punch near the top edge centered.
18. With the last sheet of construction paper, ask the students make a snowflake and cut it out.
19. Have students place their items together as a team until you can continue with this activity.

Class III: Weather and the Sugt'stun/Eyak word

1. Give students strands of yarn of various lengths to thread through their project pieces and tie a knot after threading.
2. Have students write the Sugt'stun/Eyak vocabulary word that applies to the weather on the back, students can help one another with the writing if needed.
3. Have students tie their weather pieces onto their sticks and hang them throughout the classroom.
4. Ask for a volunteer to write all the Sugt'stun/Eyak vocabulary words and place on the bulletin board.
5. Point to various weather symbols on the mobiles and ask students; "what kind of weather is this, how do you say the Sugt'stun/Eyak word for it and how would you dress for this type of weather?"
6. Ask students to draw their favorite weather and how they would dress for it.
7. Hang all the creations up!

Class IV: What is Climate?

1. Place students in groups.
2. Appoint a student to document the responses or students can draw their answer and remind the group there is no wrong answer. Or, if needed the teacher can have a whole class discussion and write the responses on the board as the students give their responses.
3. Pose the question;
 - What does climate mean?
4. Write this question on the board in big bold letters and have a representative from each group, place the documented responses underneath the question and share the responses with the class.

5. After reading the responses, read the definition according to website: <https://climatekids.nasa.gov/climate-change-meaning/>: "Climate" describes conditions over the long term and over an entire region. Climate is the big picture. It is the big picture of temperatures, rainfall, wind and other conditions over a larger region and a longer time than weather. <https://climatekids.nasa.gov/climate-change-meaning/>
6. Ask students if they were close to the definition you read.

Class V: Look at Climate

1. Go to website; <https://fun-a-day.com/weather-graphs-free-printables/> and download a free weather chart to place in a central area of the class.
2. Have students make cards of the weather and ask the students to write the Sugt'stun/Eyak vocabulary words on the card.
3. Give students an envelope so they can store their weather pictures.
4. Inform students every day they will be asked to place the appropriate picture of the weather on the chart. Explain there will be enough weather data to come up with how the climate was for the week (or if done for the whole month).
5. Ask students to give examples of how climate is different than weather, make a list on the board with titles written 'weather and climate,' document student's responses and place them under the lists.
6. Inform students they will take the questions that were created to ask visiting Elder/Recognized Expert about climate change, instructing them they will interview parent/Elder/community member using the question and bring back to the class for sharing.

Class VI

1. Place students in groups to gather their compiled work, mobiles and family interviews to prepare for show and tell.
2. Have groups present their project to the class.

Assessment:

1. Students correctly used four Sugt'stun/Eyak vocabulary words and applied to their mobile.
2. Students are able to explain what the different weather symbols mean.
3. Students can explain the difference between weather and climate.
4. Students can described how to dress appropriately for the different types of weather.

ⁱ (2007). *Weather*. Saqulaq Soupaq for the Sugpiaq/Alutiiq Soul. *Stories, Beliefs, Traditions, and Values from the Elders and Community Members of Nanwalek and Port Graham, Alaska*. (pp.56). Anchorage, AK: Chugachmiut Culture and Language Program

ⁱⁱ The late Juanita Melshiemer was the mother to thirteen Kvasnikoff children in Nanwalek. Today we still make reference to the traditional ecological knowledge she has passed down to her children, grandchildren, great grandchildren, great-great grandchildren, nieces, nephews, and community members near and far.