



## Topic: Weather

### Curriculum Planning Template – Somerville Early Education

### Trajectory for Thematic Inquiry: Planning from the Big Idea

*Consult ELA Pacing & Curriculum Guides, Big Idea Guides, & Building Blocks Math Pacing Guide*

#### Big Ideas about Weather:

- Weather changes day to day
- Weather has patterns that change throughout the year
- Peoples' clothing and actions change based upon the weather

#### Project Approach: Working with Big Ideas

(Picturing the Project Approach 2017, Sylvia Chard, Yvonne, Kogan, Carmen Castillo)

- Phase 1: Beginning the Project
- Phase 2: Developing the Project
- Phase 3: Concluding the Project

#### Anti-bias Education Goals and Outcomes(Derman-Sparks, Edwards and Goins, 2020)

**Goal 1: Identity** - Each child will demonstrate self-awareness, confidence, family pride, and positive social identities. *Teachers will nurture each child's construction of knowledgeable and confident personal and social identities.*

**Goal 2: Diversity** - Each child will express comfort and joy with human diversity; accurate language for human differences; and deep, caring human connections. *Teachers will promote each child's comfortable, empathic interactions with people from diverse backgrounds.*

**Goal 3: Justice** - Children will increasingly recognize unfairness (injustice), have language to describe unfairness, and understand that unfairness hurts. *Teachers will foster each child's capacity to critically identify bias and will nurture each child's empathy for the hurt bias causes.*

**Goal 4: Action** - Children will demonstrate empowerment and the skills to act, with others or alone, against prejudice and/or discriminatory actions. *Teachers will cultivate each child's ability and confidence to stand up for oneself and for others in the face of bias.*

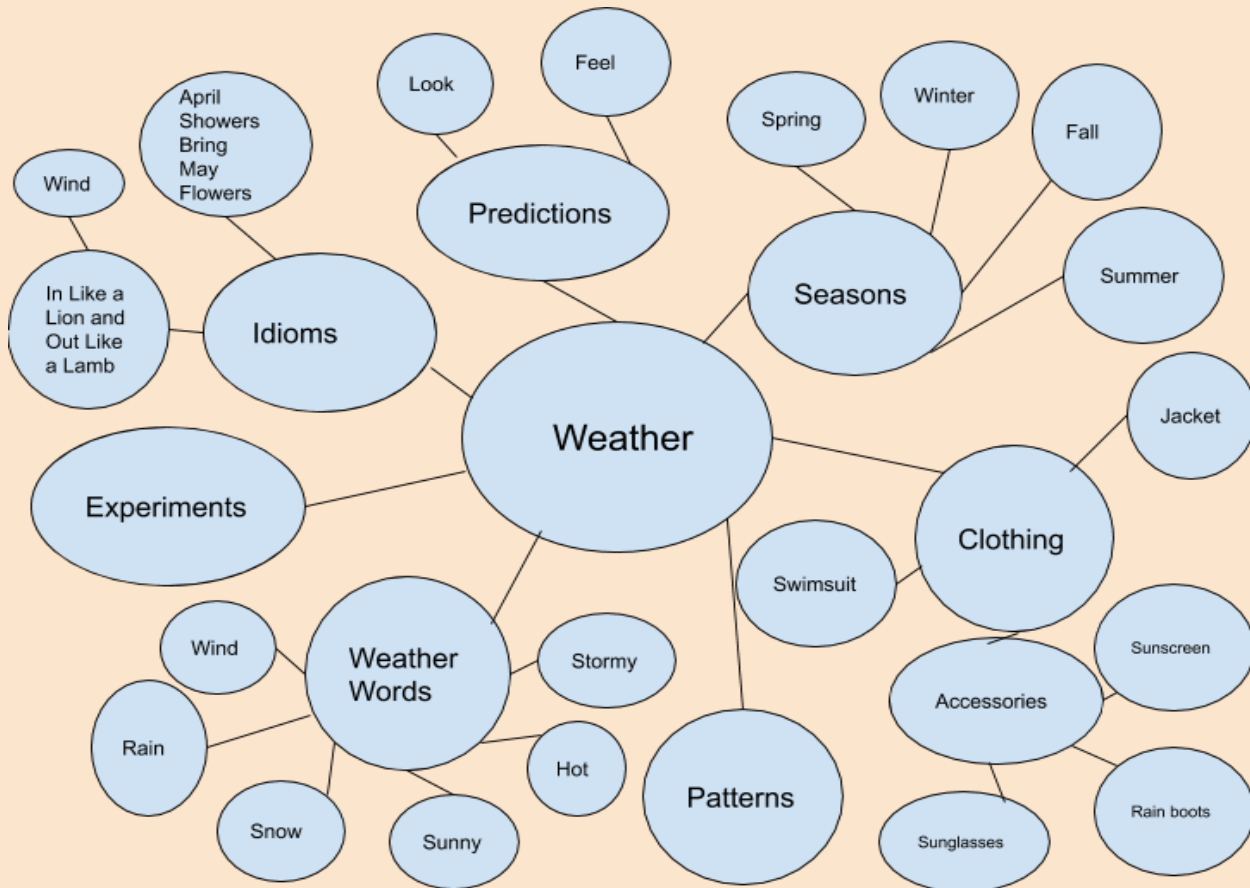
#### Selected Anti-bias Objectives

- I want to know about other people and how our lives and experiences are the same and different.
- I find it interesting that groups of people believe different things and live their daily lives in different ways.

## A TRAJECTORY OF INQUIRY

### Phase 1 – Beginning a Project: STARTING OUT AND SETTING THE STAGE

Sample Teacher Brainstorm/Planning Web - Add your own ideas!



Create a new web with children once a direction has been defined

Surfacing Prior Knowledge and Generate curiosity: Pose questions, read a high-interest book, take a field trip.

#### Questions you might ask children:

- What is weather? Can you think of examples?
- How does it look and feel outside?
- What do you know about weather?
- What do you notice about weather? What can you observe?
- How does the weather affect what we do?
- How can you measure weather?
- How does our play change with different seasons and weather?

## Make connections to children's lives.

### Observe the weather in your area

- Go for a walk in your school neighborhood and talk about what you notice. How does the weather feel and look?
- Read a book that discusses the weather that occurs in whichever season you are currently in.

### Discuss activities in different kinds of weather

- Tell stories or draw pictures about different things they do in different kinds of weather.
  - How does weather affect the things we do?
  - How do we dress in different kinds of weather or for changes in weather?

## ***PHASE 1 – Beginning a Project: Define A Possible Investigation Or Direction***

Generate KW (Know, Want to know) Chart: What do we know or think we know about \_\_\_\_\_ ?

- Use a chart to ask students what we can do/play in certain weather
- What do they know about weather...different kinds of weather?
- What do they know about a specific kind of weather? Rain? Snow? Sun? etc.

### Expand Children's Thinking

*So, now that we Know some information and have some ideas about \_\_\_\_\_, what should we investigate?*

*It seems that you are curious about \_\_\_\_\_?*

*Brainstorm a list of all the things the children Want know about \_\_\_\_\_.*

### Possible Investigations to explore your topic of interest:

- Tracking / making / identifying different types of clouds
  - Learn the names of different classifications of clouds (list available in the vocabulary section below). Spend time each day observing which kinds of clouds are in the sky, and record data through a variety of media (drawing, journaling, artwork with cotton balls/paint/loose parts).
- Studying rain - explore/create the water cycle
  - Learn the stages of the water cycle (available in the vocabulary section below). Find new ways to explore and teach others about the water cycle, such as acting out the role of water particles, exploring through science experiments, drawing, or creating models with beautiful stuff.



- Make a weather station/news station – in dramatic play
  - Learn about the different ways weather is discussed and predicted. Create weather forecasts and practice ‘broadcasting’ them in a way that informs others. Make connections to vocabulary, oral language, and science.
- Record and chart the daily weather – count and compare data
  - Measure rain or snow and create tools to measure weather – wind sock, rain gauge
  - Explore why it is important to track data, and create different ways to track weather data, like journals or graphs. Once you’ve collected a good amount of data, analyze it, incorporating science and math language.
- Explore properties and art using wind, rain (water), snow, ice, and sunlight

**PHASE 2 – Developing a Project- Exploring And Learning More:**

Continue to add to the knowledge base, add activities and experiences, field trips, find experts, plan class books, family engagement, etc.

**POSSIBLE FIELD SITES:**

- Walks to look at effects of weather (i.e. worms on playground after rain, leaves falling/fallen after after wind/storm)
- Visit a regular spot on the playground to record changes in weather
- A local thermometer (on a store/bank)

**POSSIBLE EXPERTS:**

- Meteorologist
- High School student meteorologists
- Principal or other administrators who make school decisions based on the weather

**Possible Projects (Use one of the following ideas, or co-create an emergent project with your children):**

**Create a weather station**

- Set up a weather station outdoors, in dramatic play, or both. Gather and record daily weather data.
- Provide a weather forecast/announcement for the school each day from the data you collect. Incorporate weather vocabulary words and weather recording tools such as graphs, charts and measurements.

### **Explore and explain the water cycle**

- Learn about the water cycle and each of its stages (evaporation, condensation, precipitation, collection) and how they relate to the weather we observe in our community.
- Explore the stages and how the cycle works through scientific observation, math explorations, art and dramatic play activities.
- Show what you've learned with a song, play, or presentation for families or another class.

### **EXTENSIONS/COMPLETION (*Phase 3 – Concluding a Project*)**

Reflect on next steps, sharing the work with others, extensions of content, new directions.




#### Ideas for Sharing Learning/Work:

- Share weather station with other classrooms or families
- Make announcement over the intercom – including what children should wear for recess each day
- Make a book about weather
- Write a song, perform a play, or plan a scientific presentation about the water cycle

#### Possible Extensions:

- Explore clothing for various seasons
- Collect extra clothing for school – to share with kids who may need something
- Explore water and water cycle

Content and Room Areas	Activities Connected to Big Idea
<b>Blocks</b>	<p><b>Props/Provocations:</b></p> <ul style="list-style-type: none"> <li>● Tape weather pictures to blocks; children can draw</li> <li>● Build a weather station for little people</li> <li>● Add props to block area (cotton balls, rain drops, things to put up/on and try to blow down)</li> </ul>
<b>Dramatic Play</b>	<p><b>Generate play props and themes with children:</b></p> <ul style="list-style-type: none"> <li>● Make a weather/ news stations <ul style="list-style-type: none"> <li>○ Make different backdrops for different weather</li> <li>○ Making a camera</li> <li>○ Making a spotlight</li> <li>○ Blazer &amp; Microphone props &amp; sheet, weather cards</li> </ul> </li> <li>● Act out weather words</li> </ul>
<b>The Arts</b>	<p><b>Group and Individual Projects:</b></p> <ul style="list-style-type: none"> <li>● Rainbow sorting: Use a variety of classroom manipulatives/materials and sort by color to create a class rainbow.</li> <li>● Making windsocks. What does a windsock do? How does it help us observe the weather?</li> <li>● Weather mural: Raincloud, raindrops, Tornado (cut a plate into a spiral and it makes a tornado), sun, lightning, rainbow, etc.</li> <li>● Make your own flower garden</li> <li>● Make your own pinwheel</li> <li>● Make your own kite</li> </ul>
<b>Sensory</b>	<p><b>Sensory Table:</b></p> <ul style="list-style-type: none"> <li>● Water Table</li> <li>● Putting ice in the sensory table</li> <li>● Water beads (orbeez)</li> <li>● Rain Cloud in a jar (shaving cream and food coloring)</li> <li>● Cotton Balls &amp; Blue gems finding raindrops</li> <li>● Cloud Dough (oil + flour + food coloring)</li> <li>● Shaving cream, clouds</li> </ul>
<b>Math</b>	<ul style="list-style-type: none"> <li>● Ten-frame puzzle from <a href="#">Prekinders</a></li> <li>● Weather graphing: record weather over the course of a few weeks to a month and graph the data you record. Discuss your findings using mathematical thinking vocabulary like more, less, most, least.</li> <li>● Roll a dice for: Raindrops, clouds and make a rainbow</li> </ul>

	<ul style="list-style-type: none"> <li>● Using a scale for light and heavy; objects to place in scale</li> <li>● Measuring weather: use different measurement tools to explore weather - a thermometer to measure temperature, a ruler to measure accumulation of snow, a wind vane to measure wind direction. Discuss and record what you learn.</li> </ul>
<p><b>Science, Technology &amp; Engineering</b></p>	<ul style="list-style-type: none"> <li>● Wind experiment: bring in something from home to see if it will move with the wind! Fan, experiment recording paper</li> <li>● Rain experiment (shaving cream, blue food coloring, jar w/ water): Observe how clouds fill with water and how gravity causes raindrops to fall to Earth.</li> <li>● Rainbow experiment (cd): Explore how light reflects and how it can shine in specific ways to create colors.</li> <li>● Pinwheels outside</li> <li>● Wind socks</li> <li>● Blow Art (paint- blow with straw)</li> <li>● Cloud race, blowing with straws</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Rainbows</p> </div> <div style="text-align: center;">  <p>Rain Clouds</p> </div> <div style="text-align: center;">  <p>Blow Art</p> </div> </div>
<p><b>Library/ Read Aloud</b></p>	<p><u><b>Books:</b></u></p> <ul style="list-style-type: none"> <li>● Little Cloud by Eric Carle</li> <li>● It Looked Like Spilt Milk by Charles G. Shaw</li> <li>● Clouds (Weather Wise) by Helen Cox Cannons</li> <li>● The Four Seasons by Melvin Berger</li> <li>● The Four Seasons National Geographic by Simon Lee</li> <li>● Wind by Marion Dane Bauer</li> <li>● Gilberto And The Wind by Marie Hall Ets</li> <li>● What’s the Weather? By Ellen Booth Church and Diane Ohanesian</li> <li>● The Wind Blew by Pat Hutchins</li> <li>● Weather National Geographic Kids by Kristin Baird Rattini</li> <li>● Storms National Geographic Kids by Miriam Busch Goin</li> <li>● Boom! Boom! Boom! By Jamie A Swenson</li> <li>● Looking For a Rainbow by Mrs. McNeil’s Kindergarten Friends</li> <li>● Cloudy With a chance of Meatballs by Judi Barrett</li> <li>● One Sun A Book of Terse Verse by Bruce McMillan</li> </ul>

	<ul style="list-style-type: none"> <li>● A Sunny Day by Robin Nelson</li> <li>● Spring by Tanya Thayer</li> <li>● Rain by Robert Kalan</li> <li>● What Will The Weather Be Like Today? By Paul Rogers</li> <li>● Weather Watch! By Julian Rowe and Molly Perham</li> </ul>
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Balanced Literacy	
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Vocabulary	<p><b>Types of Weather:</b></p> <ul style="list-style-type: none"> <li>● Precipitation: Rain, snow, sleet, hail</li> <li>● Storms: Hurricane, blizzard, tornado, thunder, lightning</li> <li>● Clouds: Cirrus, cumulus, stratus</li> </ul> <p><b>Measuring Weather:</b></p> <ul style="list-style-type: none"> <li>● Temperature</li> <li>● Thermometer</li> <li>● Doppler Radar</li> <li>● Wind vane</li> <li>● Rain gauge</li> </ul> <p><b>Water Cycle:</b></p> <ul style="list-style-type: none"> <li>● Evaporation</li> <li>● Condensation</li> <li>● Precipitation</li> <li>● Collection</li> </ul> <p><b>Weather Professions:</b></p> <ul style="list-style-type: none"> <li>● Meteorologist</li> <li>● News Reporter</li> <li>● Environmental Scientist</li> </ul>
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Oral language and Concept Development	<ul style="list-style-type: none"> <li>● Add weather surveys or questions to your <b>Morning Meeting</b> message, i.e. “What is your favorite snow day activity?” “Do you prefer to play outdoors when it’s hot and sunny or cold and snowy?”</li> <li>● Share ideas and build understanding about transportation during whole and small groups.</li> <li>● Create opportunities for group project planning. Encourage children to share ideas, ask questions, and make comments.</li> <li>● Review relevant vocabulary. Provide opportunities to have meaningful conversations about weather as well as weather-related observations and predictions.</li> <li>● Use <a href="#">CROWD Strategies</a> during read alouds.</li> </ul>
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<p><b>Fine Motor, Drawing and Writing</b></p>	<ul style="list-style-type: none"> <li>● Weather memory card-game (prekinders)</li> <li>● Snowflake Tracing: Observe close up pictures of snowflakes and take note of the lines and shapes inside. Trace those lines and shapes with a finger, writing utensil, or laminate and use dry erase markers.</li> <li>● Shape punching: using a sharpie, outline weather shapes (cloud, raindrop, sun, etc) onto 5X5 pieces of construction paper. Place on a carpet square or piece of foam. Punch through using a golf tee or toothpick. Pieces can be used for collage.</li> </ul>
<p><b>Expressive and Writing Language</b></p>	<ul style="list-style-type: none"> <li>● Weather Acting: Silently act out how you would behave in a particular kind of weather (making a snowball, holding an umbrella, putting on sunscreen). Have others guess which kind of weather is being acted out.</li> <li>● Read “Cloudy with a Chance of Meatballs” by Judi Barrett, and discuss the book as a class. Make connections between the weather we see in real life and how food was incorporated into the weather in the book, and use weather vocabulary words during your discussion (i.e. hamburger clouds, orange juice rain, a tomato tornado).</li> <li>● Encourage children to dictate or journal their ideas about weather. Have children explain what activities they participate in during different weather and to make predictions about the weather forecast in the future.</li> </ul>
<p><b>Phonological and Phonemic Awareness</b></p>	<ul style="list-style-type: none"> <li>● Read weather poems, sing weather songs, and write your own. Incorporate weather vocabulary words and focus on literacy concepts like beginning sounds and rhymes.</li> <li>● Use magnetic letters, letter tiles, or write letters on found objects like rocks or bottle caps to build weather vocabulary words.</li> <li>● Create weather characters by making beginning sound connections. Choose a name for your character by matching beginning sounds (i.e. Sunny Sam), and draw these characters doing activities in their type of weather. Extend by having children write or dictate about their character (i.e. “Windy William flies a kite.”)</li> </ul>
<p><b>Differentiation/ Extensions</b></p>	<ul style="list-style-type: none"> <li>● Pre-teach words - act out weather words (tornado, hurricane, breeze)</li> <li>● Picture walk for story books</li> <li>● Create weather themed vocab cards with simple pictures to aid in word identification</li> </ul>