










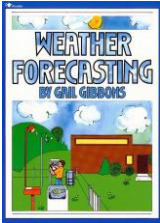
RAMP UP – HAB Lesson Plan

Title of Lesson:	Weather, Weather Everywhere!
Grade Level:	Kindergarten
AL COS Standard:	<p>SC15.K.9 - Observe, record, and share findings of local weather patterns over a period of time (e.g., increase in daily temperature from morning to afternoon, typical rain and storm patterns from season to season)</p> <p>AAS.SC15.K.9 – Participate in daily weather activities with common symbols (e.g., sun, cloud, rain, wind, snowflake)</p>
NGSS:	<p>K-ESS2-1 – Use and share observations of local weather conditions to describe patterns over time.</p> <p>Clarification statement includes:</p> <ul style="list-style-type: none"> ● Examples of qualitative observations of weather (e.g., sunny, cloudy, rainy, and warm) ● Examples of quantitative observations of weather (e.g., numbers of sunny, windy, and rainy days in a month) ● Examples of patterns (e.g., usually cooler in the morning than in the afternoon)
Learning Targets/Objectives:	<ul style="list-style-type: none"> ● I can observe the daily weather and temperature and record my observations on a chart by drawing pictures ● I can identify weather patterns ● I can recognize weather symbols
Materials Needed:	<ul style="list-style-type: none"> ● Books <ul style="list-style-type: none"> ○ <i>Weather, National Geographic Kids</i> ○ <i>Weather Forecasting</i> by Gail Gibbons <p>Links to purchase or play the read aloud versions of the books can be found on the RAMP UP website on the Resources page for the HAB Kit (link at bottom of section)</p> <ul style="list-style-type: none"> ● Daily Weather Observations Chart (options) <ul style="list-style-type: none"> ○ Use the Daily Weather Chart found on the Resources page for the HAB Kit at the link at the bottom of this section

	<ul style="list-style-type: none"> ○ Source a weather chart ○ Make a weather chart ● Video <ul style="list-style-type: none"> ○ Why and How We Launch Weather Balloons: https://www.youtube.com/watch?v=vGpjPYBWpc0 <p>Link to the video can be found on the RAMP UP website on the Resources page for the HAB Kit (link at bottom of section)</p> <ul style="list-style-type: none"> ● Science Journal (options) <ul style="list-style-type: none"> ○ Use class science journals ○ Have students make science journals ○ Provide notebooks ● HAB RAMP UP Kit <ul style="list-style-type: none"> ○ All materials needed for the HAB experiment is included in the kit <p>Link to HAB Kit Resources page: https://uahrampup.org/hab/</p>
Preparation:	<ul style="list-style-type: none"> ● Prepare for the HAB launch day by choosing an area outside for launching the balloon. Make sure to select an open area that is not close to trees or too close to the school so the balloon will be free for launch. ● Fill out the Pre-Flight Checklist on the uahrampup.org website ● Prepare a class weather chart to track the weather. You may want to begin this before the unit or continue to track afterwards to show patterns in our weather.
Lesson Logistics:	<ul style="list-style-type: none"> ● Whole group lessons ● One activity will need to be completed outside ● 3-4 day lesson <ul style="list-style-type: none"> ○ Lessons can be combined to reduce time or can be spread out over more than one day in order to extend the unit.
Vocabulary Words:	<ul style="list-style-type: none"> ● weather ● observe ● patterns ● record ● forecast ● altitude ● temperature

	<ul style="list-style-type: none"> ● meteorologist 																				
<p>Safety Considerations:</p>	<p>See the RAMP UP HAB guide for safety measures to consider during this activity.</p>																				
<p>Engage: Day 1</p>	<ol style="list-style-type: none"> 1. Explain that today we will be observing the weather. Ask students what the word “observe” means. Define “observe” as “looking very carefully at something.” Take the class outside to observe the weather. Help students note what they see by paying attention to the temperature, wind, and clouds. 2. Once you return from your walk, have the students describe what the weather was like today. To guide their thinking, ask the following questions: <ul style="list-style-type: none"> ● What color was the sky today? ● Were there clouds? What did they look like? ● Is it hot or cold to your skin? ● Did you feel a breeze? Was it soft or hard? 3. Tell the students that you are going to read a nonfiction text titled <i>Weather</i> that will help them understand a little more about what we will be studying during this unit. Read: National Geographic Kids: Weather <p>At the conclusion of the story, lead a class discussion of what they learned or what interesting facts were noted. This would be a great time to bring in vocabulary like observe, record, and forecast.</p> <p>Explain to the students that each day we will track the weather. The class will make observations either by looking out the window or going outside.</p> <ol style="list-style-type: none"> 4. Introduce the Daily Weather Observations Chart. <table border="1" data-bbox="729 1428 1455 1724"> <thead> <tr> <th data-bbox="729 1428 873 1476">Monday</th> <th data-bbox="873 1428 1018 1476">Tuesday</th> <th data-bbox="1018 1428 1162 1476">Wednesday</th> <th data-bbox="1162 1428 1307 1476">Thursday</th> <th data-bbox="1307 1428 1455 1476">Friday</th> </tr> </thead> <tbody> <tr> <td data-bbox="729 1476 873 1598"></td> <td data-bbox="873 1476 1018 1598"></td> <td data-bbox="1018 1476 1162 1598"></td> <td data-bbox="1162 1476 1307 1598"></td> <td data-bbox="1307 1476 1455 1598"></td> </tr> <tr> <td data-bbox="729 1598 873 1724"></td> <td data-bbox="873 1598 1018 1724"></td> <td data-bbox="1018 1598 1162 1724"></td> <td data-bbox="1162 1598 1307 1724"></td> <td data-bbox="1307 1598 1455 1724"></td> </tr> <tr> <td data-bbox="729 1724 873 1871"></td> <td data-bbox="873 1724 1018 1871"></td> <td data-bbox="1018 1724 1162 1871"></td> <td data-bbox="1162 1724 1307 1871"></td> <td data-bbox="1307 1724 1455 1871"></td> </tr> </tbody> </table> <p>Have a student volunteer draw in the weather each day. Select the variables that will be collected. Temperature, Wind, and Precipitation are suggested.</p>	Monday	Tuesday	Wednesday	Thursday	Friday															
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	<p>**Suggest that the weather only be tracked for school days for the purpose of this study.</p>
<p>Explore: Day 2</p>	<ol style="list-style-type: none"> 1. Ask for a student volunteer to observe the weather and draw it on the weather observation chart. 2. Tell the students that today they are going to launch a weather balloon. 3. You can show the students this video of a weather balloon launch within the story from the Engage phase: Weather Balloon Launch <p>More information about weather balloons:</p> <ul style="list-style-type: none"> ● The weather balloon will have a special sensor on it that makes observations and gathers information about the weather (e.g., temperature, wind speed, altitude (or how high the balloon goes)) ● The sensor can record the weather information (or data) and they can see it on the computer. ● There are about 2,000 weather balloons launched daily all over the world to help us to better understand the weather. ● They will be able to track the balloon and look at a map to see where it goes. <ol style="list-style-type: none"> 4. Take the students outside to the designated launch site and follow the step-by-step instructions on the HAB Launch Guide. 5. Following the launch, have the students record their observations in a weather science journal.
<p>Explain: Day 3</p>	<ol style="list-style-type: none"> 1. Examine the weather chart with the students. Discuss the weather conditions recorded for a set of subsequent days. <p>Ask: What kinds of relationships do you see between your weather variables? How has the temperature changed from day to day? What variables were most useful for describing the weather; for comparing the weather on different days?</p> 2. Have students decide what variables are most useful to collect, eliminate variables that were not informative. 3. Guide students to keep temperature, wind, and precipitation, by evaluating their usefulness.

	<p>Ask: How is the weather today different from last summer? Last winter? Have students count the number of cool, warm, cloudy, clear, wet, and dry days to help find patterns in the weather.</p> <ol style="list-style-type: none"> 4. Create a graph as a class that will represent the numbers of cool, warm, cloudy, clear, wet, and dry days. 5. Have students discuss their patterns and conclusions with the class. Guide students to the concept that weather is always changing. 6. Discuss the kinds of things children might do that would be affected by the weather. If you know what the weather is like today, what can you predict about tomorrow's weather? If you knew what the weather is going to be like tomorrow, what could you do to be prepared for it?
<p>Extend: Day 4</p>	<ol style="list-style-type: none"> 1. Ask a student volunteer to observe the weather and draw these observations on the class weather chart. 2. Read aloud <i>Weather Forecasting</i> by Gail Gibbons. Discuss the role of the weather service and a meteorologist.  <ol style="list-style-type: none"> 3. Discuss the job of the meteorologist and how the weather balloon we launched is an example of one tool used by scientists to help forecast the weather. 4. Use weatherchannel.com to view the 10-day forecast for your area. 5. Ask the students to make predictions about the weather in your area. Discuss how the forecast can affect plans you may have and how it is important to observe the forecast, especially when planning outdoor events.
<p>Evaluation:</p>	<p>Suggested Evaluations:</p> <ul style="list-style-type: none"> ● Class discussions and understanding of the topics, use of vocabulary ● Weather practice pages ● Interactive games such as Kahoot! or Seesaw activities

