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SC.3.12.4.A Represent data in a table, pictograph, and bar graph displays to describe typical weather conditions **expected during a particular season.** Examples of data could include average temperatures, precipitation, and wind direction. Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.

Supporting Information from Foundation Boxes		
SEP	**DCI**	**CCC**
Analyzing and Interpreting Data Represent data in tables and various graphical displays (bar graphs and pictographs) to reveal patterns that indicate relationships. (3.12.4.A)	**ESS2.D**: **Weather and Climate** Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (3.12.4.A)	**Patterns** **Patterns of change can be used to make predictions. (3.12.4.A)**

Unwrapping the Standard			
Unwrapped Skills (Verbs)	**Unwrapped Concepts (Nouns)**	**Performance Criteria (Considerations)**	**Level of Rigor for the row**
Represent	Data	In a table, pictograph, bar graph display	Medium
Describe	Weather Conditions	Expected in a particular season	Medium
Reveal	Patterns	That indicate Relationships	High
Record	Patterns	Of Weather across different times	Low
Make	Predictions	About what weather might happen next	Medium

General Performance Conditions (may or may not be used): Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.

Content Context: consider the examples in the clarification statement--refer to the previous grade-band and identify what distinguishes the content at this level--identify why students need to know this content (what real-world phenomena can students use this information to explain and/or what real-world problems can they solve using this content? What uncertainties might students possess related to this content? What conceptions may they have?

❏

❏ Differences from previous grade band-Students previously learned that Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. People measure these conditions to describe and record the weather and to notice patterns over time. Students now use data to show expected

weather in a season.

- ❏ Phenomena/problem-
  -Leaves changing color in the fall, why they fall off trees
  -Rainy spring patterns causing plants to grow
  -Thunderstorms in spring and summer
  -Why it snows the most in winter, what months have the most precipitation and why

- ❏ Uncertainties-Weather in a seasons can look different from year to year but averages are considered and taken into account each year

- ❏ Prior Conceptions-Weather stays the same. Seasons always have the same weather (it only snows in the winter, tornadoes only happen in the spring and summer)

Related Practices: (What other practices can be used to sequence the learning? For example, if carrying out an investigation, there could be data to be analyzed.)
- ❏ **Using mathematics and computational thinking**
- ❏ **Engaging in arguments from evidence**
- ❏ **Asking questions and defining problems**

Additional CCC Lenses: (What additional lenses can be used to scaffold student thinking? For example, patterns can be used to identify stability and change and that can be used to think about the flow of energy in systems)
- ❏ **Stability and Change**
- ❏ **Systems and System models**

Clarify Key Terms: In your clarification, identify the term and explain why students need to know it. For example, students need to know 'photosynthesis' to explain how matter and energy move in plant systems or students need to know 'decomposer' to describe the organisms responsible for breaking down dead organisms and recycling matter in an ecosystem.

- ❏ Represent-(understanding this will help students complete the task of showing data)
- ❏ Bar Graph-(understanding of this term will aid students in showing data)
- ❏ Table-(understanding of this term will aid students in showing data)
- ❏ Pictograph-(understanding of this term will aid students in showing data)
- ❏ Weather- (They need to know what weather is to talk about and show what is happening during a season)
- ❏ Season-(knowing what a season is will help students show expected weather during seasons)

3D Learning Performances: What learning targets will allow students to gather, analyze and communicate information? What SEPs and CCCs will scaffold the learning to deeper thinking?	Level of Rigor
❏ Gather… -Ask questions about patterns in typical weather conditions that can be represented as data in a table, pictograph, or bar graph. -Describe data to be collect to show stability and change in typical weather conditions in a particular season.	

- Use mathematical and computational thinking to obtain information on patterns in weather conditions such as temperature and precipitation in a certain season.
❏ Analyze…
- Analyze and interpret data in tables, pictographs, and bar graphs to find patterns in weather conditions in a certain season.

- Use a model to analyze data to show the stability and change in weather conditions during a certain season.

❏ Communicate...
- Students will construct an explanation about patterns found in weather conditions in a certain season and region.

- Use patterns in data tables, and graphs to make predictions about weather conditions in a certain season and region.

- Use a model to explain the cause and effect of weather conditions in a season such as temperature, precipitation and wind speed.

3.12.4.A **Represent data** in table, pictograph, and bar graph displays to describe typical weather conditions <u>expected during a particular season</u>.		
1	Organizing data	
	a	Students use graphical displays (e.g., table, chart, graph) to organize the given data by season using tables, pictographs, and/or bar charts, including:
		i. Weather condition data from the same area across multiple seasons (e.g., average temperature, precipitation, wind direction).
		ii. Weather condition data from different areas (e.g., hometown and nonlocal areas, such as a town in another state).
2	Identifying relationships	
	a	Students identify and describe* patterns of weather conditions across:
		i. Different seasons (e.g., cold and dry in the winter, hot and wet in the summer; more or less wind in a particular season).

		ii. Different areas (e.g., certain areas (defined by location, such as a town in the Pacific Northwest), have high precipitation, while a different area (based on location or type, such as a town in the Southwest) have very little precipitation).
3	Interpreting data	
	a	Students use patterns of weather conditions in different seasons and different areas to predict:
		i. The typical weather conditions expected during a particular season (e.g., "In our town in the summer it is typically hot, as indicated on a bar graph over time, while in the winter it is typically cold; therefore, the prediction is that next summer it will be hot and next winter it will be cold.").
		ii. The typical weather conditions expected during a particular season in different areas.