

Ohio Standards Connections

Reading Applications: Informational, Technical and Persuasive Text

Benchmark D

Use visual aids as sources to gain additional information from text.

(Grades Pre-Kindergarten - 3)

Indicator 5

Identify information in diagrams, charts, graphs and maps.

(Grade 2)

Lesson Summary:

Students will use non-text features such as diagrams, charts, graphs or maps to obtain information about a topic.

Estimated Duration: *10 to 15 minutes per day over a series of days totaling approximately two hours.*

Commentary:

One major purpose of reading non-fiction is to access information. Sometimes the information is difficult to comprehend and can be enhanced by non-text features or visual aids to help convey its meaning. Adding non-text features like charts, graphs, diagrams or maps often help accomplish this. At other times they can be difficult to interpret for even the most practiced reader. Of course, some non-text features are better designed than others. They can be more visually pleasing and easier to understand. When the visual aids require help with interpretation, they can intimidate a reader. Intimidation can be alleviated using a familiar approach called "thinking aloud". Thinking aloud is a form of modeling performed by an expert reader who knows how to make sense of text and can talk through the strategies he or she uses. This is an especially useful strategy when it includes a demonstration of how a reader gets himself or herself "unstuck". This modeling or thinking aloud helps novice or struggling readers see an otherwise abstract process of comprehension appear more concrete.

Pre-Assessment:

- Show students a few simple graphs and maps that can be found in a national daily newspaper, one of your own design or one made by other students in the school. Thinking aloud, walk the children through some of these simple graphs and maps, providing a step-by-step explanation of what each section of the graph or map means. Relate this information back to the original non-fiction text. Ask questions as you think aloud to engage the students.
- Using a set of two different graphs (bar and pie) and two different maps (directional and weather) ask pairs of student to come forward and make an effort to read what they think a graph or map is depicting. These graphs and maps should continue to be very simple in their design and limited in the amount of data they convey.

Scoring Guidelines:

3 = consistently able to describe information from non-text features.

2 = usually able to describe information from non-text features.

1 = rarely able to describe information from non-text features.

0 = unable to describe information from non-text features.

Post-Assessment:

Student will write sentences about a topic incorporating information obtained

from a chart.

Scoring Guidelines:

3 = consistently able to describe information from non-text features.

2 = usually able to describe information from non-text features.

1 = rarely able to describe information from non-text features.

0 = unable to describe information from non-text features.

Instructional Procedures:

1. Provide opportunities for students to read a variety of informational books about a topic such as weather (e.g., *Project Science – Sky and Weather* by Alan Ward; *Rain and Shine* by Deborah Kespert; *Studying Weather* by Ann Merk and Jim Merk; *Wacky Weather* by John Malam; *Weather Forecasting* by Gail Gibbons; *Weather Words* and *What They Mean* by Gail Gibbons; *What Will the Weather Be?* by Lyda DeWitt).
2. Collect and display a variety of simple diagrams, charts, graphs, and maps that show how weather is monitored and how the data is organized and reported.
3. Use an overhead projector to examine and discuss a sampling of diagrams, charts, graphs and maps.
 - Make transparencies of examples found in the weather information books collected for the Weather Unit and weather graphics found in local or national newspapers.
 - Allow time for students to participate fully in a discussion concerning each aspect of the diagram, chart or map. Ask questions about the information presented on the visual aid. Help students draw relationships between the text and the information in the diagram, chart or map.
4. Have students create a class chart containing the week's weather data for their area.
 - Determine with the students the weather factors to be monitored each day (e.g., cloudy/sunny, dry/rain/snow, inches of rain, temperature, windy, thunder, lightning).
 - Assign a different student each day to take readings using a rain gauge and a thermometer and record the data collected on the class chart along with information about the other weather factors selected.
 - Conduct a short discussion each day about the data collected (e.g., the number of cloudy/sunny days; number of days above or below 60 degrees, amount of precipitation).
5. Give students a duplicate copy of the class chart and each day also have them record the data reported for that day's weather on their chart. Tell them that when the chart is completed, they are going to write about the information on their chart.
6. Distribute writing paper and pencils when the last entry is made on the class and students' charts. Without any discussion about the data collected, instruct students to study their chart. Tell them they are to write at least three

sentences about the weather that week. Each sentence must include some information from the chart.

Differentiated Instructional Support:

Instruction is differentiated according to learner needs, to help all learners either meet the intent of the specified indicator(s) or, if the indicator is already met, to advance beyond the specified indicator(s).

- Pair the student who is having difficulty interpreting the charts with a peer or an adult, and have them locate and access the information on the chart.
- Provide informational texts that use non-text features on topics the student finds interesting and challenging.

Extension:

These are ideas for all students to continue learning on this topic – in class or outside of class.

- Ask students to bring newspapers to class to view the weather statistics and charts.
- Continue daily charting of weather with opportunities to use different kinds of non-text features.

Homework Options and Home Connections:

Ask students to watch the weather forecast with their parents or guardians and check the accuracy of the reports the following day or over the course of a week.

Technology Connections:

Internet sites provide another way to collect current weather information during class. Here, students can access a variety of different weather statistics for their area.

Before the Activity:

Bookmark Web sites on classroom computers so that they can easily be loaded during class (e.g., Intellicast:<http://www.intellicast.com>).

During the Activity:

Designate a classroom computer to be the weather workstation. Individually or in pairs, students can collect the needed weather information each day. Computer graphing programs used to create charts for this lesson can extend the students' experiences in the following ways:

- Graphing programs enable learners to watch their graph grow and develop as they add each piece of new data. Children can clearly see how the data they add changes their graph; they can construct a dynamic, visual image of how individual pieces of data combine to create the total picture.
- Learners can see data represented in multiple formats (e.g., table, bar graph, picture graph). Changes to the data are immediately reflected in all graph formats, enabling students to see the relationships that exist between these different representations.
- Create class charts by attaching the computer to a projector. This will display the screen large enough to allow the entire class to view the computer screen as data is added and discussed.
- Students can add data to their own charts using the graphing program. Students can use the program individually, in pairs or in small groups.

Classroom computers can serve as a workstation – used at a time when students are cycling through other stations in the class.

- Provide students with their own diskette. They will save their charts onto this diskette each time they add data.
- Students can also use printed copies of the class chart to record their own data, if there are not enough computers available.
- Teachers can use basic spreadsheet programs to create charts. Graphing programs specifically designed for young children allow students to participate more fully in the graph-making process. As children use the software independently, the teacher is free to engage with students involved in other classroom activities.

Materials/Resources Needed:

For the teacher: A rain gauge, thermometer, samples of charts, illustrations with labels, graphs and maps, a collection of informational texts related to the unit of study, a large class chart to record data and multiple copies (8.5" x 11") of the class chart (one per student), writing paper, pencils, an overhead projector and screen, transparencies of diagrams, charts, graphs and maps.

For the students: 8.5" x 11" copy of the class chart, writing paper and a pencil.

General Tips:

- Compare the forecasts for your local area on a number of Web sites (e.g., Weather.com, Intellicast or a local newspaper's or TV station's site) for variations in the temperature, wind speed, humidity, etc. that each predicts.
- Look for ways the same information is displayed in various forms. For example, high temperatures may be a bar or line graph, presenting data numerically or with icons.

Attachments:

- Ohio Counties Map
- U.S. and Canada Map
- Two Pie Graphs
- Line Graph