

Lesson One: K-W-L Chart of Seasons

Subject: Science

Unit: Seasons

Grade Level: 1st-4th grade

Objectives:

1. Students will be able to work cooperatively in groups in order to brainstorm/question/generate ideas and gather information.
2. Students will be able to describe seasons and seasonal changes.
3. Students will be able to generate an individual, group and class K-W-L chart about the four seasons, by using construction paper and pencil.
4. Students will be able to describe weather and type of precipitation for each season.
5. Students will be able to edit, add or delete information to their K-W-L charts after sharing ideas and information with other groups.
6. Students will be able to generate a K-W-L chart by using Microsoft Word.
7. Students will be able to use word processing tools including all formatting features and creating tables.
8. Students will be able to create folders to save their work.
9. Students will be able to create shortcuts on their desktops.

*** Language Arts will be integrated throughout this activity***

Materials:

Construction paper for each group

Paper

Pencil

Microsoft Word (word processing software)

LCD projector

Literature Books:

- The Seasons of Arnold's Apple Tree by Gail Gibbons (HBJ, 1984)
- A Bear for All Seasons by Diane Marcial Fuchs, Illustrated by Kathryn Brown, Published by Henry Holt and Company, 1995

Science Standards and Benchmarks Objectives:

Michigan Science Standard: I. Construct New Scientific and Personal Knowledge

Content Standard 1: All students will ask questions that help them learn about the world; using appropriate technology; learn from books and other sources of information; communicate their findings using appropriate technology; and

reconstruct previously; and reconstruct previously learned knowledge.
(Constructing New Scientific Knowledge)

Elementary 1: Generate reasonable questions about the world based on observation.

Elementary 2: Develop solutions to unfamiliar problems through reasoning, observation, and/or experiment.

Michigan Science Standard: V. Use Scientific Knowledge from the Earth and Space Sciences in Real-World Contexts

Content Standard 3: All students will describe and investigate what makes up weather and how it changes from day-to-day, from season to season and over long periods of time; explain what causes different kinds of weather; and analyze the relationships between human activities and the atmosphere. (Atmosphere and Weather)

Elementary 2: Describe weather conditions and climates. (Key concepts: Temperature-cold, hot, warm, and cool. Cloud cover-cloudy, fog, partly cloudy. Precipitation-rain, snow, hail. Wind-breezy, windy, calm. Severe weather-thunderstorms, lightning, tornadoes, high winds, blizzards. Climates-desert, continental, tropical, polar. Daily changes in weather. Examples of severe weather, examples of climates

Elementary 3: Describe seasonal changes in weather. (key concepts Seasons, fall, winter, spring, summer. Real world contexts: Examples of visible seasonal changes in nature.

National Science Education Standards:

Earth and Space Science

Content Standard D:

As a result of their activities in grades K-4, all students should develop an understanding of:

- Properties of earth materials
- Objects in the Sky
- Changes in Earth and Sky
- *This content standard basically emphasizes that the sun supplies the light and heat required to sustain the temperature of the earth. It also includes the fact that weather varies from day- to- day and from season-to-season.*

English Language Arts Content Standards and Benchmarks:

Michigan English Language Arts Standard: Meaning and Communication

Content Standard 2: All students will demonstrate the ability to write clear and grammatically correct sentences, paragraphs, and compositions.

Early Elementary 1: Write with developing fluency for multiple purposes to produce a variety of texts, such as stories, journal, learning logs, directions, and letters.

Later Elementary 3: Plan and draft texts, and revise and edit in response to suggestions expressed by others about such aspects as ideas, organization, style, and word choice.

Content Standard 4: All students will use the English language effectively.

Early Elementary 4: Become aware of and begin to experiment with different ways to express the same idea.

Michigan English Language Arts Standard: Inquiry and Research

Content Standard 11: All students will define and investigate important issues and problems using a variety of resources, including technology, to explore, and create.

Early Elementary 1: Generate questions about important issues that affect them or topics about which they are curious, and use discussion to narrow questions for further exploration.

National Education Technology Standards for Students

National Education Technology Standards for Students (Grades 3-5) Content Standard 1: Basic operations and concepts

Benchmark 1: Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively (1).

National Educational Technology Standards for Students (Grade 3-5) Content Standard 2: Social, ethical, and human issues

Benchmark 3: Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use (2).

National Educational Technology Standards for Students (Grade 3-5) Content Standard 4: Technology and Communication Tools

Benchmark 5: Use technology tools (e.g. multimedia authoring, presentation, web tools, scanners, digital cameras) for individual and collaborative writing, communication and publishing activities, to create knowledge products for audiences inside and outside the classroom (4, 5).

Time Period: 1 to 2 weeks (Depending on availability of computers)

Safety Management Precautions: You need parents to sign [Permission to Photograph/Videotape release forms](#), from your district, to publish student pictures on the web! Make sure students understand computer lab rules and regulations before heading down to the computer lab. Make sure students keep feet and hands away from electrical wires. Be sure there are no frayed or damaged electrical wires. Students need to know computer parts and proper procedures for inserting and removing floppy disks and/or CD's.

Engage

Day 1:

- 1. Ask students to think about the types of clothes they are currently wearing. Ask students to think about why they are wearing these particular articles of clothing? Would you wear these types of clothes during summer or spring? Why or why not? What types of clothing would you wear in the winter? Why? Students will later understand that the types of clothing they wear are determined mostly by the seasons and weather. Why do you think we have seasons? How do you think we get four different seasons? What about other places? Do other places have four seasons? Why is it so cold at the poles? What kinds of precipitation do we usually have in each season? What's the temperature like in each season? Students will ponder about these types of questions as we work through our unit on seasons.**
- 2. Tell students that we will be learning about seasons.**
- 3. Students write what they already know about seasons (the “L” part of our chart).**
- 4. Then students are instructed to generate questions about what they would like to learn about seasons (the “W” part of our chart).**
- 5. Model by drawing a K-W-L chart on board. Have students generate at least three responses, in their science notebooks, for each of the K and W categories.**

Day 2:

- 1. Ask students to take out their K-W-L charts from the previous day.**
- 2. Divide students into groups of 5-6. Then, students will share their K-W-L chart within the group.**
- 3. Groups choose three best responses from the “K” and “W” categories.**
- 4. Each group generates one K-W-L chart on construction paper with three columns.**
- 5. Then, each group will share their ideas/writing by walking around and reading other groups' K-W-L charts. Encourage students to question other groups.**
- 6. Encourage students to add, revise, delete or edit their ideas on their K-W-L charts.**
- 7. When sharing/questioning is complete, collect group K-W-L charts.**

Day 3

- 1. Assign students their computer login numbers.**
- 2. Recommendation: Write Log-in names/numbers on 3x5 index cards for each student and laminate ahead of time.**

2. Also, we strongly recommend that the teacher/student teacher visit the computer lab, prior to the first computer class period with students, to make sure log-in numbers/names are working properly, to assess the number of available computers for that day and to make sure computers are all plugged in!
3. Review computer rules and regulations with students.
4. Model computer Log-in procedure, in class, by using classroom computer and LCD projector.
5. Escort students to the computer lab.
6. Students will log-in.
7. Students will create shortcuts for software programs that they will be using for this unit: Kidspiration, Microsoft Word, PowerPoint, etc.
8. Students will create and name folders so that they can save their seasons projects in these folders.

Day 4

1. Open Word and introduce/model for students the different tools/features using teacher station and LCD projector.
2. Students will insert tables and format their K-W-L charts.
3. Each student will save his or her work in folder.
4. Students will then type their K-W-L chart using Microsoft Word and format any way they wish. Students are encouraged to have a unique k-w-l chart.
5. Then, teacher and students will generate whole-class K-W-L chart using Word and the LCD Projector. Each group will add their best ideas to whole class K-W-L chart by coming to the front, presenting and typing on teacher station.

Exploration

Day 5:

[Activity: Making Leaf Bookmarks](#)

Take the students outside for a nature walk in autumn. Have the students collect different kinds of leaves and iron the leaves between wax paper. Then, cut leaves into strips or leave whole and use as bookmarks.

Questions to check for understanding and to further explore include: What kind of weather do we have today? What kind of weather do we have during the fall season? What kind of climate does Michigan have? (Students can already distinguish between weather and climate). Does Michigan receive all four seasons? What kinds of clothing are you wearing now? Why did you decide to wear those particular types of clothing? What types of clothing would you wear in other seasons? What do you notice about the trees and the leaves?

Explanation

Day 6:

The teacher will enlarge, laminate, and hang classroom K-W-L chart. The teacher will review the four seasons in Michigan. Review types of precipitation and temperatures, signs of each season and appropriate activities for each season. Talk about effects of weather on people, animals and plants. Discuss appropriate types of clothing for each season.

Watch seasons movie from BrainPop.com

We are currently in the fall season. Discuss the articles of clothing that students are currently wearing, include: jackets, sweaters, long pants, long shirts, etc.

Ask students to briefly reiterate what they would like to learn or want to know about the seasons. Have students revisit their K-W-L charts or the class-generated K-W-L chart and add to the “L” category as needed.

Day 7

Read and discuss, “The Seasons of Arnold’s Apple Tree” by Gail Gibbons (HBJ, 1984) and, “A Bear for All Seasons” by Diane Marcial Fuchs, Illustrated by Kathryn Brown, Published by Henry Holt and Company, 1995.

After you have read and discussed the books about seasons, ask students to draw a bear wearing appropriate clothes for each of the four seasons. Then, allow students to add to their K-W-L charts. Display and add to the chart throughout your study of seasons.

Evaluate:

Day 8

1. Teacher can evaluate students by constantly observing and monitoring students’ progress and performance before, during, and after daily activities. The teacher may also ask comprehension questions as a form of oral assessment.
2. Analyze completed K-W-L charts. The teacher will assess whether students were successful at completing their assigned tasks, their level of understanding and computer skills.
3. Oral presentations of K-W-L charts.

4. Students read independently, “The Story Behind Our Seasons” by Laura G. Smith and answer 8 comprehension questions from edHelper.com. Teacher prints out story and questions. Teacher must subscribe in order to get full story. I am a member, I am a member, therefore, I was able to use with my students.

Extend and Apply (on-going):

Seasons Tree Activity

1. Ask students to think about why we have seasons.
2. Cut a large tree skeleton from brown construction paper. Mount on a bulletin board. Each season; decorate the tree and its surroundings with appropriate and obvious seasonal changes.
 - Spring: New buds and blossoms, birds and bird nests, etc.
 - Summer: Green leaves, flowers, fruit, etc.
 - Fall: Colored leaves, pumpkins, apples, turkeys, etc.
 - Winter: Snow, small animals storing food, etc.
3. Ask students to think about what we see, hear, taste, smell, and touch, during each of the seasons.
4. Have students think of activities that they would perform during each season.

Resources:

<http://www.miclimb.net>

http://www.michigan.gov/documents/MichiganCurriculumFramework_14058_7.pdf

<http://www.nap.edu/readingroom/books/nses/html/overview.html#content>

<http://cnets.iste.org/>

[BrainPop.com](http://www.brainpop.com)

<http://www.fi.edu/time/Journey/JustInTime/seasons3.html>

http://www.edhelper.com/ReadingComprehension_27_23.html

<http://pics.tech4learning.com/>

Kid-safe Websites (over 100): <http://www.josts.net/explore/kidsafe.htm>

www.google.com

<http://www.fi.edu/time/Journey/JustInTime/seasons2.html>

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