

Teacher Guide for ASK

May 2013: Seasons

This guide was prepared by Betty Lou Askin, a retired educator who lives in Toronto, Ontario.

Objectives:

- To learn about the differences in seasons on the planets.
- To understand how climate change can affect the Earth.
- To learn about a cold period of time in European history.

Pre-reading:

- Let the students suggest what they think might be included in this issue of ASK based on the title.
- Ask them what they think is happening on the cover.
- View the Contents page and discuss the illustrations and the article titles.

Scoops

Quail Mamas

- Where do Japanese quails lay their eggs?
- Explain why mama quails are smart.

Crocs Crack Up

- Describe a crocodile's face.
- What have scientists discovered while looking at crocs in the egg?
- Explain why having skin rather than scales is a good thing for crocodiles.

Ice Flowers

- What are "frost flowers"?
- Describe how they are formed.
- What have scientists discovered living in the ice flowers?
- Explain why this information is important.

Cheese, Please

- Describe how cheese might have been made by ancient people.
- For what other use might the Stone Age pots with holes been used?

Ask the students to look for more science "scoops" while they read media or watch television news/shows. Create a bulletin board to post their findings.

Nestor's Dock

- Use the expression "The grass is greener on the other side of the fence". How does this expression relate to this comic strip?

Alien Seasons

Reading for information:

- Describe why the seasons change on Earth.
- Explain why different planets have different lengths of days and years.
- Why is the temperature colder on other planets?

- Tell why Uranus is a “weirdo”.
- Why do some planets have no seasons? Name them.
- Explain how the equator affects some planets.
- Describe how the position of Venus affects some planets.
- Describe how the position of Venus affects its atmosphere.
- Describe Ceres.
- Why does Ceres not hold heat well?
- Why do scientists think that there may be water on Ceres?
- Describe Mercury’s days and nights.
- Why are some planets called dwarf planets?
- Why do the dwarf planets have different seasons?
- Explain methane snow.
- Explain the “Goldilocks zone”.
- Why is the Earth’s situation in the Solar System special?

The Duke’s Season

Complete the following chart using the information from the article. Also, use what you know about getting ready for and jobs to be done during the seasons in ancient times.

Seasonal Activities During the Middle Ages

Spring	Summer	Fall	Winter

Explain why there has been a comparison between a stone castle and nature in this article.

A Wintry World

Questions to use in a discussion:

- Describe the European seasons before 1300.
- How did the climate begin to change?
- What was the Great Drowning?
- Why would it be a negative thing to have the coasts of Greenland and Iceland locked in ice?
- Why did the Dutch switch to closed fishing boats?
- What was happening to glaciers during this time?
- What change happened in England in the late 1600s?
- Why would it be economically disastrous to have the Thames River frozen in winter?
- Describe the fun that was experienced on the frozen Thames.
- What was the Little Ice Age?
- Describe what scientists believe caused the change in the atmosphere around 1300.
- What are sunspots?
- Explain what happens when sunspots change.
- Describe the weather changes starting in 1645.
- Make a list of the negatives effects of the extreme weather.
- What may have caused the end of the Little Ice Age?
- What message may be taken from this article?

How Hot Is It? How Cold Is It?

- Use the Read Aloud Method to enjoy this article.

Monsoon in June

Reading for understanding:

- Describe the weather in Western India during April and May.
- Tell what people do during this period of time.
- When do the students in Western India start their school year?
- What also occurs at this time of year?
- What warnings are given during the rainy season? Explain why.
- What are monsoons?
- Where do monsoons usually occur?
- Describe how monsoons form.
- What happens starting in November?
- Make a list of the positive effects of the rainy season.
- Make a list of the negative effects of the rainy season.

Project BudBurst

Use these to focus on the reading:

- Describe the type of information that T. Jefferson kept in his notebook.
- What was he interested in doing?
- What is **phenology** ?
- Explain what volunteers do for the project.
- Describe the activities of the Oregon students.
- Explain what scientists are learning from Project BudBurst.

Jimmy the Bug

- Describe a heart.
- What makes the heartbeat sound?
- How does the heart pump blood?
- Why is the heart the hardest working muscle of the body?

Marvin and Friends

- Why do you think that Marvin describes each season?
- Which in the end is Marvin's favourite season?

Don't forget to:

- Learn more about project BudBurst at <http://neoninic.org/budburst/buddies>
- Follow the instructions for the contest and share your work with your classmates.