

# SEASONS

**Grade Level:** Second Grade

**Presented by:** Tammy Sparer, Challenge Charter School, Glendale, Arizona

**Length of Unit:** 15 lessons

## I. ABSTRACT

Given a season, the student will be able to determine the months of that season and the activities related to the season.

## II. OVERVIEW

- A. The relationship of the sun, moons, and earth; the cause of different seasons.
- B. Specific content from the *Core Knowledge Sequence*
  - 1. The Greek myth of *Demeter and Persephone*
  - 2. The Calendar and Ordinal Numbers
  - 3. Cycle of the seasons
- C. Different skills to be taught:
  - 1. Math skills: even and odd, problem solving, counting, addition, and subtraction.
  - 2. Language skills: creative writing and punctuation.

## III. BACKGROUND KNOWLEDGE

- A. For Teachers: *What Your 2<sup>nd</sup> Grader Needs to Know*
- B. For Students: The Four Seasons, from *What Your Kindergartner Needs to Know* and Astronomy, Introduction to the Solar System from *What Your 1<sup>st</sup> Grader Needs to Know*

## IV. RESOURCES

*Why Do Leaves Change Color?*  
*What Your Second Grader Needs to Know*  
*Even Steven and Odd Todd*  
*Red Leaf, Yellow leaf*

## V. LESSONS

### Lesson One: The Sun

- A. *Objectives:*
  - 1. *Lesson Content:* The Sun
  - 2. *Concept Objective:* The students will learn about the role of the sun in the galaxy.
  - 3. *Skill Objective:* The students will be able to research information in trade books and locate important facts.
- B. *Materials:* trade books about the sun (enough for each group), paper, pencils, chalkboard or whiteboard, chalk or markers
- C. *Key vocabulary:* Galaxy
- D. *Procedures/Activities:*
  - 1. Make a KWL chart on the board.
  - 2. Ask the students what they know about the sun.
  - 3. Record student's responses on the board under the K.
  - 4. Ask students what they would like to learn about the sun.
  - 5. Record these responses under the letter W on the chart.
  - 6. Divide the students into groups.
  - 7. Give each group a trade book about the sun.
  - 8. Have each group read their book.
  - 9. The students will then record information they learned from the book about the sun.

10. Bring the students back together and have the groups share what they have learned.
  11. Write the facts the students have found on the board under the L.
  12. Make sure that all important details have been covered.
- E. *Evaluation/Assessment:* Have the students turn in their group information pages.

### **Lesson Two: The Sundial**

A. *Objectives:*

1. *Lesson Content:* The Sun
2. *Lesson Objective:* The Students will understand how to use the sun to tell time.
3. *Skill Objective:* The students will be able to tell time using the sun.

B. *Materials:* clay, craft sticks, markers

C. *Vocabulary:* sundial

D. *Procedures/Activities:*

1. Explain that the sun can be used to tell time.
  2. Ask the students why it might be necessary to use the sun as a clock.
  3. Explain that a sundial is a clock that runs on the light from the sun.
  4. Give each student a piece of clay and a craft stick.
  5. Have the students form the clay into a large circular shape.
  6. Tell them to place the craft stick into the middle of the circle. (The stick should be standing on end in the middle of the clay.)
  7. Take the sundials outside and place them on the ground in a sunny area.
  8. Each hour, on the hour, take the students outside.
  9. Have the students mark the spot on their sundial where the shadow falls. (Indicate the time on the spot.)
- E. *Evaluation:* The next day, take the children outside and have them tell time using their sundial.

### **Lesson Three: Phases of the Moon (Day One)**

A. *Objectives:*

1. *Lesson Content:* The moon
2. *Concept Objective:* The students will understand why there are different phases of the moon.
3. *Skill Objective:* The students will be able to explain why different parts of the moon shine at different times of the month.

B. *Materials:* lamp, soccer ball, globe, map of the United States

C. *Vocabulary:* phases, rotate, spin, axis

D. *Procedures/Activities:*

1. Seat students in a circle.
2. Explain the relationship of the sun, earth, and moon.
3. Bring 3 students to the middle of circle. (One student will be the sun, one will be the earth, and the other will be the moon.)
4. Pin a map of the United States on the earth's shirt. Pin a map of China on the backside of the earth's shirt.
5. The sun will stand in the middle of the circle. The earth will very slowly walk around the sun. The earth will also be spin around. The moon will walk around the earth.
6. Question the students. (Why is it bright in the daytime on the United States? Why does it get dark at night? Why do we see the moon at night? Why do we see different phases of the moon at different times during the month?)
7. Give the student playing the sun a lamp. Have this student sit on the floor and hold the lamp above his or her head.
8. Have the other two students continue their movement.
9. Turn off all of the lights except the lamp.
10. The students should see different parts of the students playing the moon and earth lit.

11. Explain that people in different parts of the world would see different phases of the moon.

F. *Evaluation/Assessment:* Have the students role play being the sun, earth, and moon.

#### **Lesson Four: Phases of the Moon (Day Two)**

A. *Objectives:*

1. *Lesson Content:* The moon
2. *Concept Objective:* The students will understand that there are 5 phases of the moon.
3. *Skill Objective:* The students will be able to label the different phases of the moon.

B. *Materials:* black and yellow construction paper (for each student), scissors, glue, one circle cut from tagboard for every two students (about the size of a lid from a 20oz juice bottle), chalkboard, chalk, pencils.

C. *Vocabulary:* full, gibbous, half, crescent, new

D. *Procedures/Activities:*

1. Draw five phases of the moon on the board.
2. Review part one of lesson from yesterday.
3. Label the phases of the moon (full, gibbous, half, crescent, new).
4. Explain to the students that these are the basic phases of the moon.
5. Tell the students that each night, the shape of the moon changes.
6. Explain the progression of the moon.
7. Have each student trace 3 circles from tagboard onto yellow construction paper.
8. The students will cut one circle in half.
9. Then have the students draw a line through another moon making the crescent shape.
10. Cut on the line. (They will then have a crescent and a gibbous moon.)
11. They will have one moon left that is the full moon.
12. The students will then glue the four moons in order on their black piece of construction paper.
13. Have the students label each moon.

E. *Evaluation/Assessment:* Give each student 3 round crackers with cheese spread. Show the students that the cracker is the shape of a full moon. Ask the students to take a bite out of the cracker and show you a half moon. Then have them take another bite and show you a crescent moon. Have the students get a new cracker and have them show you a gibbous moon. Then take the last cracker and have them show you a new moon.

#### **Lesson Five: The Seasons**

A. *Objectives:*

1. *Lesson Content:* Seasons
2. *Concept Objective:* The student will understand that a myth was used to explain the seasons in ancient Greece.
3. *Skill Objective:* The students will be able to create a myth.

B. *Materials:* Whiteboard or chalkboard, markers or chalk, paper, pencils

C. *Vocabulary:* Myth

D. *Procedures/Activities:*

1. Define the word myth for the students
2. Ask the students for example of myths in nature.
3. Write a student generated myth on the board.
4. Tell the students the Greek myth of *Demeter and Persephone*.
5. Discuss the story.
6. Explain that this myth was used to explain why the seasons change.
7. Pair the students into groups.
8. Give each group a piece of paper with an occurrence in nature printed on it (lightning, thunder, rain, hail, wind, etc.).
9. The groups will create a myth about their topic.

E. *Evaluation/Assessment:* The students will share their myths with the class.

**Lesson Six: Heating up the Seasons**

A. *Objectives*

1. *Lesson Content:* Seasons
2. *Concept Objective:* The student will be able to explain the cause of change of seasons.
3. *Skill Objective:* The students will be able to demonstrate why the seasons change.

B. *Materials:* Electric Heater, Globe

C. *Vocabulary:* Orbit, Axis

D. *Procedures/Activities:*

1. Explain to the students that the Earth orbits the Sun.
2. Tell them that the Earth also spins on its axis.
3. Demonstrate this by using the globe.
4. Explain that the Earth's axis is tilted. The tilt never changes.
5. Have the students imagine the heater is the sun.
6. Bring one student up to hold the globe.
7. Map the pattern of the Earth in relation to the sun through out the year.
8. Have the student slowly spin the globe and circle the heater.
9. Have the student stop at different points during orbit.
10. On each stop have the students tell which portion of the Earth would be warmer (which areas would be cooler).
11. Explain this is why we have cooler and warmer weather.

E. *Evaluation/Assessment:* Each student will role-play the Earth.

**Lesson Seven: Why Do Leaves Change Color?**

A. *Objectives:*

1. *Lesson Content:* Seasons
2. *Concept Objective:* Students will be able to explain how the weather effects trees.
3. *Skill Objective:* Students will be able to recognize the change in seasons by looking at a tree.

B. *Materials:* *The Book Why Do Leaves Change Color?*, leaves, wax paper, iron, a thin cloth, one sheet of white paper for each student, crayons

C. *Vocabulary:* chlorophyll, pigment

D. *Procedures/Activities:*

1. Ask students why leaves change colors in autumn
2. Read the book *Why Do Leaves Change Color?*
3. Take the students outside for a leaf search.
4. Each student may choose three leaves.
5. Put a piece of cloth over the ironing board.
6. Place the leaves on wax paper.
7. Cover the leaves with another piece of wax paper.
8. Run a warm iron over the wax paper.
9. The students may use this as a bookmark.
10. While the bookmarks are being made, have the students fold a sheet of paper into quarters.
11. The students will label each quadrant with one season.
12. They will then draw a picture of how a tree will look during the corresponding season.

E. *Evaluation/Assessment:* Collect student tree drawings.

**Lesson Eight: Spring, Summer, Winter, and Autumn**

A. *Objectives:*

1. *Lesson Content:* Physical changes of seasons
2. *Concept Objective:* Students will understand that temperature changes because of the seasons.

3. *Skill Objective:* The students will be able to identify physical changes caused by the seasons.
- B. *Materials:* Old magazines, four poster boards, glue, scissors, markers
- C. *Vocabulary:* temperature
- D. *Procedures/Activities:*
  1. Explain to the students that often you can tell what season it is by looking around.
  2. Ask the students to give an example of things they might see in summer.
  3. Discuss the type of clothing worn and activities played during summer.
  4. Have the students find pictures in magazines that remind them of a specific season.
  5. The students will cut them out.
  6. Label four poster boards. One with each season.
  7. Have the students take turns gluing their magazine pictures on the corresponding poster board.
  8. Review all the pictures on the boards with the students.
- E. *Evaluation/Assessment:* Observe the students' choices of pictures and to which season they related them.

### **Lesson Nine: How Do the Seasons Affect Animals?**

- A. *Objectives:*
  1. *Lesson Content:* Seasons
  2. *Concept Objectives:* Students will understand seasonal effects on animals.
  3. *Skill Objectives:* The students will be able to outline the year of a bear.
- B. *Materials:* paper, pencils, crayons, chalkboard, chalk
- C. *Vocabulary:* hibernation, reproduction, cycle
- D. *Procedures/Activities:*
  1. Brainstorm the ways seasons might affect an animal
  2. Explain the lifecycle of a bear.
  3. Explain why the weather would effect a bear's life (hibernation).
  4. Ask the students if there are any other animals that hibernate.
  5. Have the students look at wildlife books to find out about other animals that might have a similar year cycle as the bear.
  6. Share findings with the class.
  7. Give each student a sheet of paper and have him or her fold it into quarters.
  8. Title each quarter with a season.
  9. Have the students write the activities of a bear during each season.
  10. Have the students fold the paper up and draw a bear on the outside and label it.
- E. *Evaluation/Assessment:* Collect the students' paper

### **Lesson Ten: What If There Were No Seasons?**

- A. *Objectives:*
  1. *Lesson Content:* Seasons
  2. *Concept Objective:* Students will understand the effects the seasons have on the environment
  3. *Skill Objective:* The students will be able to write a creative story when given a topic sentence.
- B. *Materials:* pencil, paper
- C. *Vocabulary:* environment
- D. *Procedures/Activities:*
  1. Review the four seasons.
  2. Discuss the things we like about each season.
  3. Ask the students what would happen if the seasons stopped changing. (How would it affect the environment?)
  4. Have the students brainstorm on a sheet of paper.

5. Give the students a starter sentence...I waited and waited for spring to come.
  6. Give the students about 20 minutes to write a story about the seasons not changing.
  7. Share the stories in class.
- E. *Evaluation/Assessment:* Walk around and make sure that all students are on task

**Lesson Eleven: Punctuation**

A. *Objectives:*

1. *Lesson Content:* Punctuation
2. *Concept Objective:* The students will learn to when to use a period, question mark, and exclamation mark.
3. *Skill Objective:* The student will be able to use the correct ending punctuation.

B. *Materials:* paper, pencils, chalk, chalkboard, index cards, appendix A

C. *Key Vocabulary:* punctuation, period, question mark, exclamation point

D. *Procedures/Activities:*

1. Define when to use periods, question marks, and exclamation points.
2. Write sentences on the board and have students come to the board to add the correct ending punctuation.
3. Give each student 3 index cards.
4. Have the students make a period on the first index card.
5. Make a question mark on the second card and an exclamation point on the third.
6. Verbally give the students sentences.
7. Using an all-together response, have them show the correct ending after you have said each sentence.
8. Continue this activity until you are satisfied that everyone understands when to use the correct punctuation.
9. Write 5 more sentences on the board.
10. Have the students write the sentences correctly on their paper.

E. *Evaluation/Assessment:* Collect student's papers and grade them.

**Lesson Twelve: Calendar Math (Day 1)**

A. *Objectives:*

1. *Lesson Content:* Calendar
2. *Concept Objective:* Students will understand calendar sequence and ordinal numbers.
3. *Skill Objective:* The student will be able to number a calendar using the correct number of days for each month and label the beginning of each season.
4. *Materials:* Blank calendar forms, pencil, posterboard with the month poem, Appendix B

B. *Vocabulary:* calendar, ordinal numbers

C. *Procedures/Activities:*

1. Introduce the month poem. (Thirty days hath September...)
2. Have students read the poem with you.
3. Ask if anyone can recite the poem without looking.
4. Number the calendar with the students.
5. Verbally use the ordinal numbers when numbering the calendar.
6. Have the students label the beginning of spring, summer, autumn, and winter.

D. *Evaluation/Assessment:* Have the students turn in their calendars. Make sure they are labeled correctly.

**Lesson Thirteen: Calendar Math (Day 2)**

A. *Objectives:*

1. *Lesson Content:* Calendar
2. *Concept Objective:* Students will understand calendar sequence.
3. *Skill Objective:* The students will be able to use a calendar to find specific information.

B. *Materials:* dated calendar forms from previous day, pencils

C. *Vocabulary:* Sequence

D. *Procedures/Activities:*

1. Review month poems.
2. Ask students to say poem from memory.
3. Have students figure out how many days are in each season.
4. Have the students add the number of days in each season together.
5. Explain that there are 365 days in a year.
6. Have students count how many weeks are in a season.
7. Then have the student add this up to find how many weeks are in a year.
8. Have the students add the number of Saturdays in a season.
9. Ask the students to guess how many Saturdays are in a year.
10. Have the students add the number of Saturdays in each season. (Did you guess correctly?)
11. Have the whole class read the month poem.

E. *Evaluation/Assessment:* Collect class calendars

**Lesson Fourteen: Calendar Math (Day 3)**

A. *Objectives:*

1. *Lesson Content:* Even and Odd numbers
2. *Concept Objective:* Students will be able to identify odd and even numbers.
3. *Skill Objective:* The students will be able to identify even and odd numbers using the calendar.

B. *Materials:* Bear manipulative, student calendars from previous day, crayons, Appendix B, Story *Even Steven and Odd Todd*

C. *Vocabulary:* Even, Odd

D. *Procedures/Activities:*

1. Read the story *Even Steven and Odd Todd*.
2. Ask the students what even and odd mean.
3. Have the students take four bear manipulatives.
4. Show the students that each bear has one buddy.
5. Explain that in order for a number to be even, it must have one buddy. (It can't have more than one buddy. If one bear is left without a buddy, the number it represents is odd.)
6. Have the students take 7 bears.
7. Tell the students to pair each bear with only one buddy.
8. Explain that one bear does not have a buddy, so the number seven is odd.
9. Give the students several more examples and let them figure out if the number is even or odd.
10. Have the students skip count by 2's. Explain that any number that ends in a 0, 2, 4, 6, or 8 is even. All other numbers are odd.
11. Sing a cheer in class (0, 2, 4, 6, 8, who do we appreciate? Even Steven!)

E. *Evaluation/Assessment:* Using their calendars, have the students color all the even numbers in spring pink. Color all the odd numbers in spring purple.

**Lesson Fifteen: Winter and Spring Games**

A. *Objectives:*

1. *Lesson Content:* Word Problems
2. *Concept Objective:* Solve word problems using basic math skills
3. *Skill Objective:* The students will be able to solve word problems.

B. *Materials:* board game (Appendix C), Teacher made word problem cards

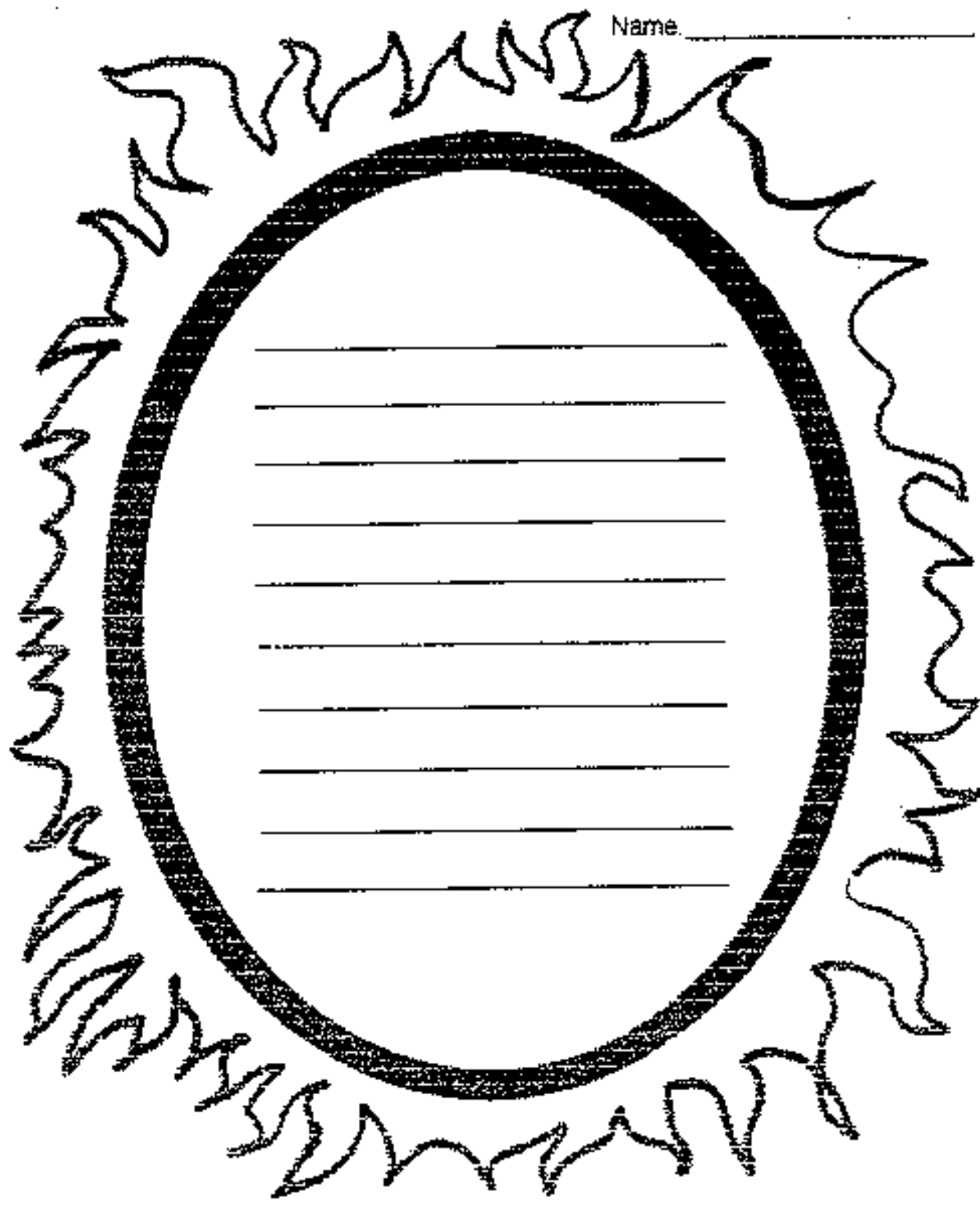
C. *Procedures/Activities:*

1. Review key phrases in word problems.
2. Practice a couple of word problems on the board.
3. Put the students in pairs.

4. Tell the students to role the number cube.
  5. The student that roles the highest number goes first.
  6. Have the first student roll the cube again.
  7. The second student must answer the word problem correctly in order to move the number of spaces they rolled.
  8. The student that finishes first wins.
- D. *Evaluation/Assessment*: Walk around and make sure the students are playing fairly and correctly.
- VI. **CULMINATING ACTIVITY**: Have a seasonal feast. Prepare foods that would be eaten during different seasons. After sampling from each season, play games associated with the different seasons.
- VII. **HANDOUTS/WORKSHEETS**  
Appendix A - Sun  
Appendix B - Calendar  
Appendix C - Game Board
- VIII. **BIBLIOGRAPHY**  
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Maestro, Betsy. *Why Do Leaves Change Color?* New York: HarperCollins Publishers, 1994, ISBN 0-06-445126-7

Appendix A

Name \_\_\_\_\_



Appendix B

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

Appendix C

