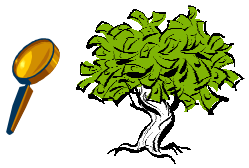
Grade Level(s): Two
Lesson Title: Nature Spies



Focus: reading comprehension, sequencing, predicting, summarizing, cause and effect, estimating, fact vs. opinion, counting, classifying

Objectives: See end of lesson for objectives and standards achieved.

Background Information:

The classic story of *Peter and the Wolf*, by the Russian composer Sergei Prokofiev, is a musical tale in which each character in the story is represented by an instrument of the orchestra. Peter is represented by the violins, Grandfather by a bassoon, the duck by an oboe, the cat by a clarinet, the hunters by the woodwinds, the bird by a flute, and the wolf is represented by the French horns.

The story takes place in a meadow filled with many living and non-living things. The tree in the meadow serves as a focal point for the capture of the wolf. A tree can represent an environmental community all its own.

Activities (Procedures):

1. Find a copy of the book *Peter and the Wolf* and have students look at the cover, title, and the caption, "Adapted from the Musical Tale by Sergei Prokofiev."
2. Have students make predictions about the content of the story. (What clues from the cover, title, and caption are they using?) RLA.2.1.8
3. Read the story of *Peter and the Wolf* to the class (Use the version found in the Teacher's Section under The Verizon Literacy Resource Section, which has been revised to include many Dolch and Fry sight words.) or have the students read the story on their own.
4. Have students demonstrate comprehension skills by:
    a. Summarizing the story, giving main ideas and sequence of events
    b. Discussing the cause and effect of the events in the story
    c. Making predictions in different situations (e.g., "What if the duck had stayed in the pond?" "What if the wolf had captured the bird?" etc.)
    d. Differentiating fact from opinion by creatively developing their own predictions based on the story (e.g., "If the duck had stayed in the pond, what might have happened?" "If Peter had not caught the wolf, how might the story have ended?"). RLA.2.1.6
    e. Completing handout #1 on literal and interpretive comprehension questions using correct sentences. RLA.2.2.10 (Note on student handout: Students will practice

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writing grammatically correct sentences as they respond to both literal and interpretive comprehension questions. Questions 1, 2, and 4 are literal by nature, whereas questions 3 and 5 are more interpretive.) RLA.2.1.7, RLA.2.1.10

5. Focusing on one main aspect of the story (a tree), prepare the students to become "Nature Spies." Select a tree on your school grounds for a science and math exploration activity.
6. Divide students into groups of 3 or 4. Assign one student in each group to be the recorder, one student the collector, and one student the artist. Ask them to identify the components of a tree community (plants/flowers, animals/insects, and nonliving things) and record their observations on their "Spy Log." (Handout #2) Have the students draw pictures of four different living things they see and write the names and types in the chart. SC.2.2.1
7. Have the students collect samples of materials to be observed later using a magnifier for closer inspection.
8. Help the students measure the temperature of the tree environment in Celsius and Fahrenheit, and record it on their "Spy Logs." SC.2.2.2, SC.2.2.4, MA.2.4.12
9. Have students continue to "spy" in the tree community by counting, measuring and recording the following:
    a. the number of insects on the bark of the tree
    b. the number of insects on the ground (under the canopy)
    c. the number of birds they see in the tree environment (in, under, or above the canopy)
    d. the number of leaves on a branch
    e. the number of plants/flowers and animals/insects under the canopy
    f. collect a leaf from the tree and measure the length and width
10. Upon returning to the classroom, organize the information the students have collected by classifying and counting. (You can also combine all of the data onto one Spy Log.) SC.2.2.5, MA.2.1.3 Develop a chart or graph showing the results. MA.2.1.10, MA.2.1.11, MA.2.5.4 Share your observations with the class. Attach the students' leaves to a classroom tree "trunk."
11. **Optional Technology Connection:** Use a digital camera to take pictures of the items in the tree environment. Apply the prints to a model of the tree you investigated. Students may glue their collected leaves to the construction for effect.

Assessment/ Evaluation*:

1. Active participation in discussion questions (listening, predicting, and comprehension skills).
2. Completed handouts on literal and interpretive meanings and correct writing format.
3. Completed "Spy Logs" for science and math skills.
4. Chart or graph of student findings.

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Supplemental Materials Needed:

Book copy of any edition of *Peter and the Wolf*
Story of *Peter and the Wolf* (found in the Teacher's Section of the WVSO CD ROM under The Verizon Literacy Resource Section)
Art Supplies for drawing (paper, crayons, etc)
Writing paper
Magnifying glasses
Rulers (English and metric)
Thermometers (Celsius and Fahrenheit)

National Standards:

English Language Arts

1. Students read a wide range of print and non-print texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
3. Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).

Science

Content standard A

Abilities necessary to do scientific inquiry:

- Identify questions that can be answered through scientific investigations.
- Design and conduct a scientific investigation.
- Use appropriate tools and techniques to gather, analyze, and interpret data.
- Develop descriptions, explanations, predictions, and models using evidence.
- Think critically and logically to make the relationships between evidence and explanations.

Mathematics

Understand numbers, ways of representing numbers, relationships among numbers, and number systems:

- Count with understanding and recognize "how many" in sets of objects

Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them:

- Pose questions and gather data about themselves and their surroundings
- Sort and classify objects according to their attributes and organize data about the objects
- Represent data using concrete objects, pictures, and graphs.

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WV Content Standards and Objectives:

Second-Grade

RLA 2.1.6	use basic comprehension skills to understand a story (story elements, main ideas, sequence, cause/effect, predicting, drawing conclusions, fact or opinion, summarizing, responding creatively).
RLA 2.1.7	respond to both literal and interpretive comprehension questions after reading a short story selection.
RLA 2.1.8	use meaning clues to aid in comprehension and make predictions about content
RLA 2.2.10	write correctly formed and punctuated simple sentences.
SC 2.2.1	demonstrate curiosity, initiative and creativity by observing, classifying and comparing the patterns, variations and interactions of natural objects in the environment.
SC 2.2.2	manipulate scientific instruments and everyday materials to investigate the natural world.
SC 2.2.3	measure the length and width of various objects.
SC 2.2.4	use safe and proper techniques for handling, manipulating, and caring for science materials.
SC 2.2.5	conduct simple investigations: observe, collect and record information using a variety of classification systems.
MA 2.1.3	count and group concrete items.
MA 2.1.10	model 2 and 3 digit addition and subtraction with regrouping.
MA 2.1.11	model 2 and 3 digit addition and subtraction without regrouping.
MA 2.4.12	read Celsius and Fahrenheit thermometers.
MA 2.5.4	formulate questions, collect data, organize/display as a chart or graph.

Kentucky Program of Studies:

ELA-P-R-28
Students will summarize what happened in a story by telling and/or drawing.

ELA-P-R-29
Students will summarize the events of a story in sequence through telling and/or drawing.

S-P-SI-1
Students will ask simple scientific questions that can be answered through observations.

S-P-SI-2
Students will use simple equipment (e.g., aquariums), tools (e.g., magnifiers, spoons), skills (e.g., observing, pouring), technology (e.g., video discs), and mathematics in scientific investigations.

S-P-SI-3
Students will use evidence (e.g., observations) from simple scientific investigations and scientific knowledge to develop reasonable explanations.

S-P-SI-4
Students will design and conduct different kinds of simple scientific investigations.

S-P-SI-5
Students will communicate (e.g., speak, draw) designs, procedures, and results of scientific investigations.

M-P-GM-16
Students will determine length, weight, and volume with nonstandard units.

M-P-PS-2
Students will read data displayed on concrete graph.

M-P-PS-8
Students will display data on student invented representations.

M-P-PS-9
Students will read and compare data on student invented graphs.

M-P-A-7
Students will solve simple equations (e.g., 1 + 1 = __).

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Ohio Academic Content Standards:

Second-Grade

Y2003.CER.S03.GPK-03.BD.L02.I04

Comprehension Strategies /

04. Summarize text by recalling main ideas and some supporting details.

Y2003.CER.S03.GPK-03.BC.L02.I04

Comprehension Strategies /

04. Summarize text by recalling main ideas and some supporting details.

Y2003.CSC.S05.GKG-02.BB.L02.I07

Doing Scientific Inquiry /

07. Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, non-breakable thermometers, timers, rulers, balances and calculators and other appropriate tools).

Y2003.CSC.S05.GKG-02.BB.L02.I08

Doing Scientific Inquiry /

08. Measure properties of objects using tools such as rulers, balances and thermometers.

Y2003.CSC.S05.GKG-02.BC.L02.I10

Doing Scientific Inquiry /

10. Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.

Y2003.CMA.S02.GPK-02.BD.L02.I05

Use Measurement Techniques and Tools /

05. Estimate and measure the length and weight of common objects, using metric and U.S. customary units, accurate to the nearest unit.

*All Assessments are to be at the expected state assessment standard; in West Virginia this is mastery level; in Ohio this is benchmark level; and, in Kentucky, this is academic expectations level.

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Nature Spies

Handout #1

After reading or listening to the story of *Peter and the Wolf*, answer the following questions using complete sentences:

Which character is Peter's friend?

_____

_____

What warning about the meadow does Grandfather give to Peter?

_____

_____

Why does Peter ignore his Grandfather's warning?

_____

_____

How does Peter catch the wolf?

_____

_____

What do you think happens to the duck at the end of the story?

_____

_____

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Nature Spies

Handout #2

Spy Log

Use the following log sheet to record your observations as you investigate a tree community (living and non-living things on the tree or under the tree canopy).

LIVING THINGS

Find 4 living things in your tree community and fill in the chart.

Name	Drawing	Type (plant, animal)

NON-LIVING THINGS:

Find 4 items in the tree community that are non-living and list them here:

_____ _____ _____ _____

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Measure the temperature of the air near the tree and record it using correct units:

English measurement:_____°F

Metric measurement: _____°C

BY THE NUMBERS:

Scientists often count, record, measure and perform mathematical operations. Observing and recording observations will also help you to be like a "science spy." Record the following information in your tree environment:

Number of Insects on the Bark of the tree _____

Number of Insects on the Ground under the tree_____

Number of Birds in the tree _____

Number of leaves on one of the branches _____

Number of flowers or plants under the tree _____

MEASUREMENT OF A LEAF FROM THE TREE:

Length _____ Width _____

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