

“Whoos in the Food Chain”

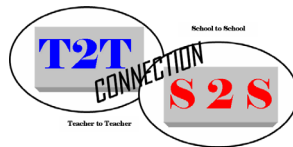


For further information contact...

Jane Herman

Gibbons Street Elementary
1860 E. Gibbons Street
Bartow, FL 33830 • Route B
863-534-7430

Jane.herman@polk-fl.net



2008 - 2009 IDEA CATALOG OF EXCELLENCE

■ PROGRAM OVERVIEW

Do you want to make the food chain come alive for your students? I did! I wanted a hands-on method where students could actually “see” the food chain in a very real way. That’s what led me to a thematic unit on owls lasting two to three weeks, depending on computer availability for the PowerPoint presentation, which culminated with students dissecting owl pellets.

Keeping the Science benchmarks close at hand, I developed a thematic unit in which students learned all about different types of owls. They learned about their habitats, their eating habits, and how important they are to the ecosystem. This included reading the book, *There’s an Owl in the Shower* by Jean Craighead, George and Christine Herma Merrill, about the effects the logging industry has on spotted owls, and how one displaced owl changes the views of a logging family.

After learning all about owls, students were introduced to the owl pellet by going online and performing a “virtual owl pellet dissection”. With their interest peaked, they were then given their own real owl pellet to dissect. They compared the contents of their owl pellet to a bone sorting chart to see what kinds of food their owl had eaten. They used the information they had learned about owls and the contents of their owl pellet to make a hypothesis as to what kind of owl their pellet came from and where it might have lived. After completion of the unit, students were given edible owl pellets as a treat!

■ OVERALL VALUE

This unit was valuable because it addressed Standards 1 and 2 of strand G in the Sunshine State Standards for Science. Students learned how animals interact with their environment and they learned what can happen when animals’ habitats are destroyed.

The best part of the unit was seeing the students become excited about learning. I always enjoy watching the students when they first get the owl pellet. The most common reaction at first is “EWWW!” However, as soon as they start the dissection their excitement increases. They are so engaged in the lesson and their interaction with other students is unbelievable! They are truly learning by doing. It is a lesson that they do not forget for a very long time.

■ LESSON PLAN TITLES

- KWL Chart
- Word Sort
- Power Point on Owls
- Virtual Owl Pellet Dissection
- Owl Pellet Dissection

■ ABOUT THE DEVELOPER

Jane Herman has a B.A. in Elementary Education from the University of Illinois in Springfield. She is a National Board Certified Teacher, and Teacher of the Year 2007/2008 at Gibbons Street Elementary, where she is currently a fourth grade teacher.

■ MATERIALS

This unit utilizes a VCR or DVD player and the materials listed in each lesson plan. The materials, vendors, and pricing follows the lesson plans.

■ ADDL INFORMATION

The following websites have useful information that can be used in this unit:

<http://www.kidwings.com/index.htm> -

This is where the virtual owl pellet dissection is located. They also have free charts to download

<http://www.obdk.com/> - Here you can print certificates and bone charts

<http://www.pelletsinc.com/index.html>

http://www.stemnet.nf.ca/CITE/owls_pellets.htm

BOOKS

Barn Owl by Sally Tagholm & Bert Kitchen

Owl Babies by Martin Waddell and Patrick Benson

Hoot by Carl Hiaasen (Also a video of this)

Owl Puke by Jane Hammerslough

UNITED STREAMING

Concepts in Nature: Why Do Animals Look the Way They Do?

Animal Profiles: Owls

Creature Features: Special Features of Creatures



“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 1: KWL Chart



■ **SUBJECTS COVERED**

Science, Language Arts

■ **GRADES**

Fourth

■ **OBJECTIVES**

- ✓ Students will discuss what they know about owls, what they want to know about owls, and at the end of the unit what they learned about owls.
- ✓ The students will speak, read, listen, and write as they discuss their ideas about owls.

■ **SUNSHINE STATE STANDARDS**

LA.C.1.2.3

The student interacts with peers in a variety of situations to develop and present familiar ideas.

LA.C.1.2.5

The student responds to speakers by asking questions, making contributions, and paraphrasing what is said.

■ **MATERIALS**

- Individual KWL Chart
- Chart paper for large KWL chart
- Pencils

■ **DIRECTIONS**

1. The teacher will tell the class they are going to be learning about owls.
2. The teacher will ask students to think about what they know about owls. As students discuss their ideas, teacher will record them on the chart paper KWL chart. Students will record them on their individual charts.
3. Students will then give ideas about what they want to learn about owls. Teacher will record the ideas on her KWL chart and students will record them on their individual charts.
4. When the unit is finished, the class will come together again to finish the chart by recording what they have learned.

■ **EVALUATION/ ASSESSMENT**

There will be no formal assessment, but the teacher will collect the charts and give participation points.



“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 2: Word Sort



■ **SUBJECTS COVERED**

Science, Language Arts/Classifying

■ **GRADES**

Fourth and Fifth Grade

■ **OBJECTIVE**

- ✓ Students will sort words into correct categories after listening to the book, *Butternut Hollow Pond*.

■ **SUNSHINE STATE STANDARDS**

SC.F.1.2.2

Knows how all animals depend on plants.

SC.G.1.2.1

The student knows ways that plants, animals and protists interact.

■ **MATERIALS**

Word Sort Cards
One set per student

■ **DIRECTIONS**

1. Each student will be given two sheets of word sort cards.
2. They will cut the cards apart.
3. The words that are the main categories are noted on the card.. These are placed across the top of the student's desk.
4. Students place the remaining cards under the correct category.

■ **EVALUATION/ ASSESSMENT**

Teacher can check off that students completed the activity, or take a grade based on the number correct.

■ **ADDL INFORMATION**

This activity goes along with the book *Butternut Hollow Pond* by Brian J. Heinz



“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 2: Word Sort – Additional Information



Word Sort Cards– Butternut Hollow Pond

Taken from National Science Teacher Assn. – Picture-Perfect Science Lessons

Deer	Main Category PRODUCER
Wildflower	Snapping Turtle
Brown Bat	Fisherman
Main Category CONSUMER	Grass
Marsh Hawk	Raccoon
Opossum	Main Category CARNIVORE
	CARNIVORE

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 2: Word Sort – Additional Information



Word Sort Cards– Butternut Hollow Pond

Taken from National Science Teacher Assn. – Picture-Perfect Science Lessons

Dragonfly	Main Category HERBIVORE
Largemouth Bass	Mallard Duck
Main Category OMNIVORE	Heron
Woodchuck	Water Shamrock
Pickerel Frog	Green Algae

“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 2: Word Sort – Additional Information



ANSWERS FORWARD SORT ACTIVITY

PRODUCER

Green algae
Wildflower
Water shamrock

CONSUMER HERBIVORE

woodchuck
mallard duck
deer

CARNIVORE

dragonfly
largemouth bass
pickerel frog
Snapping turtle
Heron
Brown bat
Marsh hawk

OMNIVORE

Fisherman
Raccoon
opposum

“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 3: Power Point Presentation



■ **SUBJECTS COVERED**

Science Technology

■ **GRADES**

Fourth

■ **OBJECTIVES**

- ✓ Students will research a specific type of owl using books and the internet.
- ✓ Students will create a Power Point presentation following specific guidelines.

■ **SUNSHINE STATE STANDARDS**

- SC.H.1.2.1 Uses scientific processes and habits of mind to solve processes.
- SC.H.1.2.2 Knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.
- SC.H.1.2.3 Knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.
- SC.H.3.2.1 Understands that science, technology, and society are interwoven and interdependent.
- LA.A.2.2.5 The student reads and organizes information for a variety of purposes, including making a report, conducting interviews, taking a test, and performing an authentic task.
- LA.C. The student speaks for specific occasions, audiences, and purposes, including conversations, discussions, projects, and informational or imaginative presentations.

■ **MATERIALS**

- Computers with internet access and reference books.
- Worksheet with guidelines for presentation.
- Paper and pencil.

■ **DIRECTIONS**

1. Students will use three to five 45 minute time periods to research the type of owl they will present.
2. Students will use three to five 45 minute time periods to create a Power Point Presentation based on the requirements attached.
3. Students will present their completed project to the class.

■ **EVALUATION/ ASSESSMENT**

Students and teacher will grade all of the presentations on a rubric which was made together as a class. Example attached.



“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 3: Power Point Presentation – Add’l Information



Power Point Presentation Requirements

1. Choose one of the owls below to research and present a create a Powerpoint Presentation:

Barn Owl
Snow Owl
Elf Owl
Barred Owl
Pygmy Owl
Screech Owl

2. You will need the following for your presentation:
 - a. The name of the owl you are researching.
 - b. Where it is found.
 - c. What it eats.
 - d. How big it is.
 - e. What it looks like.
 - f. One slide must have a sound file of your owl.
 - g. At least two more interesting facts that you found.

Each slide will need a picture which matches what you have written on the slide. You will need to have a total of ten slides. This includes your Title slide.

3. We will be going to the computer lab to do research. You will have three 45 minute periods to research. You may use books, encyclopedias or any other type of reliable resource.
4. You will make a written representation of your slide show before actually creating your Powerpoint.
5. You will have an additional three computer lab periods to make your slide show.
6. You will be presenting your slide show to the whole class.

This project will be worth 100 points.

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 3: Power Point Rubric



Power Point Presentation on Owls

	Beginning 1	Developing 2	Accomplished 3	Exemplary 4	SCORE
VISUAL APPEAL	Slides hard to read. Graphics confusing and unrelated to words. Too much movement in slides.	There are too few graphic elements. Appropriate background. Some slides hard to read.	Good graphic elements . Slides are easy to read and movement and sounds are sufficient.	Appealing graphic elements . Slides are easy to read and movement and sounds are used effectively	
REQUIRED INFORMATION	Little or none of the required information is included.	Some of the required information is included.	Most of the required information is included.	Student went beyond required information and added additional information.	
READABILITY OF SLIDES	Many errors in spelling, grammar and punctuation. Inconsistent, unclear bullet format. Too much information.	Some spelling, grammar, and punctuation errors. Inconsistency on a few slides. Too much information on two or more slides	Little or no grammatical errors. Most bullets are consistent and clear. Most information is clear and concise on each slide.	No grammatical errors. Bullets are consistent and clear. Information is clear and concise on each slide.	
PRESENTATION SKILLS	Presenter didn’t know the material. Hard to hear and understand. Did not use expression.	Presenter knew some of the material. Could be heard but little expression.	Presenter knew most of the material. Spoke loud enough with some expression.	Presenter knew material well. Spoke in a way that engaged the audience. Used appropriate gestures.	

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 4: Virtual Owl Pellet Dissection



■ **SUBJECTS COVERED**

Science

■ **MATERIALS**

Computers with internet access.

■ **EVALUATION/ ASSESSMENT**

Teacher will check students as they work.

■ **GRADES**

Fourth

■ **DIRECTIONS**

Students will go to the website:
<http://www.kidwings.com/index.htm>
and dissect a virtual owl pellet.

■ **EXTENSION**

When students have finished they can explore the kidwings site for information about owls. They also have a link for teachers which has activities to go along with this unit.

■ **OBJECTIVE**

- ✓ Students will go online to perform a virtual owl pellet dissection.

■ **SUNSHINE STATE STANDARDS**

SC.H.1.2.2

Knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.



SC.G.1.2.1

Understands the relationship among organisms in aquatic and terrestrial food chains.

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 5: Owl Pellet Dissection



■ **SUBJECTS COVERED**

Science

■ **GRADES**

Fourth

■ **OBJECTIVE**

- ✓ Students will dissect and examine an owl pellet.
- ✓ Students will compare the contents of their pellet to a bone sorting chart and glue the bones on the chart.
- ✓ Students will complete an inquiry sheet on their findings.

■ **SUNSHINE STATE STANDARDS**

SC.H.1.2.2

Knows that a successful method to explore the natural world is to observe and record, and then analyze and communicate the results.

SC.H.1.2.3

Knows that to work collaboratively, all team members should be free to reach, explain, and justify their own individual conclusions.

■ **MATERIALS**

- Owl pellet
- Dissecting forceps
- Wooden probes
- Plastic gloves
- Hand lens
- Bone Sorting Chart
- Inquiry Sheet
- Pencils
- Ruler

■ **DIRECTIONS**

1. The teacher will review owl pellets with the class.
2. Students will be handed their own owl pellet, bone sorting chart, dissecting tools, and inquiry sheet.
3. Students will take the pellet apart and separate the bones.
4. Students will glue the bones from their pellet onto the bone sorting chart.

■ **EVALUATION/ASSESSMENT**

Teacher will check students as they work. Bone sorting charts will be turned in and checked. Inquiry sheets will be graded.

■ **EXTENSION**

After students have finished they will turn everything in, wash their hands, and be given an edible owl pellet. (Recipe attached)



“Whoo’s in the Food Chain” Jane Herman

Lesson Plan No 5: Owl Pellet Dissection – Add’l Information



OWL PELLET DISSECTION DATA SHEET

1. What is the size of your pellet? Length _____ Width _____
2. How many skulls were in your pellet? _____
3. Put a check by each animal whose bones you found in your pellet.
Rodent ___ Shrew ___ Mole ___ Bird ___ Other _____
4. Put a check by each kind of bone you found.
Ribs ___ Jaws ___ Pelvis ___ Scapula ___ Bird ___ Other _____
5. Did you find a complete skeleton? What is one reason you may not find a whole skeleton? _____

6. About how many animals did this owl eat? _____
7. What do the contents in this pellet tell you about the owl’s diet?

8. What habitat do you think this owl would be hunting in? _____

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 5: Owl Pellet Dissection – Add’l Information



Edible “Barn Owl Pellets”

Makes about 36 pellets.

(I cut this recipe in half and had plenty for my 18 students)

6 cups crispy rice cereal
2 cups (12 ounces) semisweet or milk chocolate chips.
1 cup sugar
1 cup corn syrup
1 cup peanut butter (smooth or crunchy)
1 white chocolate candy bar or white chocolate chips
chopped into pieces. These look like the “bones”
Foil for wrapping pellets

In a large bowl, mix cereal and chocolate chips. Set aside.

Mix sugar and corn syrup in a small pan, and heat until hot and bubbling.

Remove sugar-syrup mixture from heat and stir in peanut butter.

Stir peanut butter mixture into cereal and chocolate chips and mix together well. The chocolate chips will melt. When the cereal is completely coated and is a brown color, allow mixture to sit for five minutes to cool.

Using washed hands, pick up 2-3 tablespoons of the mixture. Sprinkle 4-5 white chocolate bones into the mixture with your hand.

Squeeze mixture in your fist until it looks just like an owl pellet. Smooth edges if necessary and place chocolate pellet on a plate or wax paper.

Wrap each pellet in foil and store in refrigerator until ready to eat.

These are VERY realistic and such fun! I usually tell the kids I’m going to eat an owl pellet, and when I start eating one of these it freaks them out!

Taken from “Owl Puke” by Jane Hammerslough

“Whooo’s in the Food Chain” Jane Herman

Lesson Plan No 5: Owl Pellet Dissection – Add’l Information



PRE and POST TEST OWLS

Name: _____

Fill in the blanks using these words. You will not use all of the words.

Plumage	talons	facial disk	beak
Roost	ear tufts	owlet	nocturnal
Barn owls	eggs	baby birds	crow
Typical owls	owl pellets	Great Horned	snow
Owl pellets			

1. The sharp curved claws of an owl are called _____.
2. A clutch is a set of _____.
3. A brood is a set of _____.
4. There are two families of owls: _____ owls and _____ owls.
5. Owls regurgitate _____.
6. Owls are mostly active at night. They are _____ animals.
7. A baby owl is called an _____.
8. An example of an owl with ear tufts is the _____ owl.
9. Owls like to _____ in a tree during the day and _____ at night.
10. A black colored bird called the _____ does not like owls.

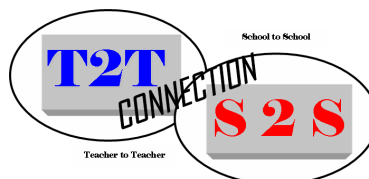
“Whoo’s in the Food Chain” Jane Herman

Lesson Plans Materials Budget



Materials Budget

SUPPLIER	ITEM DESCRIPTION	COST	QUANTITY	TOTAL COST
Genesis, Inc.	Original Owl Pellet Pak with 15 pellets	34.95	1	34.95
http://www.pellet.com *	Barn Owl Pellets	1.65	5	8.25
	Ecology and the Barn Owl (DVD)	34.95	1	34.95
	Bone Sorting Sheets (15 each)	3.95	2	7.90
	Plastic Forceps	.90	20	18.00
	Wooden probes (15 count)	1.50	2	3.00
	Medium poly gloves (1 each)	.10	20	2.00
	Food web poster	3.95	1	3.95
Amazon.com *	Book: <i>There's an Owl in the Shower</i>	5.99	1	5.99
	Book: <i>Butternut Hollow Pond</i>	4.98	1	4.98
RainbowHorizons.com	Owls downloadable unit	16.00	1	16.00
Acornnaturalists.com *	Hand lens T-3180	.67	20	13.40
Publix	Rice Krispy Cereal	2.29	1	2.29
	16 oz. corn syrup	2.39	1	2.39
	1 bag chocolate chips	1.69	1	1.69
	2 lbs. sugar	1.29	1	1.29
	18 oz. peanut butter	2.19	1	2.19
	1 bag white chocolate chips	2.59	1	2.59
* Shipping Charges:			Subtotal	\$165.81
Pellet.com..... 9.50			Tax if applicable	
Acornnaturalists.com.... 5.95			Shipping if applicable	20.43
Amazon.com 4.98			TOTAL BUDGET AMOUNT	\$186.24
Teacher's Name <u>Jane Herman</u>				
School: <u>Gibbons Street Elementary</u>				



“Whooo’s in the Food Chain” Jane Herman

Rubric



WHOOO’S IN THE FOOD CHAIN

Assessment for	1	2	3	4
KWL Chart	Information dis-Organized. One or more topics not addressed. Information has little or nothing to do with topic. Does not contribute to discussion.	Information not accurately organized with incomplete sentences. Information strays from the topic. Does not willingly contribute to discussion.	Information organized with most in complete sentences. Most information relates to the topic. Contributes to the discussion	Information well organized with complete sentences. Information relates to the topic. Contributes to discussion.
Word Sort	Does not listen to story. Has less than 8 of the cards correctly categorized.	Listens to part of the story. Has 8-10 cards correctly categorized.	Listens to the story. Has more than 10 cards correctly categorized.	Listens attentively to the story. Has all of the cards correctly categorized.
Virtual Dissection	Does not stay on task. Does not complete dissection. Most bones placed incorrectly on the chart.	Is off task some of the time. Completes part of the task and places a few of the bones correctly on the chart.	Stays on task most of the time. Completes most of the dissection. Places most bones correctly on the chart.	Stays on task, completes the dissection and places all the bones correctly on the chart.
Owl Pellet Dissection	Off task. Separates only a few of the bones. Does not attempt to glue the bones on the bone sorting sheet.	On task some of the time. Separates some of the bones and glues them on the bone sorting sheet.	On task most of the time. Separates most of the bones and glues them on the bone sorting sheet.	On task all of the time. Separates all of the bones and glues them on the bone sorting sheet.

TOTAL _____