

"Catching F.I.S.H." Families Involved in Science at Home



For further information contact

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2005-2006 IDEA CATALOG OF EXCELLENCE

PROGRAM OVERVIEW

"Catching F.I.S.H." was created as a way to help families participate in classroom learning by sharing the interesting subjects we were daily studying at school. Every week, a science activity is sent home that corresponds with our in-class studies. All the needed materials and the directions are placed in individual bags (tackle boxes) for each student. Projects always contain a hands-on activity, as well as a question and answer task that corresponds with their work. "Catching FISH" assignments are modeled weekly on Mondays, then students have until Friday to complete the task. The objectives vary from week to week, beginning with those that cover the nature of science and the science processes, but each also includes separate objectives as the project touches different science topics.

The weekly activities come in several formats. It may be an **explorative task** like making a Woolly Willy game with iron shavings, a Ziploc bag, a magnet, and a personal portrait. Sometimes, it may be **building a model**. (students make the four types: volcanic, fault-block, dome, and folded mountains from clay.) Last but not least, the weekly F.I.S.H. project may include a task that is a **science experiment step**, for example: giving a hypothesis, making an observation, or collecting data. A few

include complete simple experiments (a particular favorite is Sweet Tooth Science, where students time two types of candies separately for their melt in your mouth difference.)

"Catching FISH" works well with **all** students. Since it is modeled beforehand, each child knows exactly what to do. And if a student should forget or a parent needs additional information, the directions are sent home as well. And, even though this particular project was developed to match fourth grade curriculum, it could be easily adapted for any grade. Assignments are so flexible they can be easily integrated with other subjects like creative writing, math, or reading.

OVERALL VALUE

This activity has worked very well over many years. Parents repeatedly share how much their children look forward to doing their weekly FISH homework. "Catching FISH" allows parents to get involved in their child's school day and gives experiential background to many families who don't have the supplies, or the foundation to know that everyday we can encounter science discovery right at home. This activity is not unique in its ideas or activities, but in the way that they are presented. What could be better than to have activities that lead to continued learning long after the student has left

the classroom for the day? It's the dream of every teacher!

LESSON PLAN TITLES

- Super Scientist
- Finding the Fat
- Water Cycle Washout

MATERIALS

Materials for each lesson are listed with each lesson plan. Overall materials budget including pricing and vendors follows the lesson plans.

ABOUT THE DEVELOPER

Pam Champion received her Bachelor's Degree in Elementary Education from the University of South Florida. She has been teaching for eleven years in Polk County, most of those in the fourth grade.

As a National Board Certified teacher, she has served often as a peer teacher, an intern supervising teacher, and currently leads a weekly mentoring group for new teachers at her school. Pam was selected as Teacher of the Year at Dr. N. E. Roberts for the 2004-2005 school year.



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LESSON PLAN No 1: Super Scientist



SUBJECTS COVERED

(Recording Data activity - Science process step)

GRADES

Three - Five

OBJECTIVES

Students will extend their understanding of the process of data collection.

SUNSHINE STATE STANDARDS

- SCH 1.2.1, 1.2.2
- MAE 1.2.1

MATERIALS (PER GROUP)

- **Catching Fish** tackle box - (brown paper bag)
 - Home telephone (if one is not available, arrange an alternate plan teacher calls from school, news program weather reports on TV., for example)
 - Local number for time and temperature - 688- 8118
 - Recording sheet
 - The story of weather
 - Demonstration thermometer
 - Student thermometers

DIRECTIONS

Scientists work with many different types of materials. Some grow plants, some use animals to observe and collect data, and still others measure rocks, water, or electricity. While their focus may be different, one thing that all scientists have in common is that monitoring and keeping records of their experiments is very important. This week you have the chance to collect and record your own data. The purpose is to get an idea of how it feels to be responsible for frequent monitoring and collecting of data. Just like a scientist, you will need to remember to *plan ahead* in order to get two daily readings of your data.

Catching FISH Activity:

Model the steps for the class, then send individual bags home with each student.

1. Each morning before school, get a parent's permission and call the local time and temperature number. Record the current temperature.
2. Repeat each afternoon. Try to arrange your calls around the same time each day.
3. Use your collected data to answer the questions on the activity sheet.

EVALUATION / ASSESSMENT

Record collected data individually or as a class. Transfer the information to a specific graph type – ex. bar graph or line graph.



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LESSON PLAN No 1: Super Scientist



Purpose: to practice the responsibility skills that a scientist uses when repeatedly collecting data

Materials: home telephone, a parent’s permission, activity sheet, local time and temperature number *688-8118

- Directions:**
1. Get a parent’s permission, then call the number before school. Record the stated temperature on the chart below.
 2. Repeat after school.
 3. Collect daily and record for three days.

	Mon.	Tues.	Wed.	Thurs.
a.m.	_____	_____	_____	_____
p.m.	_____	_____	_____	_____

Answer the following in complete sentences.

1. What was the hardest part about remembering to stop and collect data?

2. What was the difference between the highest and lowest temperatures?

3. Name a time that a scientist would need to regularly check and record data.

4. What was the median temperature for the week?

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LESSON PLAN No 2: Finding the Fat



SUBJECTS COVERED

(Explorative activity related to heart/health)

GRADES

Three - Five

OBJECTIVES

Students will

- name the parts of the circulatory system: veins, arteries, capillaries, aorta, etc.
- evaluate whether certain foods should be considered healthy or non healthy.

SUNSHINE STATE STANDARDS

- SCH 1.2.3, 1.2.4, 1.2.5, 3.2.4
- SCF 1.2.1

MATERIALS NEEDED

Catching Fish tackle box - (brown paper bag)

- 3 potato chips in a baggie
- 3 mini pretzels in a baggie
- 2 brown school paper towels
- Find the Fat directions with 3 corresponding questions
- Prepackaged food items - chips, cookies, etc. (Can include canned vegetables, cereals, or drinks)
- Food Guide Pyramid
- Body Book

DIRECTIONS

- When the blood in the veins and arteries is flowing smoothly, your heart pumps regularly and without difficulty. Sometimes however, the inside walls of the blood vessels become clogged with a substance called plaque. As the opening in each blood vessel gets smaller and smaller because of the clog, your heart has to pump harder, in order to get enough blood circulating. It is not good for your health to make your heart keep working harder, so it is important to take care of your body inside and out.
- Some foods that we eat have lot of fat in them, or they contain cholesterol. It is alright to have some of those foods, but if you eat too much, your body can't get rid of all the waste and plaque will start to collect in your blood vessels.
- The first step to knowing what is healthy for your body, is to know which foods contain a lot of fat, so you can eat them sparingly. “Find the Fat” is a simple test to find out if a food contains a lot or a little grease.

Catching FISH Activity:

Model the steps for the class, then send individual bags home with each student.

1. Spread out both paper towels.
2. Place the three potato chips on one towel, and the three pretzels on the other.
3. Leave them for 10 minutes, then lift and observe if any grease (wet spot) appeared.
4. Fold each paper towel over the food, and press/crush the snacks.
5. Look under the snacks again, and observe for any grease spots.

EVALUATION / ASSESSMENT

There is another way to find out how much fat a food item contains. Look on the back wrapper of any packaged food and it will tell you how many grams of fat is in it. Demonstrate how to find the fat grams. Pass out food packages and with partners spend time exploring nutrition labels.



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LESSON PLAN No 3: Water Cycle Washout



SUBJECTS COVERED:

Building a Model Activity related to water cycle and ecology.

GRADES:

Three - Five

OBJECTIVES

Student will identify a connection between their management of resources (water) and the result of their actions.

SUNSHINE STATE STANDARDS

- SCH 1.2.1, 1.2.5, 3.2.4
- SCG 2.2.3
- SCD 2.2.1

MATERIALS (PER GROUP)

- pollution pictures of litter, smog, and trash in the water
- Small cup of water (approx. 1/4 cup)
- Catching Fish tackle box - (brown paper bag)
 - Plastic/paper plate with a square (the size of a postage stamp) drawn on and labeled as a "backyard well"
 - One cup of clean play sand in a baggie
 - One 2" x 1" square of a coffee filter, that has been covered in red food coloring and allowed to dry.
 - Water Cycle Washout directions with 3 corresponding questions

DIRECTIONS

There are many ways to pollute. Cars fill the air with smoke, litter is be dropped on the ground. One form of pollution however, is not as easy to see. Disposing of oil, gas, or chemicals in your backyard makes the problem go away immediately, but the damage you can't see is what affects us most.

- What danger can you guess will come from things poured out in your yard? (Elicit responses: grass will die, birds or insects will eat the poison, etc.)
- Well water vs. city water - review where some people get their water. (Some people have water piped in from a water plant, but some people get their water from a well in their yard.)
- Do you know anyone who gets their water from a well?
- Now, what danger can you guess can come from things poured out in your yard? (Elicit new predictions.)

Catching FISH Activity:

Model the steps for the class, then send individual bags home with each student.

1. On the paper plate, choosing a spot away from the "well," pour 1/2 of the sand in a pile (to represent your backyard.)
2. Place the red coffee filter on the sand (to represent chemicals or oil that has been dumped in someone's backyard.) Then cover the filter with the rest of the sand.
3. Gently pour the water on top of the sand pile. Observe what happens to the water that soaks out and spreads to the well.

EVALUATION / ASSESSMENT

Students will create a poster that identifies different problems that adversely effect our water resources, ex. oil spills in the ocean, trash in the lake, etc.

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LESSON PLANS MATERIALS BUDGET



Materials Budget

SUPPLIER	ITEM DESCRIPTION	COST	QUANTITY	TOTAL COST
Wal Mart	Tackle Box (to hold supplies)	\$14.99	1	\$14.99
Wal Mart	Brown Bags (450 total)	1.39	9 pkgs	12.51
Wal Mart	Ziploc Bags	1.09	3 pkgs	3.27
Wal Mart	Copy paper	2.67	3 rms	8.01
Wal Mart	Bag of Chips	1.89	1 pkg	1.89
Wal Mart	Bag of Mini-pretzels	1.00	1 pkg	1.00
Dollar Tree	Coffee filters	1.00	1 pkg	1.00
Wal Mart	Plastic / Paper Plates	1.59	1 pkg	1.59
Wal Mart	Play sand	1.67	1 pkg	1.67
Wal Mart	Red dye	2.29	1 bottle	2.29
School - No Charge	cardboard squares			
School Specialty	Food Guide Pyramid #30208189	9.29	1	9.29
School Specialty	The Body Book # 30236675	19.49	1	19.49
School Specialty	The Story of Weather #30264503N	49.88	1	49.88
School Specialty	Demonstration Thermometer #30263928	11.25	1	11.25
School Specialty	Taste of Science (Teacher Book) #30079100	10.25	1	10.25
School Specialty	Student Thermometer #30313658	10.79	2	21.58
School Specialty	Discover Science Bks #30071252	25.25	1	25.25
Teacher's Name <u><i>Pamela Champion</i></u> School: <u><i>Dr. N. E. Roberts Elem.</i></u>		Subtotal		\$195.21
		Tax if applicable		
		Shipping if applicable		
		TOTAL BUDGET AMOUNT		\$195.21

