Worksheet 5-5—Lesson Plan Format (adapted with permission)	Subject: Vertebrates & Invertebrates Lesson Name: Animal Research Project Class: 7th Life Science Date: 3-18-09	Teacher: Jenifer Yasen Location: Kellogg Middle School Unit Context: Animals
Activities • See instruction sheet below	Big6™ Skills **TD-** Students will research an animal of their choice. With the information gathered they will write a 2-3 pg. paper, make a poster of their animal, and do a 2-4 minute presentation to the class **ISS-** Students will think about the best places to obtain information about their animal **L&A-** Students will use books from the library, the LILI database, and other internet sites to find information. **UI-** Students will extract information from their sources that are pertinent to their paper **S-** Students will use information gathered from the different sources and put it together to create a 2-3 pg. paper, a poster, and a 2-4 minute presentation on their animal **E-** Students will complete an evaluation form composed of open ended questions that cause them to reflect on how well they did on their assignment as a whole, what went really well, and what they could have done better	Idaho Science Standards **7.S.1.1.2-** Determine how small systems contribute to the function of the whole

Learning Context: Research paper, poster, and presentation

Materials/Resources:

- Animal research project instruction sheet
- Animal research project rubric
- LILI Database
- Computer with internet access
- Library
- Poster board
- Colored pencils, crayons, and markers

Evaluation:
Students will be graded based on the below criteria

Animal Project

Research Paper/Report

20 points in science & 200 points in language arts

Your report must:

- ✓ be 2-3 pages
- ✓ be typed with a size 12 Times New Roman font
- ✓ be doubled spaced
- ✓ have two copies (one for science and one for language arts)
- ✓ have a title page containing
    - o your name
    - o the type of animal
    - o the hour you have science and the hour you have language arts
    - o one graphic
    - o a boarder
- ✓ have a bibliography page in MLA format (make sure you know whole web address)

- ✓ cover the animal fully
    - common and scientific name(written correctly). Also tell- Kingdom, Phylum, class, order, and family.
    - Description- size, color, movement, etc.
    - Habitat- where does it live
    - Food-
        - ❖ herbivore, omnivore, or carnivore
        - ❖ name 2-5 specific organisms your animal feeds on
    - predators
    - one other species that is very important to your organism, explain why they need it.
    - describe 3 adaptations this organism has that allows it to be successful in its environment.
    - defense mechanisms
    - describe one unique behavior
    - Reproduction-
        - ❖ sexually, asexually, or both
        - ❖ any special mating behaviors
        - ❖ do they lay eggs, have a live birth, or are they a marsupial.
    - positives/negatives
    - human impact
    - any additional facts
- ✓ include a short 3-5 minute presentation

For your language arts grade, one point will be taken off for each mistake (punctuation, spelling, capitalization, and grammar).

For our science grade, you will be graded on the content and how well you covered the animal you are researching.

Poster

10 points in science

Your poster must:

- ✓ have the common and scientific name as the title
- ✓ have the animal drawn in its correct habitat
- ✓ have the predator and prey represented
- ✓ organism must have the correct color and shape

Worksheet 5-5—Lesson Plan Format (adapted with permission)	Subject: Cell organelles Lesson Name: Cell Analogy Class: 7th Life Science Date: 3-18-09	Teacher: Jenifer Yasen Location: Kellogg Middle School Unit Context: Cells
Activities 1. Students will choose something to compare a cell and its organelles to (school, store, resort, etc.) 2. Students will then decide what parts of their chosen thing has similar rolls to the cells organelles and write it down on a piece of paper(store clerk is the like the Golgi apparatus because they package things for shipment) 3. Students will switch papers and use the rubric, book, and notes to evaluate the correctness of each analogy before moving on to the poster. 3. On a piece of large construction paper students will draw a picture depicting their analogy with a key that will explain what is representing each organelle and why they have made that choice (see example under #2) 5. Needs to be colorful and neatly done.	Big6™ Skills **TD-** See assignment sheet below **ISS-** Students must decide where they will find the needed information on cells and their organelles **L&A-** Students must turn to the correct section in their book or notes **UI-** Students will use the information available to them in order to make appropriate comparisons **S-** Students will use the comparisons made to create a poster depicting their analogy. They will present their analogy to the class. **E-** Students will use the rubric to evaluate the correctness of each other's analogies before moving on to the final draft (giving helpful feed back in written form)	Idaho Science Standards **7.S.3.3.2-** Identify the parts of specialized plant and animal cells. **7.S.3.3.3-** Identify the functions of cell structures **7.S.3.3.4-** Describe cells functions that involve chemical reactions

Learning Context: Critical Thinking

Materials/Resources:

- Cell analogy rubric
- Notes and books
- Lined paper
- Large white construction paper
- Colored pencils, crayons, and markers

Evaluation: See rubric below

CELL ORGANELLE ANALOGY Name _____

Cell compared to a _____

>>Project cover all 12 organelles-on your poster tell the teacher what is representing each organelle and explain why you think this fits (consider the function of each organelle!) (12pts.)

___ (1) Nucleus

___ (1) Nuclear Membrane

___ (1) Mitochondria

___ (1) Cell wall

___ (1) Cell Membrane

___ (1) Chloroplast

___ (1) Endoplasmic Reticulum

___ (1) Golgi apparatus

___ (1) Lysosomes

___ (1) Ribosomes

___ (1) Vacuole

___ (1) Cytoplasm

>>Neatness (6pts.)

___ (3) Colored

___ (3) Well Organized

>>Creative (4pts.)

___ (4) Original Idea

Worksheet 5-5—Lesson Plan Format (adapted with permission)	Subject: Heredity Lesson Name: Design a Kid Class: 7th Life Science Date:3-18-09	Teacher: Jenifer Yasen Location: Kellogg Middle School Unit Context: Genetics
Activities 1. Get into groups of 2, decide who will be the mother and father 2. For each facial trait on the instruction WS each person will flip a penny (read all instructions and pay attention to the traits type of inheritance) 3. If it is heads you will pass on the dominate gene. If it is tails you will pass on a recessive gene. 4. On your WS put the gene given in the correct boxes and determine the child's genotype and phenotype. 5. Draw your child with the correct phenotypes from your WS.	Big6™ Skills **TD-**Use your notes and knowledge of genetic inheritance to randomly assign genes to a child you and partner are going to create. Based on the genes of your child you must be able to tell me the genotype and phenotype. Draw your child depicting the correct phenotypes from your WS. I**SS-** Determine that their notes and book are the best resources **L&A-** Flip to the correct section of their book or notes **UI-** Complete the activity **S-** Use the information from the WS to draw the child **E-** None	Idaho Science Standards **7.S.3.3.5**-Describe how dominate and recessive traits are inherited

Learning Context: Hands on Activity

Materials/Resources:

1. Design a Kid instruction packet
2. One penny for each student
3. Student WS
4. White computer paper
5. Colored pencils, crayons, and markers
6. Notes and science book

Evaluation:

Students will be evaluated on if their WS has properly been filled out, and that they used the traits on the WS when they drew their child.

Worksheet 5-5— Lesson Plan Format (adapted with permission)	Subject: Steps of the Scientific Method Lesson Name: Grape Lab Class: 7th Life Science Date: 3-18-09	Teacher: Jenifer Yasen Location: Kellogg Middle school Unit Context: Scientific Method
Activities • Have students use LILI to find 2 articles on experiments using the scientific method • For each article answer the following questions 1. Title of the article? 2. What was the problem? 3. What was the hypothesis? 4. What did they do to test their hypothesis? 5. What conclusions were drawn? • Article activity will be followed by the grape lab • See attached WS	Big6™ Skills **TD-** Students will observe what happens when you put a peeled and unpeeled grape into 7up. They will continue to go through every step of the scientific method to explain what is observed **ISS-** Students will determine that their notes are the best place to go for information on the scientific method **L&A-** Students will flip to the correct section of notes **UI-** Students will use the information in their notes to complete each step of the scientific method **S-** None **E-** None	Idaho Science Standards **7.S.1.2.1-** Describe how observations and data are evidence on which to base scientific explanations and predictions **7.S.1.2.2-** Use observations to make defendable inferences **7.S.1.6.1-** Identify controls and variables used in scientific investigations **7.S.1.6.2-** Use appropriate tools and techniques to gather and display data **7.S.1.6.3-** Evaluate data in order to form conclusions **7.S.1.6.4-** Use evidence and critical thinking to accept or reject a hypothesis **7.S.1.6.5-** Evaluate alternative explanations or predictions **7.S.1.6.6-** Communicate and defend scientific procedures and explanations

Learning Context: Hands on Critical Thinking

Materials/Resources:

- Grape lab student WS
- Notes
- 7up
- 50ml beakers
- Red grapes
- Electronic balance or triple beam balance
- Stirring rods

Evaluation:
Students will be grade on if they properly answered the questions below.

Grape Lab Procedure

Objectives: To perform steps of the scientific method in order to figure out why what you are seeing is happening.

Problem: Why does one grape float and one grape sink?

Materials:
250ml beaker
4 grapes
1 can 7up
stir rod
triple beam balance
worksheet (WS)

Procedure:

1. Peel one of the grapes
2. Fill beaker with 150ml of 7up
3. Place the peeled grape and 1 unpeeled grape into the 7up
4. Record your observations on the WS
5. Do #2&3 on your WS and have the teacher check it before moving on.
6. Perform your approved experiment.
7. Answer #4&5 on your WS
8. Clean up your station and replace used supplies (should look exactly like you found it)

Grape Lab Questions **Name_____**

1. **Observation**: Record at least 7 observations about what you see

2. **Hypothesis**: Write a hypothesis about why what you are seeing is happening. Start it with "I think _____ is happening because _____".

3. **Experiment**: Test your hypothesis. Write the procedure you will follow below. **Be sure to have your procedure checked by your teacher before doing it!**

4. **Results**: Write down what happened in the experiment

5. **Conclusion**: Explain whether your experiment supported or did not support your hypothesis