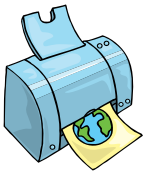
Print Cut and Fold



Creative technology projects for

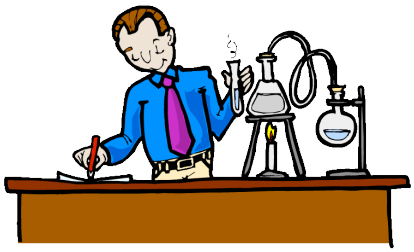
SCIENCE

Grades 3–8

The following pages contain sample activities from the book.

Student Activity

Lab Report Mini-Book



Grade Level & Content Area(s):
General Science (Grades 3-8)

On CD-ROM:
LabReportPS.pdf
MiniBookTemplate.ppt
MiniBookIS.pdf

Lesson Overview:
Students will report their findings from a classroom lab activity using all the steps of the scientific method in this mini-book. Because each lab investigation is unique, the contents of the mini-book may need to be altered from one activity to the next. Students will modify the template so that it includes each step of the scientific method (up to six) and will enter descriptive text, images, WordArt, and other objects to visually represent the concepts. The book is printed on a single sheet and held together only with simple folds.

Software or Special Materials/Supplies:
PowerPoint
Scissors

Standards:
NSES 5-8 Content Standards A, E & G

- With practice, students should become competent at communicating experimental methods, following instructions, describing observations, summarizing the results of other groups, and telling other students about investigations and explanations.
- Scientific explanations emphasize evidence, have logically consistent arguments, and use scientific principles, models, and theories.
- Technology used to gather data enhances accuracy and allows scientists to analyze and quantify results of investigations.
- Scientists formulate and test their explanations of nature using observation, experiments, and theoretical and mathematical models.
- Students should review and describe any completed piece of work and identify the stages of problem identification, solution design, implementation, and evaluation.

Notes to Teacher:
The mini-book is designed to have a front cover, back cover, and six inner pages for a variety of content. Depending on the steps of the scientific method that you choose to use for each lab investigation, you may need to modify the instructions and/or content of the mini-books. You may wish to edit the template before distribution to students, labeling the text boxes with the appropriate steps of the scientific method to be documented by the student.

The assembly of this book, while simple, can be frustrating. Often, students will make the cut from the non-folded side of the paper. To prevent this, demonstrate for all students when the first student is ready for assembly and enlist that student's help to teach others as they finish.

Modifications or Extensions:
Like other activities, this may be modified for lower students by having the text in the textboxes already entered, with a few keywords missing. The use of a word bank may further assist struggling students.

Lab Report Mini-Book

Name: _____ **Date:** _____

You will be creating an eight page mini-book reporting the findings of a lab activity. The book will include each step of the scientific method (up to six steps). You will enter descriptive images, WordArt, and other objects to represent the concepts.

Planning Page Directions:

1. Write the title of your lab in the Cover box. You will place a picture on your cover. List some terms you can use to search the clip art gallery.
2. You are reporting your findings from a lab. For pages 1-6, list each step of the scientific method. Also write some important ideas and information about each step.
3. You will be inserting clip art for each stage. List some terms that you can use to search the clip art gallery for each page. Write these terms in the clip art search term box.

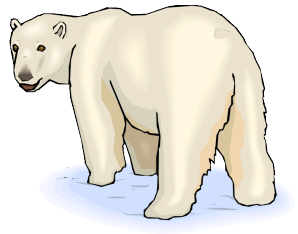
Cover	•Title: _____ Clip Art Search Term: _____
Page 1	•1st Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Page 2	•2nd Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Page 3	•3rd Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Page 4	•4th Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Page 5	•5th Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Page 6	•6th Step of the scientific method: _____ Clip Art Search Term: _____ •Important information and ideas: _____
Back Cover	•Your Name: _____ Date: _____ •Clip Art Search Term: _____

Computer Directions:

Using this planning sheet, create an eight page mini-book using the mini-book template provided by your teacher. Your book should report the findings of a lab activity using all the steps of the scientific method. The book should include a title page, back cover, clip art and descriptive sentences.

Student Activity

Animal Adaptations Clue Squares



Grade Level & Content Area(s):
Ecology (Grades 3-8)

On CD-ROM:
AnimalAdaptationsPS.pdf
ClueSquareTemplate.ppt
ClueSquareIS.pdf

Lesson Overview:
In this activity, students will create a folded square that contains four clues about a "mystery" animal, as well as the answer to the "Who am I?" mystery. Each flap of the unfolding square contains one clue about the animal's identity, including: size, diet, habitat, and adaptations. The identity of the animal is revealed on a hidden answer flap on the back of the square. Student explanations should include both text and graphics where appropriate.

Software or Special Materials/Supplies:
PowerPoint
Scissors

Standards:
NSES K-4 Content Standard C

- Organisms have basic needs. For example, animals need air, water, and food; plants require air, water, nutrients, and light. Organisms can survive only in environments in which their needs can be met. The world has many different environments, and distinct environments support the life of different types of organisms.
- Each plant or animal has different structures that serve different functions in growth, survival, and reproduction. For example, humans have distinct body structures for walking, holding, seeing, and talking.

NSES 5-8 Content Standard C

- The number of organisms an ecosystem can support depends on the resources available and abiotic factors, such as quantity of light and water, range of temperatures, and soil composition. Given adequate biotic and abiotic resources and no disease or predators, populations (including humans) increase at rapid rates. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.

Notes to Teacher:
The clue squares, by default, contain sections for four clues plus the solution flap. With slight modifications, the two inner flaps can be divided so that the total number of clue flaps is six rather than four.

It is very important that students maintain the orientation of the text boxes together with the images as they are in the template. Be sure to reiterate that when replacing existing text in a text box, pressing the delete button is not necessary. Students may get hung up if they accidentally delete a text box by deleting all the placeholder's text. Students should be shown how to use the Undo feature as well as how to copy an existing text box and paste it into the proper place.

Modifications or Extensions:
For lower students, you may wish to assign well-known animals with plenty of information resources. You may also consider reducing the number of traits or characteristics required for the clues.

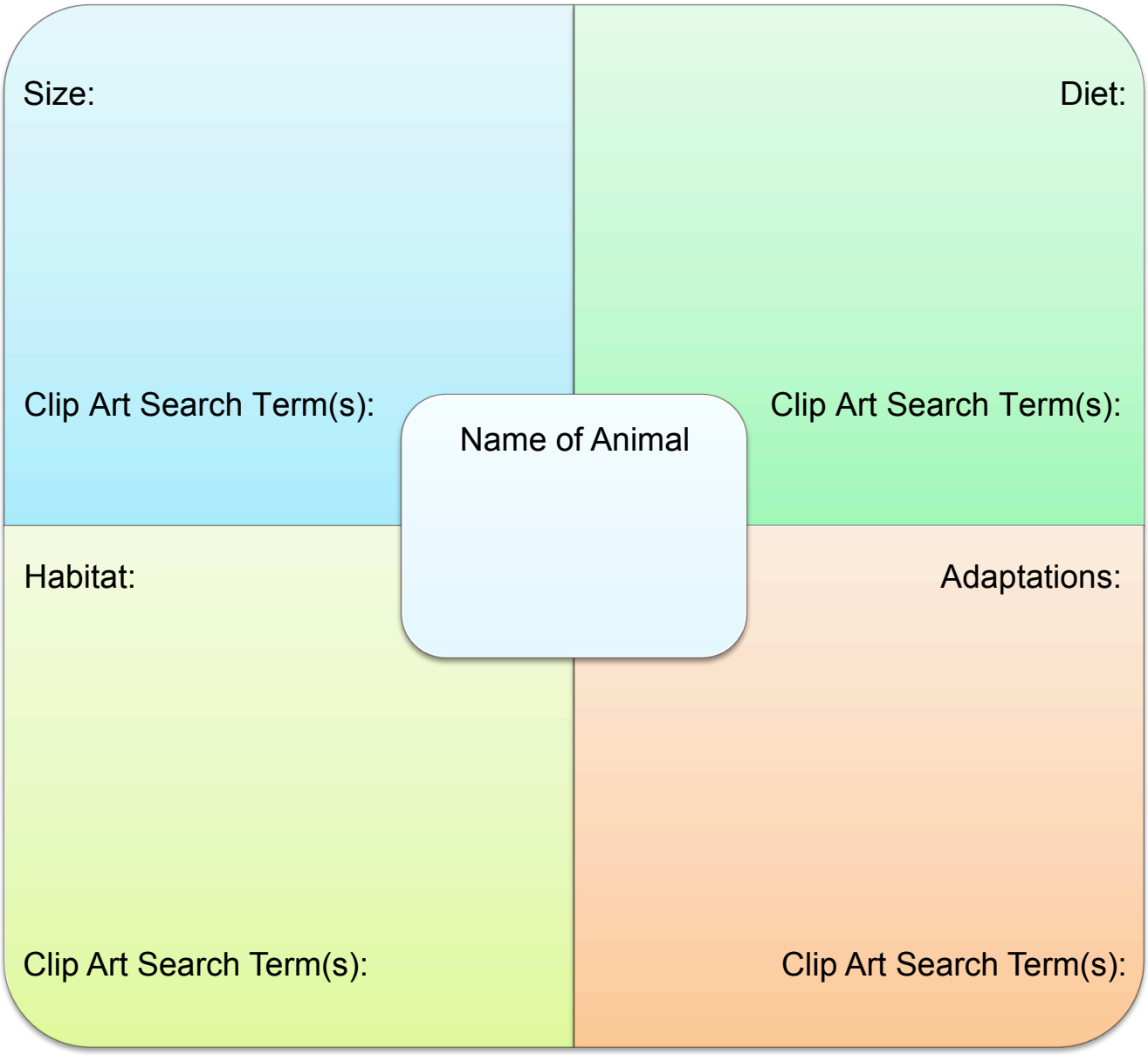
Animal Adaptations Clue Squares

Name: _____ **Date:** _____

You will create a folded square that contains four clues about a mystery animal. Use this plan sheet to research an animal using resources identified by your teacher.

Planning Page Directions:

1. Research your animal and write the specific facts below.
2. List search terms that you can use to find an image for each clue.



Computer Directions:

Using this planning sheet and the template provided by your teacher, create a Clue Square about your animal. Each flap of the unfolding square will contain one clue about the animal's identity. The identity of your animal will be revealed on a hidden answer flap on the back of the square. Be sure to add clipart to each flap to help identify your animal.