



Comprehensive Curriculum

Revised 2008

Grade 7 Science



Louisiana Department of
EDUCATION

Paul G. Pastorek, State Superintendent of Education

Unit 1, Activity 1, Safety Contract

Safety Contract

PREPARE FOR LABORATORY WORK

- Study laboratory procedures prior to class.
- Never perform unauthorized experiments.
- Keep your lab bench organized and free of apparel, books, and other clutter.
- Know how to use the safety shower, eye wash, fire blanket, and first aid kit.

DRESS FOR LABORATORY WORK

- Tie back long hair.
- Do not wear loose sleeves, as they tend to get in the way.
- Wear closed toed shoes with tops.
- Wear lab coats or aprons during all laboratory sessions.
- Wear safety goggles during all laboratory sessions.
- Wear gloves when using chemicals that irritate or can be absorbed through skin.

AVOID CONTACT WITH CHEMICALS

- Never taste or "sniff" chemicals. Never draw materials in a pipette with your mouth.
- When heating substances in a test tube, point the "mouth" away from people.
- Never carry dangerous chemicals or hot equipment near other people.

AVOID HAZARDS

- Keep combustibles away from open flames.
- Use caution when handling hot glassware.
- When diluting acid, always add acid slowly to water. Never add water to acid.
- Use glycerin and twist slowly at the base when inserting glass tubing through stoppers.
- Turn off burners when not in use.
- Do not bend or cut glass unless appropriately instructed by teacher.
- Keep caps on reagent bottles. Never switch caps.

CLEAN UP

- Consult teacher for proper disposal of chemicals.
- Wash hands thoroughly following experiments.
- Leave laboratory bench clean and neat.

IN CASE OF ACCIDENT

- Report all accidents and spills immediately.
- Place broken glass in designated containers.
- Wash all acids and bases from your skin immediately with plenty of running water.
- If chemicals get in your eyes, wash them for at least 15 minutes with an eye wash.

I, _____, agree to (a) Follow the teacher's instructions, (b) protect my eyes, face, hands, and body during laboratory, (c) conduct myself in a responsible manner at all times in the laboratory, and (d) abide by all of the safety regulations specified above.

Print Name _____ Signature _____

Date _____

Parent's/Guardian's Signature _____ Date _____

Unit 1, Activity 3, What am I?

Name _____

Date _____

Identify the characteristics of each element by completing all boxes that apply.

What am I?

| | Metal | Non-metal | Family | Chemical Bond | Natural | Synthetic | State at room temperature |
|------------|--------------|------------------|---------------|----------------------|----------------|------------------|----------------------------------|
| Oxygen | | | | | | | |
| Carbon | | | | | | | |
| Hydrogen | | | | | | | |
| Nitrogen | | | | | | | |
| Calcium | | | | | | | |
| Phosphorus | | | | | | | |

Special characteristics or properties:

Oxygen _____

Carbon _____

Hydrogen _____

Nitrogen _____

Calcium _____

Phosphorus _____

Unit 2, Activity 4, Who's in the Pond?

Name: _____

Date: _____

Class: _____

Who's in the Pond?

KWL

| What I KNOW: | What I WANT to know: | What I LEARNED: |
|---------------------|-----------------------------|------------------------|
| | | |

Unit 2, Activity 7, What's in My Cell?

What's in My Cell?

Name: _____

Date: _____

Complete the word grid for your chosen cell by describing the function of the cell structures listed. List the material used to represent each structure and explain why the material was chosen.

| Structure | Animal | Plant | Function | Material Used to Model | Why Selected |
|-------------------------------------|---------------|--------------|-----------------|-------------------------------|---------------------|
| Cell Wall | | | | | |
| Cell Membrane | | | | | |
| Nucleus | | | | | |
| Nuclear Membrane | | | | | |
| Cytoplasm | | | | | |
| Endoplasmic Reticulum (E.R.) | | | | | |
| Ribosome | | | | | |
| Mitochondrion | | | | | |
| Vacuole | | | | | |
| Lysosome | | | | | |
| Chloroplast | | | | | |

Unit 3, Activity 1, Metamorphosis Observations

**Metamorphosis Observations
Story Chain**

Add the next sentence to complete the story.

| | |
|--|---|
| The Beginning... Eggs are laid | To begin the life cycle of a frog, eggs are laid in water and are fertilized by the male. |
| And now the tadpole arrives! Tadpole forms | |
| Here comes the hind legs... Hind legs develop | |
| Legs, legs, and more legs! Now the front legs develop | |
| Finally a frog! The legs are fully developed | |

Unit 3, Activity 6, Biological Classification

**Biological Classification
Split Page Note-Taking Sheet**

| | |
|------------------------|--|
| Kingdom | A group of similar phyla or divisions Example - Animalia |
| Phylum | A group of similar classes Example - Chordata |
| Class | A group of similar orders Example - Mammalia |
| Order | A group of similar families Example - Primates |
| Family | A group of similar genera Example - Hominidae |
| Genus | A group of similar species Example - <i>Homo</i> |
| Species | A group of organisms that look alike and are capable of producing fertile offspring in the natural environment Example - <i>sapiens</i> |
| Scientific Name | The name used by the scientific community Example - <i>Homo sapiens</i> |
| Common Name | A general name for a species Example - Human being |

Unit 4, Activity 1, Biome Field Trip

Name _____

Date _____

Class _____

**Biome Field Trip
Split-Page Notetaking Sheet**

Use the notetaking sheet to record information about each biome visited.

| | |
|--------------------------|--|
| Biome | |
| Physical description | |
| Characteristics | |
| Plant and animal species | |
| Products/resources | |
| Unique characteristics | |

| | |
|--------------------------|--|
| Biome | |
| Physical description | |
| Characteristics | |
| Plant and animal species | |
| Products/resources | |
| Unique characteristics | |

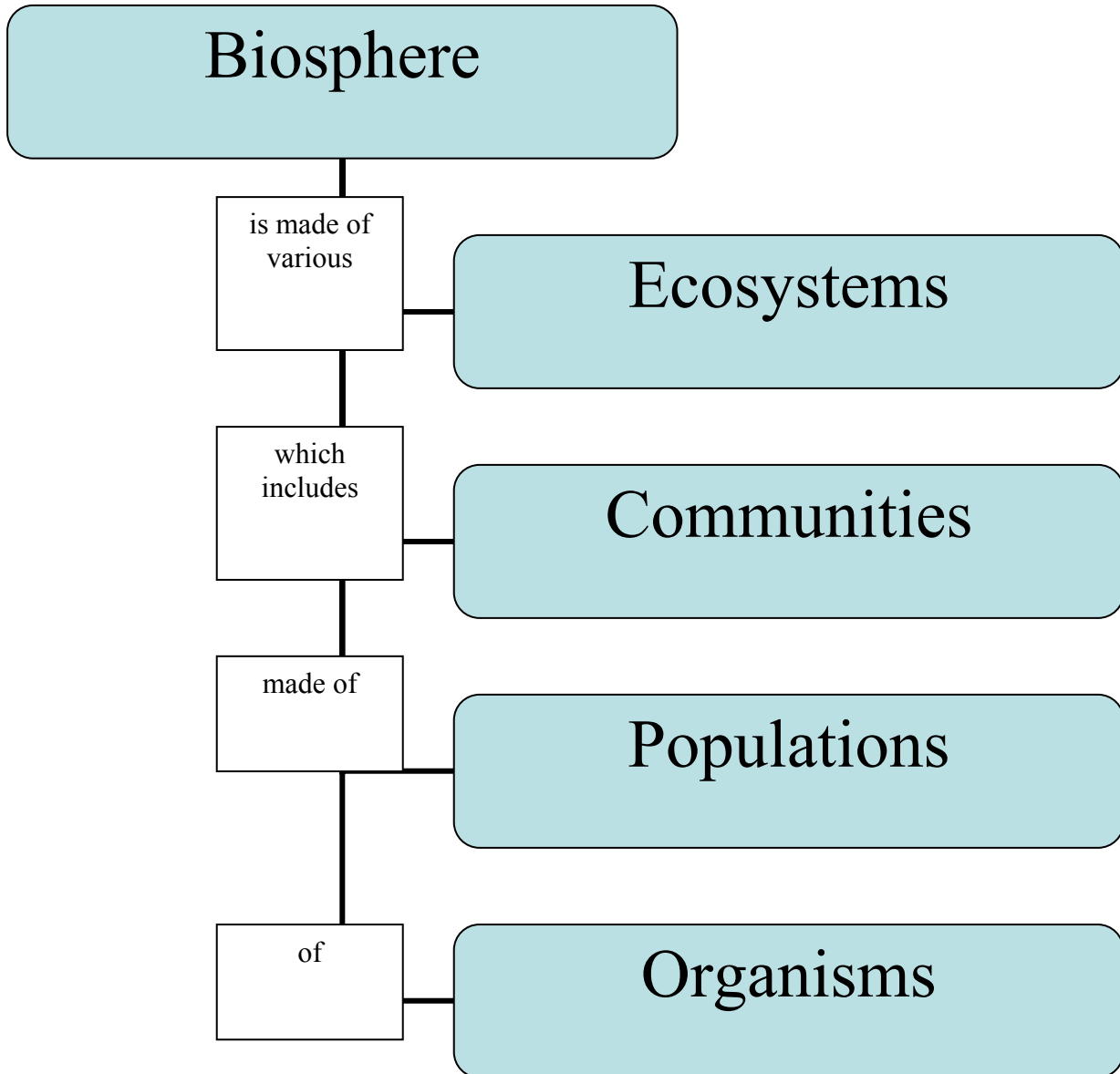
| | |
|--------------------------|--|
| Biome | |
| Physical description | |
| Characteristics | |
| Plant and animal species | |
| Products/resources | |
| Unique characteristics | |

| | |
|--------------------------|--|
| Biome | |
| Physical description | |
| Characteristics | |
| Plant and animal species | |
| Products/resources | |
| Unique characteristics | |

Unit 4, Activity 4, What's the Connection

What's the Connection?

Use the following terms to create a Graphic Organizer that shows the relationship of the following terms: *biosphere*, *communities*, *ecosystem*, *organism*, and *populations*



Unit 4, Activity 5, Symbiotic Relationships

Symbiotic Relationships

Name _____

Date _____

List two organisms and the symbiotic relationship they share.

| Organism | Organism | Relationship |
|-----------------|-----------------|---------------------|
| | | |
| | | |
| | | |
| | | |

Symbiotic Relationships

Name _____

Date _____

List two organisms and the symbiotic relationship they share.

| Organism | Organism | Relationship |
|-----------------|-----------------|---------------------|
| | | |
| | | |
| | | |
| | | |

Unit 5, Activity 2, Adaptation

Adaptation Vocabulary Self-Awareness Chart

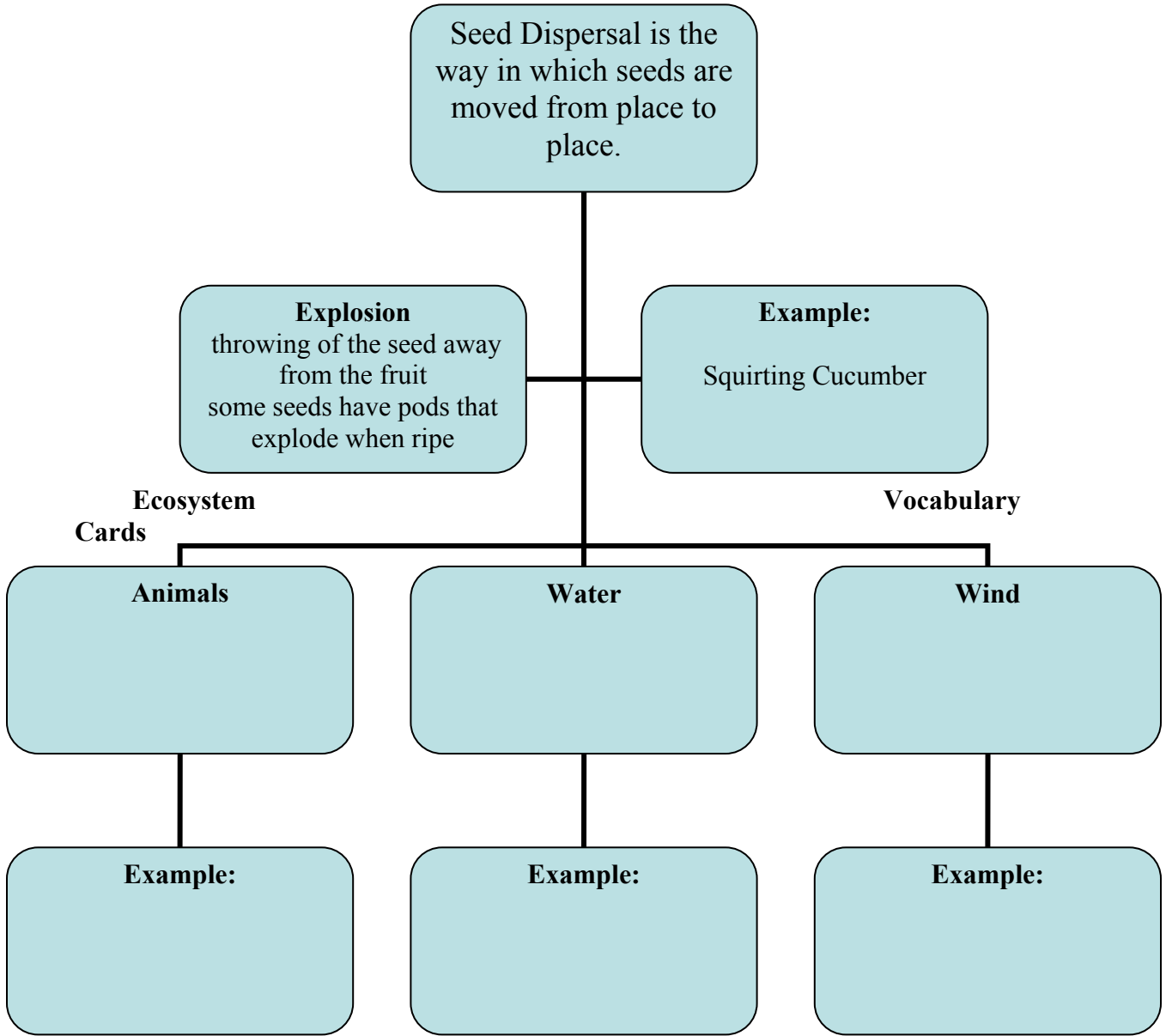
Rate your level of understanding of each word with either a plus (understand well), a check (limited understanding or unsure), or a minus (don't know). With each word listed, an example and definition must be included. Add more terms to the table as they relate to adaptations. Continue to complete the table during the lesson in order to use it as a review and study sheet.

| Word | + | √ | - | Example | Definition |
|-------------------|----------|----------|----------|----------------|-------------------|
| Adaptation | | | | | |
| Behavioral | | | | | |
| Structure | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Unit 5, Activity 3, Seed Dispersal

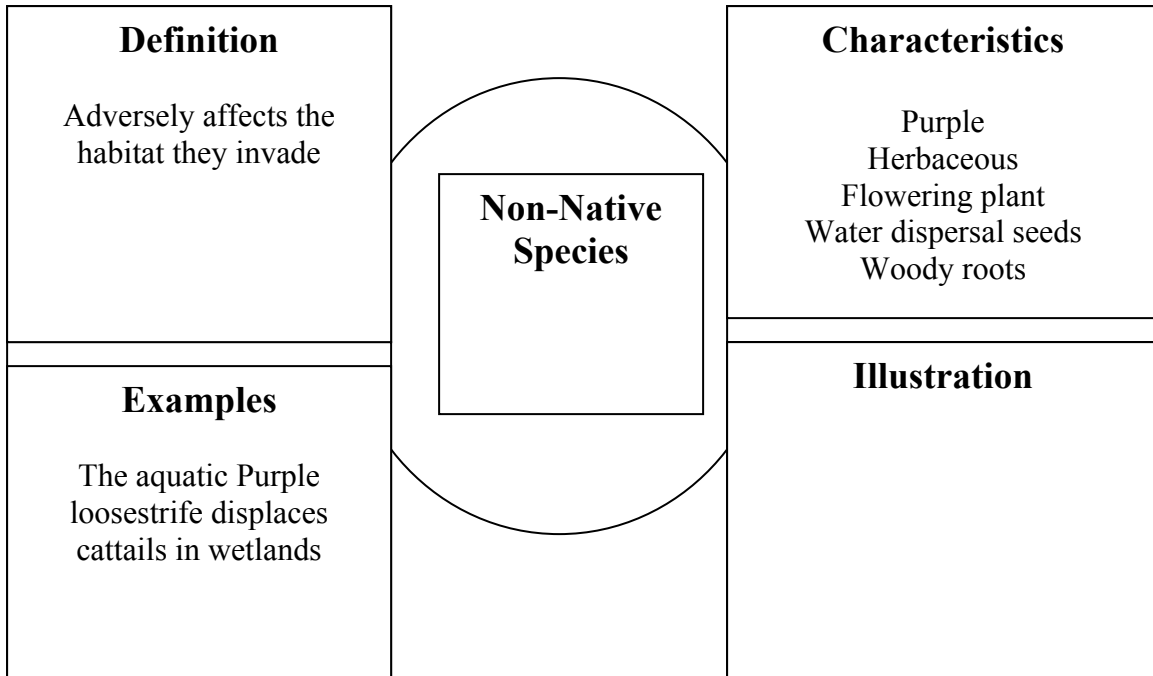
Seed Dispersal

Using the following graphic organizer, describe each type of seed dispersal and provide examples of each. The first example has been provided for you.

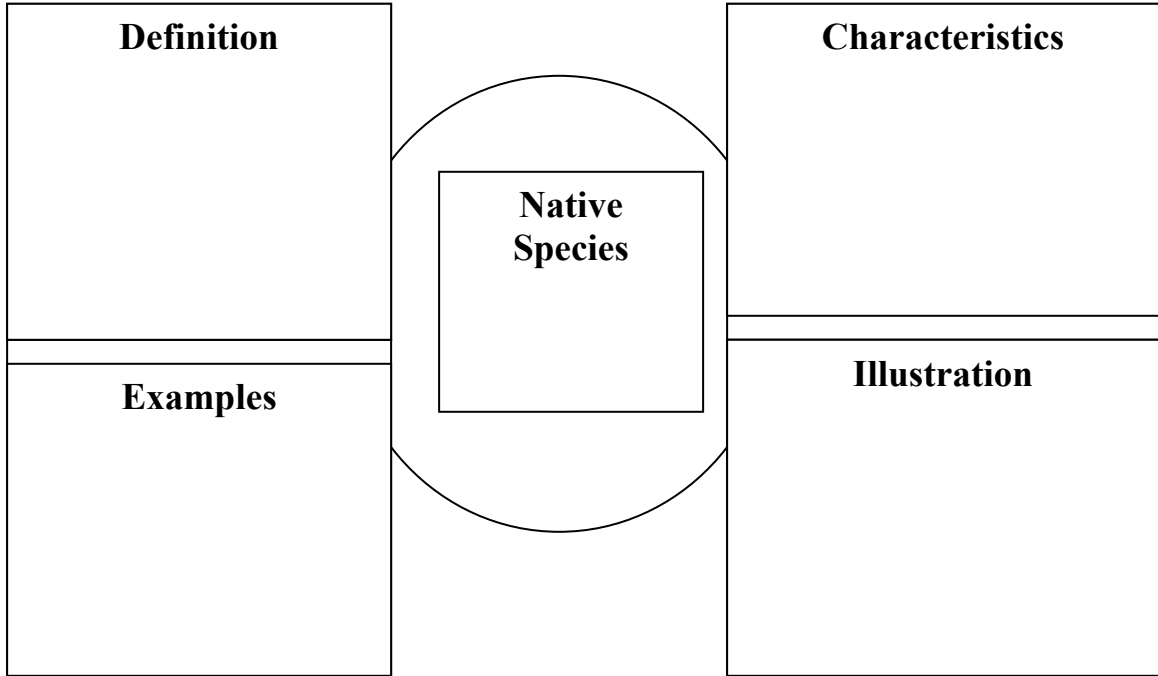


The ecosystem vocabulary card below, using the term *Non-Native Species*, has been partially completed. You should add the missing component. Complete the remaining vocabulary cards for the following terms: *Native Species*, *Invasive Species*, and *Pest*.

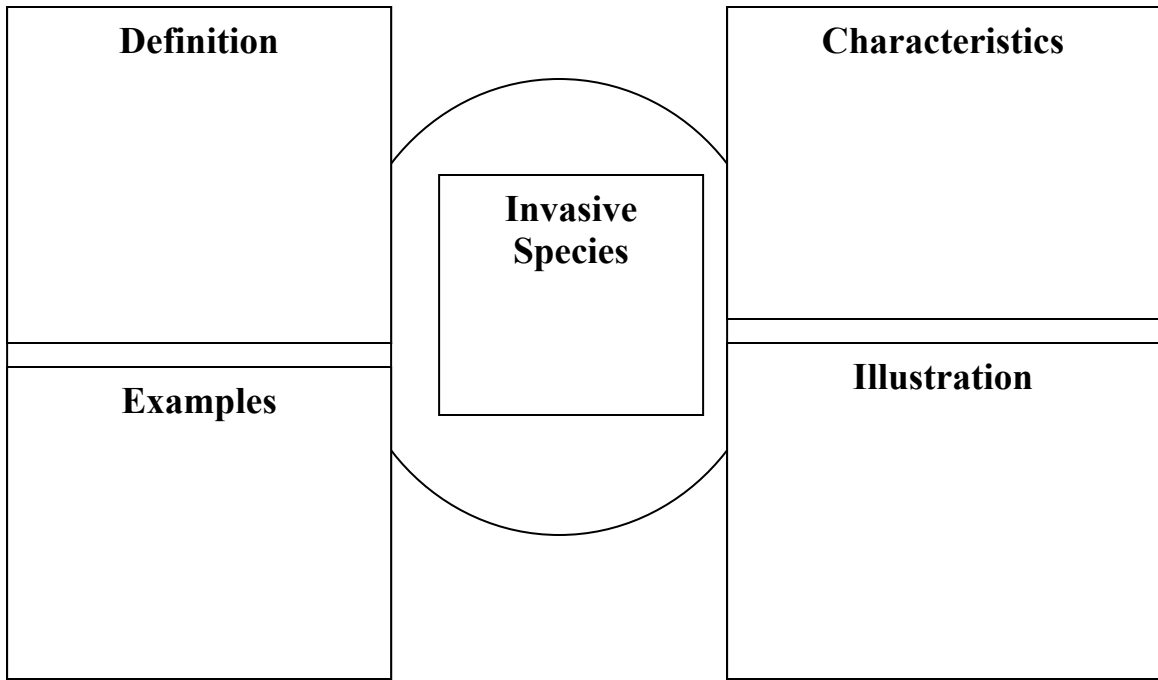
Unit 5, Activity 4, Ecosystem Cards



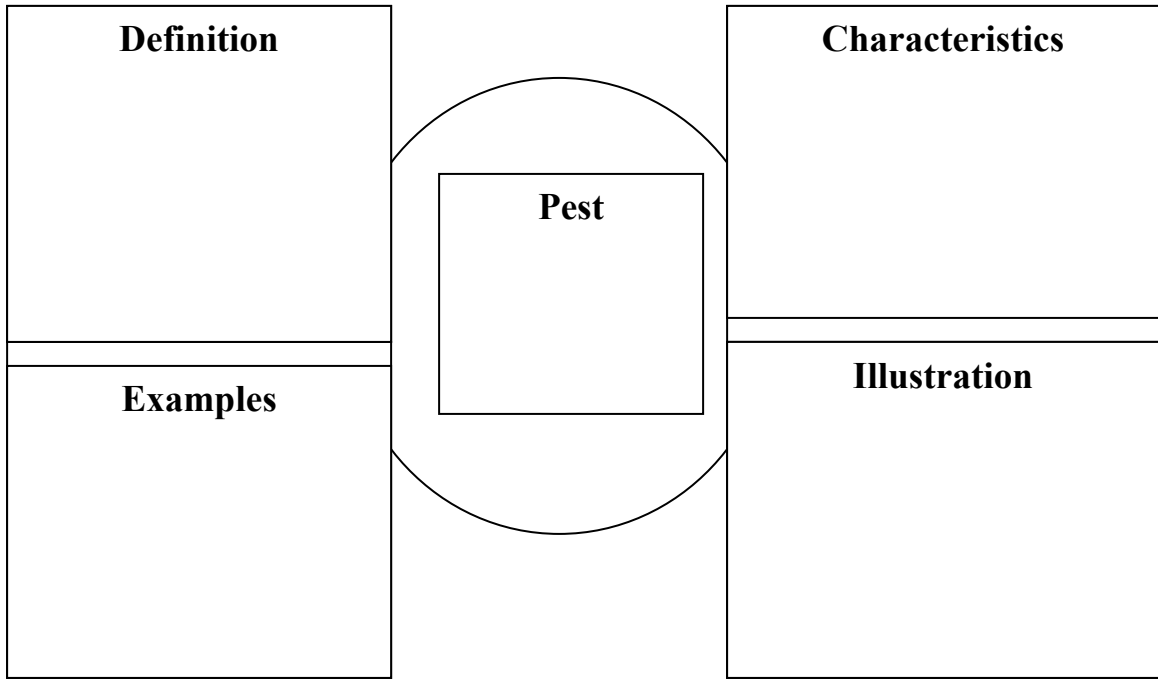
Unit 5, Activity 4, Ecosystem Vocabulary Cards



Unit 5, Activity 4, Ecosystem Vocabulary Cards



Unit 5, Activity 4, Ecosystem Vocabulary Cards



Unit 5, Activity 6, Temporary Wetlands KWL

**Temporary Wetlands
KWL**

Complete the KWL chart. Upon completion, this chart can be used as a study guide.
Mike's New Home

| What I Know ... | What I Want to Know... | What I Learned ... |
|---|--|---|
| <p data-bbox="256 527 505 632">Wetlands are temporary areas of water.</p> <p data-bbox="256 674 542 779">Examples of wetlands include swamps and marshes.</p> | <p data-bbox="591 527 979 600">What causes wetlands to form in certain areas?</p> <p data-bbox="591 636 956 709">Where is the largest wetland located?</p> | <p data-bbox="1024 527 1373 562">A bog is a type of wetland.</p> <p data-bbox="1024 600 1365 747">Wetlands can vary in size from a shallow pond to larger bodies of water such as the Florida everglades.</p> |

Unit 5, Activity 8, Mikes' New Home

Mike's New Home

Mike the Tiger, LSU's mascot, was in need of a new enclosure. LSU had to advertise, interview, and hire persons that met the following job descriptions and qualifications to create one of the largest and finest tiger habitats in the United States. Given the job descriptions and information, identify both the abiotic and biotic factors that are necessary to create a suitable habitat. Upon completion, identify how a change in one abiotic factor would have an impact on Mike's habitat.

1. **Wanted:** A team of 50 people to section off and frame a 15,000 square foot enclosure.
2. **Wanted:** Persons to build a swimming pond and create a waterfall.
3. **Wanted:** Persons to landscape the enclosure with lush planting of plants and trees, especially an oak. The plants and trees will serve to simulate parts of the tiger's natural habitat.
4. **Wanted:** A construction company to build glass paneled arches that will allow visitors underwater views of Mike swimming.
5. **Wanted:** A construction company to create a sixty-foot-tall Italianate Tower or Campanile behind the arches of the viewing wall. A Campanile is a free standing bell tower usually separated from the main building.
6. **Wanted:** A company to install fencing to surround the enclosure.
7. **Wanted:** A company to provide and install large climbable rocks that will also create a barrier around the pond.

Abiotic Factors

Biotic Factors

Unit 6, Activity 1, Reproduction Vocabulary Self-Awareness Chart

Reproduction Vocabulary Self-Awareness Chart

Rate your level of understanding of each word with either a plus (understand well), a check (limited understanding or unsure), or a minus (don't know). With each word listed, an example and definition must be included. Add more terms to the table as they relate to reproduction. Continue to complete the table during the lesson in order to use it as a review and study sheet.

| Word | + | √ | - | Example | Definition |
|-----------------------------|----------|----------|----------|----------------|-------------------|
| Asexual Reproduction | | | | | |
| Sexual Reproduction | | | | | |
| Budding | | | | | |
| Regeneration | | | | | |
| | | | | | |

Unit 6, Activity 1, Laboratory Investigation Scoring Rubric

Name _____

Date _____

Laboratory Investigation Scoring Rubric

| | Excellent 3 Points | Proficient 2 Points | Marginal 1 Point | Novice 0 Points |
|-------------------------------|---|---|--|--|
| Problem and Hypothesis | Problem and hypothesis clearly and completely stated. Clearly identified independent and dependent variables. | Problem and hypothesis stated adequately. Adequately identified independent and dependent variables. | Problem and/or hypothesis are stated poorly. Poorly identified independent and dependent variable. | Problem and/or hypothesis are limited or missing. Independent and dependent variable not identified. |
| Experimental Design | Problem and experimental design match. Variables are constant. Clear, complete, and replicable procedures. Control is identified and appropriate. | Problem and experimental design generally match. Attempt to hold variables are made. Procedures are complete but needing minor modifications. | Problem and experimental design match to some extent. Very little attempt to hold variables constant. Incomplete procedures. | Problem does not match experimental design. Variables not held constant. Procedures are missing or incomplete. |
| Data Presentation | Well-organized data. Data presented in an appropriate manner. | Appropriately presented well-organized data. Minor errors or omissions may be present. | Poorly organized data, presented in an inappropriate manner. Major errors or omissions. | Very poorly organized data, presented in an inappropriate manner. |
| Conclusion | Conclusion fully supports data and includes hypothesis. | Conclusion generally supports data and addresses hypothesis. Minor errors in interpretation of results. | Conclusion supports data and addresses hypothesis, but is limited. Major errors in interpretation of results. | Conclusion does not support data. No attempt to address hypothesis is made. |

Unit 6, Activity 3, Discussion Guide For Reciprocal Teaching

Meiosis and Me
Discussion Guide for Reciprocal Teaching

Reading _____ Date: _____

Prediction:

Question:

Clarifications:

Summary Statement:

Was the prediction confirmed? Explain.

Unit 6, Activity 5, Trendy Traits Vocabulary Self-Awareness Chart

Trendy Traits Vocabulary Self-Awareness

Rate your level of understanding of each word with either a plus (understand well), a check (limited understanding or unsure), or a minus (don't know). With each word listed, an example and definition must be included. Continue to complete the table during the lesson in order to use it as a review and study sheet.

| Word | + | √ | - | Example | Definition |
|-------------------|----------|----------|----------|----------------|-------------------|
| Phenotype | | | | | |
| Genotype | | | | | |
| Allele | | | | | |
| Hybrid | | | | | |
| Monohybrid | | | | | |
| Dihybrid | | | | | |
| Dominant | | | | | |
| Recessive | | | | | |

Unit 6, Activity 5, Punnett Square

Punnett Square

| | |
|--|--|
| | |
| | |

| | |
|--|--|
| | |
| | |

Unit 7, Activity 2, Diet Related Illness

Name _____

Date _____

**Diet Related Illness
GIST**

As you read the article or text, list key terms in the space provided that may be used to summarize the diet-related illnesses. Use these terms to write a summary about the reading material. The first summary has been written for you as an example.

Heart Disease

| | |
|------------------------|-----------------------|
| Heart Disease | Cholesterol |
| Muscle | Meat Products |
| Oxygen | Saturated Fats |
| Arteries | Smoking |
| Arthrosclerosis | Heart |

Summary:

The heart is a **muscle** that requires **oxygen** to pump blood throughout the body. The heart only rests between beats while pumping 2.100 gallons of blood per day. **Heart attacks** are caused by several factors such as **smoking** and an unhealthy diet that contains an excessive amount of **saturated fats**. **Saturated fats** are the fats that remain hard at room temperature and are found in foods such as butter, margarine, lard, and coconut oil. **Meat products** can also contribute to **heart disease** and **arthrosclerosis**. **Arthrosclerosis** is the build-up of fatty-tissue in the **arteries** that can cause blockage, which can lead to a heart attack. **Cholesterol** can be a risk factor contributing to **heart disease**. It is a fat-like substance found in meats, egg yolks, and rich ice cream. **Heart disease** has also been linked to genetics.

Diabetes

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |

Summary:

Osteoporosis

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |

Summary:

Unit 7, Activity 3, Healthy Menu Opinionnaire

Healthy Menu Opinionnaire

Name _____

More attention and concern has been placed on the diets of children and teenagers. Diet-related illnesses have been linked to food choices. In an effort to promote a healthy diet, some schools are joining in the fight. Respond to the following statements by stating your position and discuss at least three reasons to support your opinion.

All candy dispensing school vending machines should be replaced with dried fruit snacks and granola bars.

My opinion is...

Reason 1

Reason 2

Reason 3

Unit 7, Activity 3, Healthy Menu Opinionnaire

All drinks machines should only contain water, fruit juice, and low fat milk.

My opinion is...

Reason 1

Reason 2

Reason 3

Unit 7, Activity 5, Drug Fact Card

**Drug Fact Card
Split-Page Notetaking Sheet**

Use the card to record researched information about a selected drug.

| | |
|--|--|
| Scientific Name | |
| Other Names | |
| Appearance/ How is it used? | |
| Effects: long- and short-term | |
| Health Risks | |

Unit 8, Activity 1, Feeding Relationships

Name _____

Date _____

Feeding Relationships

Label each circle as a type of consumer: carnivore, herbivore, or omnivore. Define and provide examples of each.

Consumers

Unit 8, Activity 3, Cycles and More

Cycles and More
Split-page Note Taking Sheet

| | |
|----------------------------------|---|
| <p>Nitrogen Cycle</p> | <p>-plants use nitrogen compounds to build cells</p> |
| <p>Carbon Cycle</p> | <p>-used by plants and algae to make sugars, which are energy-rich, carbon-containing compounds</p> |

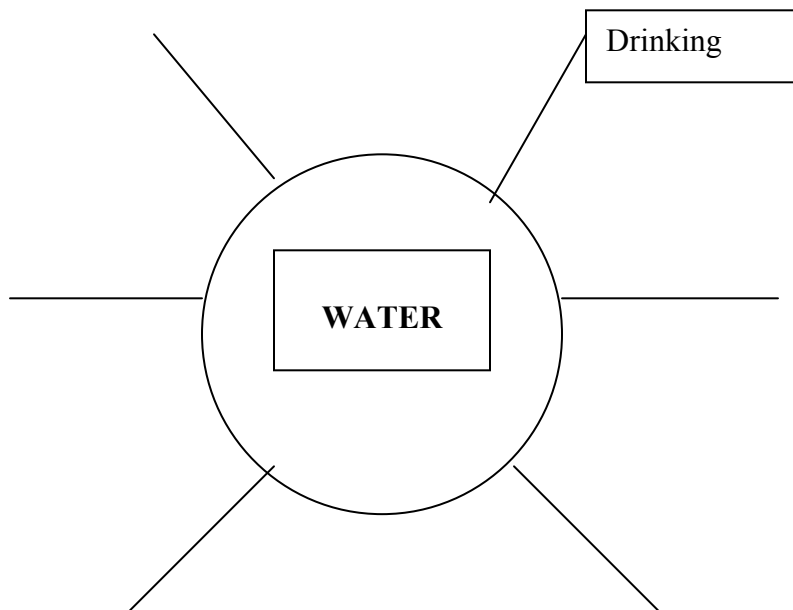
Unit 8, Activity 4, Importance of H₂O

Name _____

Date _____

Importance of H₂O

Identify ways in which living things use water. Add additional lines as needed.



Unit 8, Activity 4, Water Source Cards

Cut the following cards and arrange them showing the largest to smallest source of water.

| | |
|---------------|-----------------------------|
| Rivers | Soil |
| Lakes | Groundwater |
| Oceans | Icecaps and Glaciers |

Unit 8, Activity 4, What is an Aquifer

Name _____

Date _____

What is an Aquifer?

Prediction:

What do you think the main idea of this text will be?

Summarize:

What have you learned so far from the text?

Can you support your summary with evidence from the text?

What do you expect to read next?

Discussion:

Using the information obtained from the text, write 3-5 summary sentences.