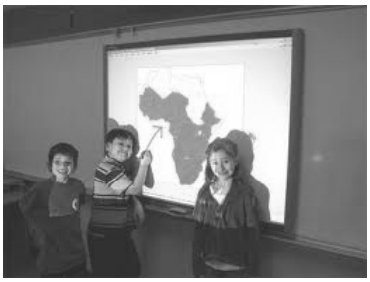


Cooperative Learning: The Structural Approach Part III

Compiled by Jeanette Gordon,

Illinois Resource Center

Within-Team-Jigsaw

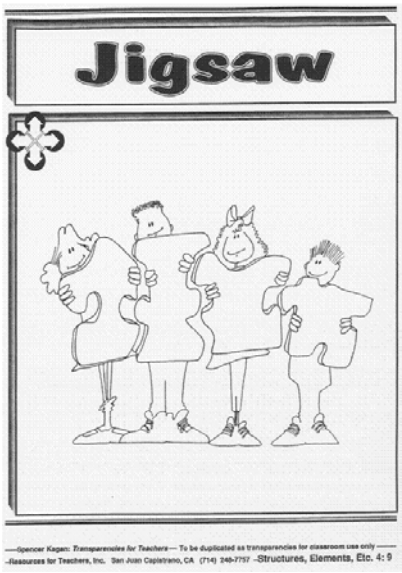
Each person in the team has a piece of the problem. They must use all pieces to solve the problem.

Each person in a team must teach one piece of information to the team.

Team Jigsaw

Each team teaches one piece of information to the class.

Provide guidance for each team to focus on critical content.



JIGSAW VARIATIONS: COMPARISON MATRIX

STRUCTURE	PURPOSE	DIRECTIONS	ADVANTAGES	PROBLEMS AND SUGGESTIONS.
Team Jigsaw	Learn and teach class new information. Possibly review or expand on learning.	Collaborate with team to teach an assigned or selected "piece" or topic to the class.	Possible to hear all presentations; assuring accuracy and facilitating assessment. Students develop public speaking skills. Team satisfaction.	**The number of "pieces" or topics doesn't equal the number of teams.** Assign a related activity or a follow-up. Assign the most difficult topic to two teams. **Some team members dominate the group.** Use group processing. Use team-processing. Use similar-ability groups rather than multi-ability groups with differentiated tasks based on group readiness.
Within-team Jigsaw	Individually teach team members. Possibly review or expand on learning.	Individually learn and teach a "piece" of new info to the class.	Students have sole accountability for teaching others. Individual satisfaction	**Each member does not have the skills to learn and teach his/her piece.** Provide multilevel resources and visuals. Assign parts based on readiness and meet with students who need support. Use "expert" jigsaw variations below. Have the lowest student in a team of 5 and teach with a partner.
Expert-partners **Within-team** **Jigsaw**	Same as above. Share learning and teaching strategies.	Partner with someone from another team to learn and practice their common "piece" before teaching own team.	Students can gain support from a partner. Students share their understanding and strategies.	**Some partners have limited skills.** Use mixed-ability partners. Assign parts based on readiness and have partners learn and teach an appropriate part.
Expert-group **Within-team** **Jigsaw**	Same as above.	Meet as a group with others who are responsible for the same "piece". Learn the information, discuss strategies, return and teach team.	Students can gain support from a group, hence more skills to draw upon and each is able to teach a more complex "piece".	**Some groups have limited skills.** Use mixed-ability expert groups or differentiated tasks for each group. **Some members are left out or too dominant.** Use other cooperative structures within the group to assure participation of all.

Problems Common to All Jigsaw Variations with Resolution Suggestions

The pieces are not appropriate for jigsaw.

- Use jigsaw only when the information can be divided into comprehensible parts.
- Typically provide a general introduction and often an overview of how the pieces relate to the whole.
- Be careful to assign "pieces" or topics that are comprehensible without reading all of the others.
- Do not use jigsaw to divide a narrative into pieces. However, jigsaw is appropriate for analysis of a literature piece that all students have read. Jigsaw can also be used to have students retell different stories and to compare and contrast them.

Not every student is doing his/her part, or the information presented is not accurate.

- Use developmentally appropriate resources: needed prior knowledge, visuals, readability levels
- Provide modeling of similar tasks through a whole-class example using cooperative structures to engage all learners prior to assigning jigsaw. Use team jigsaw as a model prior to Within-team Jigsaw variations.
- Assign or have students clearly identify individual accountability
- Provide explicit structure, using rubrics for more complex tasks
- Progress from teaching simple to more complex content
- Grade each student on his/her individual part, rather than grading the team.
- Use group processing as needed. For complex teaching tasks, use group-processing during stages of preparation, not just upon completion.
- Use self-peer and teacher assessment strategies as needed to promote accuracy and identify errors.

Some students finish before others.

- Assign tasks based on student readiness
- Assign challenge options for students who finish early
- Have students who finish practice teaching and giving each other feedback
- Give students opportunities to develop their own ideas for expansion or improvement

Students are just reading the information rather than really teaching

- Raise the thinking level of the task, so students really need to understand the information, explain and support their ideas as they teach
- Assure that the information is developmentally appropriate: readability levels, prior knowledge, visual support etc.
- Limit the notes used, so students need to express some of the ideas in their own words.
- Incorporate diverse modalities into the teaching

Listeners do not demonstrate respect and/or active listening

- Structure the note-taking tasks of the listeners
- Students incorporate questions into their teaching
- Hold students accountable for all of the information, but be sure all can effectively teach his/her part
- Use group processing strategies to help develop a climate of support and collaboration

Differentiation Ideas for Using Jigsaw

Within-Team-Jigsaw

Each person in the team is accountable for one piece of information that s/he will teach to the team, the complexity of the task may differ based on readiness.

- Teacher assigns the “pieces”.
- If ready, teams divide the info.

Team Jigsaw

Each team teaches one piece of information to the class.

- Heterogeneous groups have multilevel information.
- Homogeneous groups have appropriate level of information.

Pull-out ESL teacher is to “help” the English language learner give a speech on an endangered animal.

Topic: Panda Bear

Resource: Book approximately 6th grade reading level.

Characteristics of the student:

Chinese

age-appropriate schooling

6 months in U.S.

beginning

What are the understandings?

- Animals have common survival **needs** that they meet in similar and different ways.
- When the survival needs of an entire **species** aren't met, they become **extinct**.
- Many animals are in danger of extinction because of human behaviors.
- Conflicts arise when **environmentalists** try to protect **endangered** species.

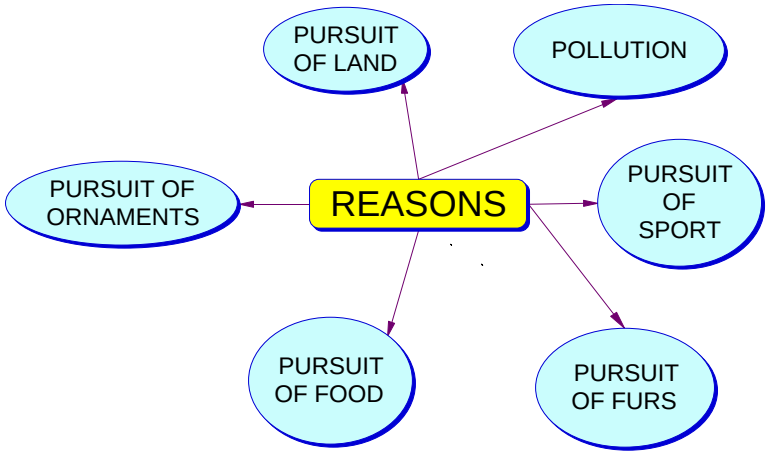
Identify Essential Concepts

needs(review) species extinct environmentalist endangered

Prerequisite vocabulary for ELL

animal	habitat	food	reproduce
protect/protection		die	dead
preditor	prey	danger	environment
cause	effect	problem	conflict
offspring			

REASONS FOR ENDANGERED ANIMALS



Animals have common survival needs.

Habitat and Space
China's mountains, coniferous forest. Bamboo is at lower elevation. Males range 1.5 to 2.5 sq. miles, females 75-100 acres. (less than other bears)

Food and Water
99% of diet is bamboo leaves, stems and shoots. Ineffective digestive system. Must eat 12-16 hours a day.

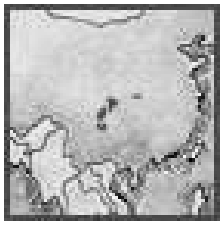
NEEDS Panda Bear

Protection
Protective fur. Oily protective coating. Large size, camouflage. Cubs vulnerable.

Air & Livable Temperature
Cold, damp, misty area
No problems with this need.

Ability to Reproduce
Only 10% males & 30% females fertile, Usually1 cub, if 2 often abandon. Cubs 3-4 ½ oz.

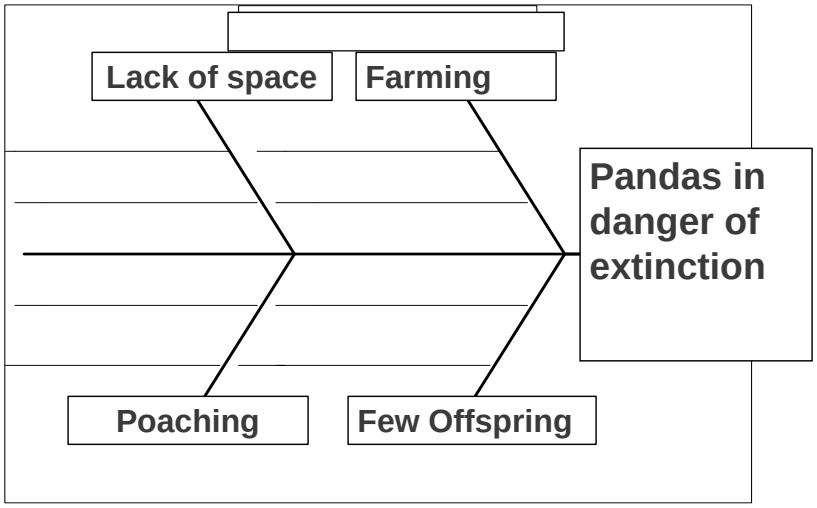
Use visuals to support comprehension.



Language modeling for entering, and beginning ELLs.

Pandas are large black and white bears.
They have protective fur and large claws.
Pandas live in the mountains in China.
They eat bamboo leaves stems and shoots.
The bears need a lot of food.
They eat 12 to 16 hours a day.
Pandas don't have many cubs.

When the survival needs of an entire **species** aren't met, they become **extinct**.



SENTENCE VARIETY TO EXPRESS CAUSE AND EFFECT

1. _____, so_____ .
2. _____because_____.
3. Because _____, _____.
4. Since_____, _____.
5. _____ since _____ .
6. _____; consequently, _____ .
7. _____; therefore, _____ .
8. _____ causing _____ .
9. _____ which causes (caused) _____ .
10. _____ resulting in _____ .
11. _____ which results (resulted) in _____ .
12. _____affects (affected) _____ .
13. Now that _____, _____.

Modeling for developing and expanding ELLs

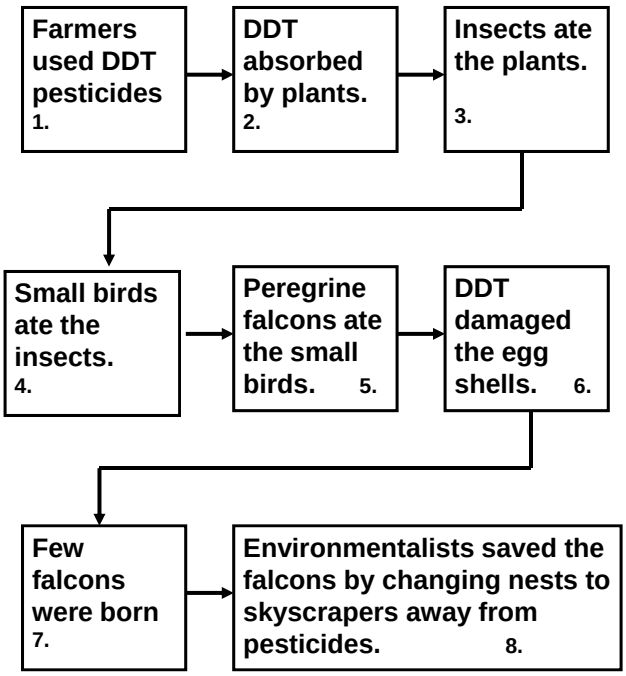
Because <u>farmers want bamboo</u>**,** <u>Pandas are running out of food.</u>

<u>Pandas don't have many cubs</u> **because** so many adult pandas are infertile.

Sequence of events is more appropriate for some endangered animals.

For example:

Peregrine falcons were in danger of extinction.



Problem-solution Frame

WHAT? Panda Bears are in danger of extinction.

WHY? Farming, civilization, poaching, long gestation cycle, few offspring, young cubs victims of predators

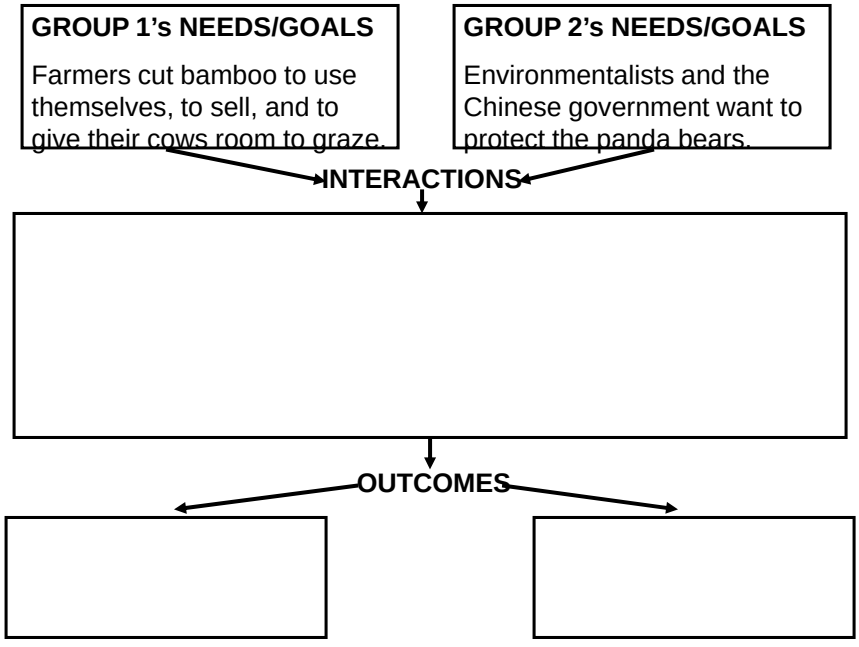
WHO CAUSES IT? Few predators to young, but mostly human actions.

WHO IS AFFECTED BY IT? If Panda Bears become extinct, the world will lose one of its most beloved animals.

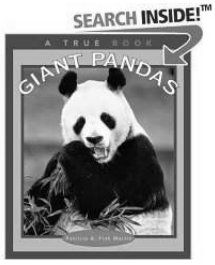
SOLUTIONS ATTEMPTED	RESULTS
1. Chinese government passes law, death penalty for poaching	1. Some poaching remains due to high price on black market for furs.
2. Chinese gov. created 11 forest preserves, and removed some human settlements to enlarge panda's habitat. They also replant and care for bamboo.	2. It helped, but pandas are still running out of room and food. Bamboo takes a long time to grow, and Panda's eat a lot.
3. Some panda's are in zoos. Cubs are protected. Artificial insemination is used.	3. In the last decade 44 giant pandas have been artificially bred. Success rate increased from 32% to 85%.
4. Some cubs are being released in the wild.	4. There has been some success.

Your Suggestions	Prediction of Results
1. Continue artificial breeding. 2. Continue to research why so few bears are capable of reproduction. 3. Continue research on test-tube panda. Success expected in a few years. Embryo's will be planted in females. 4. Continue trying to clone panda's.	1. Scientific advancements will possibly increase success rates. 2. May be able to increase the number of fertile animals. 3. Positive results are expected , but still unknown. 4. They expect results in 5 years, but there are ethical questions and concerns about cloning.

INTERACTION FRAME



Seek developmentally appropriate readings.



Search www.amazon.com for Children's Books

Read reviews.

Reading level ages 4-8

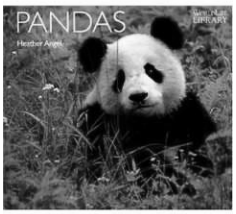
Children can write their own reviews online!!

A bear's 1st person story.

Award-winning illustrations.

More advanced reading level,

Outstanding real pictures of bears in the wild. →



Seek out videos online: This image comes from a video at National Geographic.com

http://www.nationalgeographic.com/kids/creature_feature/0011/pandas.html

Accountability for Listening

ANIMAL	DESCRIPTION OF ANIMAL	HABITAT AND FOOD	WHERE & NUMBERS	REASONS ENDANGERED

Discuss: Compare, contrast and rank.

ANIMAL	ATTEMPTS TO PROTECT	RESULTS	SUGGESTIONS	CONTROVERSIES

Example: Rank the aspects of comparison.

Jigsaw Suggestions for 2nd grade

Life Cycle of the Butterfly

- Expert groups for each stage: egg, caterpillar (larva), chrysalis (pupa), and adult.

Life Cycle of Flowering Plants

- Expert groups for seeds, plant, flowers, and fruit will work well with the jigsaw strategy.

Story Analysis

- Expert groups for characters, setting, problem, and solution of a story or a portion of the story.

Biography

- Expert group for each phase of life.

Source of suggestions :
http://www.brighthub.com/education/k-12/articles/76293.aspx

1st grade Plant Unit: Teams Each Teach a Crop

1. **During a class internet search, teams select a crop to investigate. Each project will include:**
   a. A visual presentation of the life cycle of the crop, including labels and approximate times for each phase. Captions for the pictures.
   b. A written and oral description of the parts of the plant at different stages.
   c. A written and oral description of how long each phase takes.
   d. A written and oral description of the entire plant cycle, and
   e. An electronic or hand-written list of resources

- The teacher assigns a developmentally appropriate part to each member of the team by giving each child a. b. c. or d. Any student who finishes early will collaborate on e.
- **The teacher then models a complete project with one crop that will serve as a sample.**

From a lesson developed by Sharon Giless & Jeanette Gordon

Teams present the Life Cycle of their crop to the class. Note the common content objective with differentiated language.

A. orally introduces the crop, shows each picture and identifies the phases of the cycle. "We are studying cotton. This is the _seed__, "and so forth.

B. writes then orally describes what each stage looks like using prompts for descriptions of the plant parts, for example: "The seed is small and brown The roots are_____. The stem has _____. The flowers have_____.

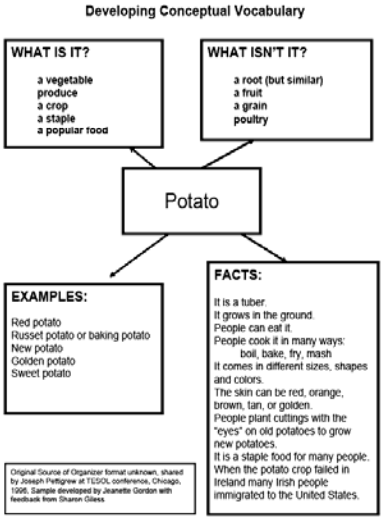
C. writes then tells the time required for each phase and uses sentence variety, for example: "It takes approximately _____ days for the seed to_____. In _____ days the shoot _____ The flowers usually last for _____. It takes about _____days to complete the life cycle.

D writes and orally explains the life cycle using cohesive strategies. For example, "The first stage of the life cycle of cotton is the seed. After the seeds germinate, the _____. When the plant matures, the _____. The final phase is the seed , and the cycle begins again." This student also uses action verbs: breaks out, shoots up, emerges, appears, blossoms, and so forth.

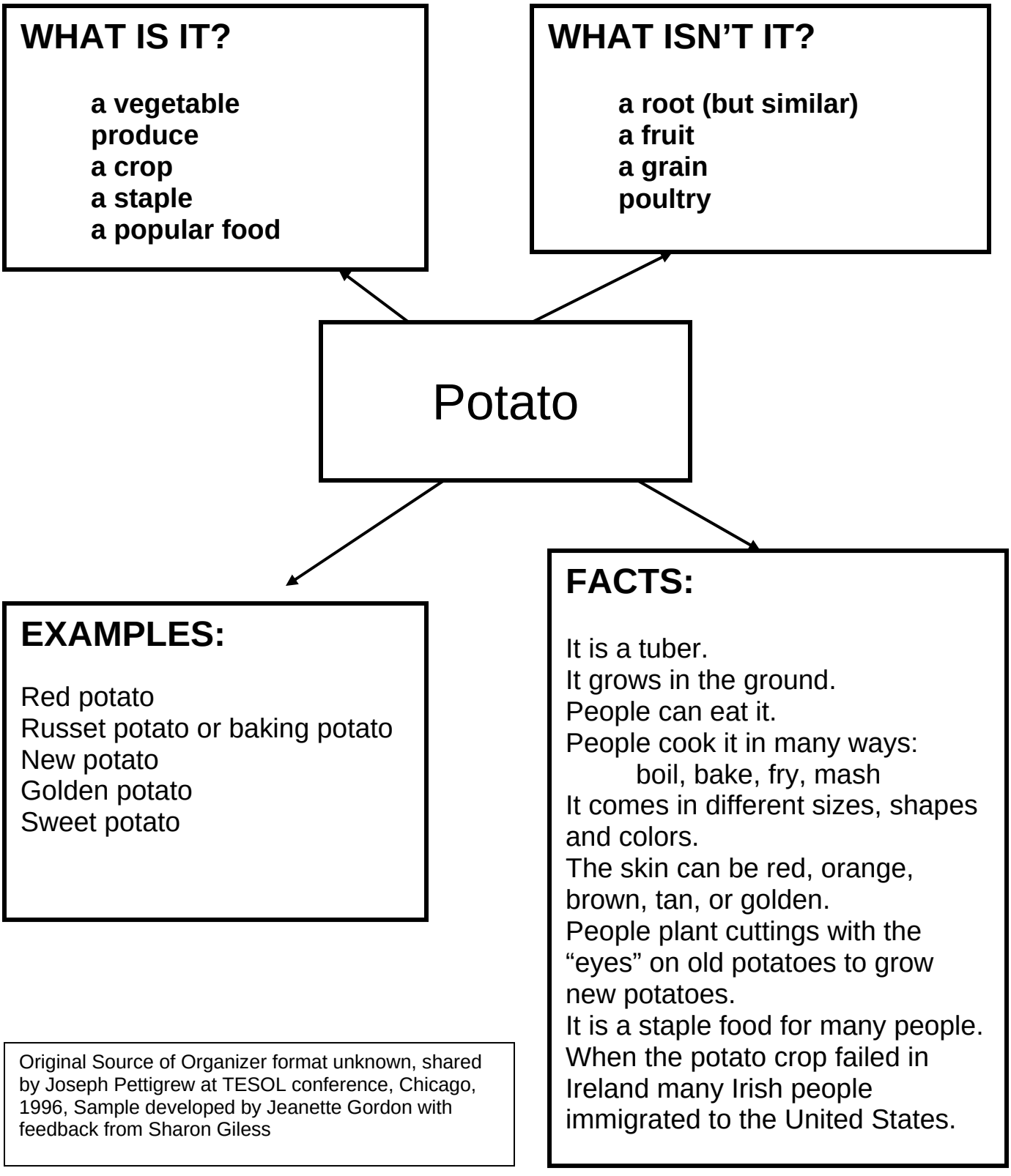
VOCABULARY ORGANIZERS

- Team jigsaw a vocabulary word
- Vocabulary organizers usually have easier and more difficult sections.
- See multiple examples for a unit on Sound.
- For electronic versions of graphic organizers from Janet Allen's *Words Words Words,* see **esl-methods.wikispaces.com**

  Select Vocabulary Page

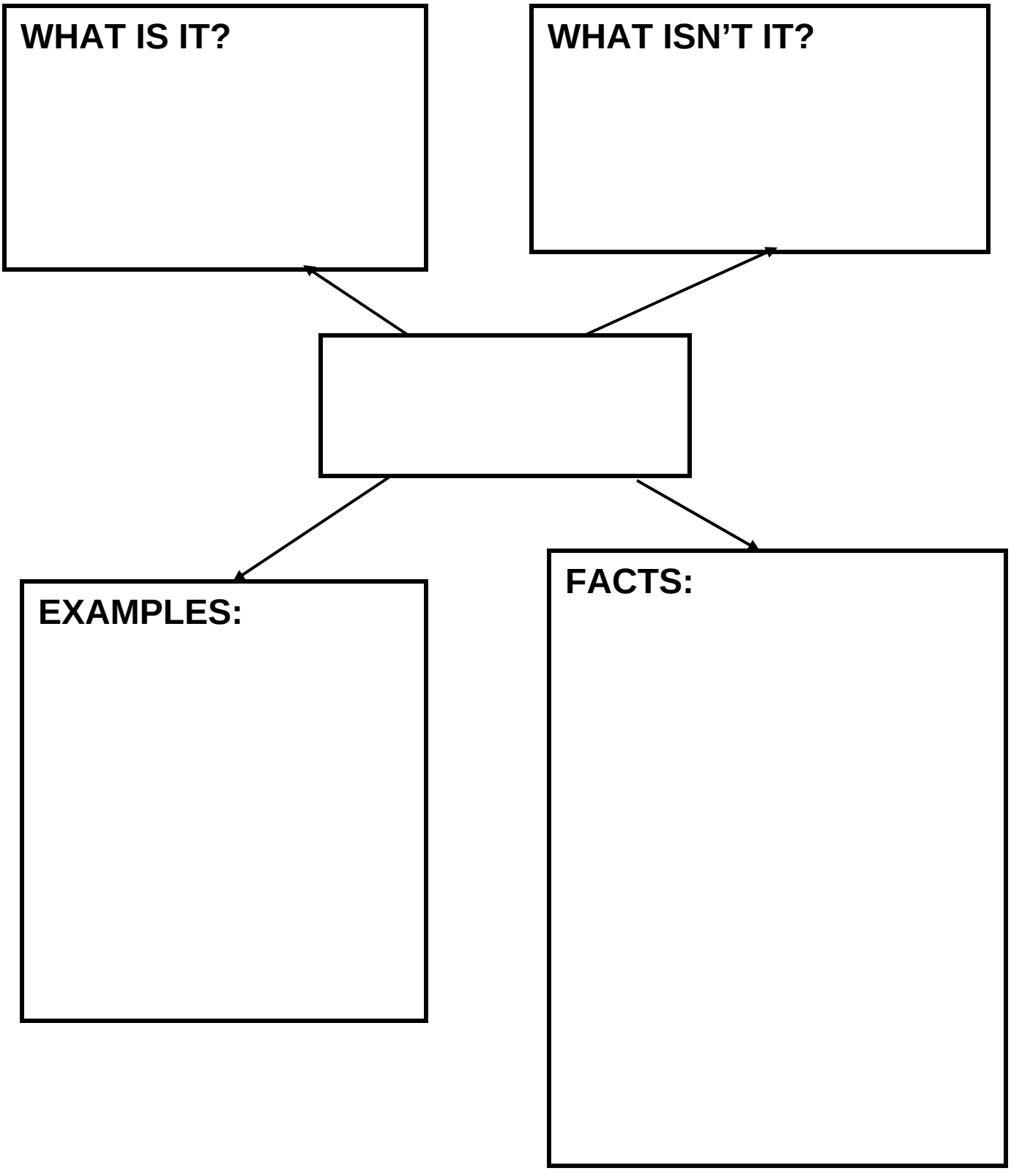


Developing Conceptual Vocabulary



Original Source of Organizer format unknown, shared by Joseph Pettigrew at TESOL conference, Chicago, 1996, Sample developed by Jeanette Gordon with feedback from Sharon Giless

Developing Conceptual Vocabulary



Name_____ **Date**_____

WORD MAP

What is it?

Part of the scientific method

What is it like?

A recipe
Follow recipe exactly one time.
Change one ingredient the next time.
Decide which you like better.

Directions to a friend's house
Follow the directions, then change them a little to see if you can get their faster the new way.

Family rules and punishment
Parents try something new to get children to behave better.

experiment

Put plant in cold temperature and compare it with a plant at room temperature.

Put plant in the dark and compare it to a plant in the light.

Don't water a plant and compare it with a plant that gets water.

What are some examples?

Challenge, give two more examples.

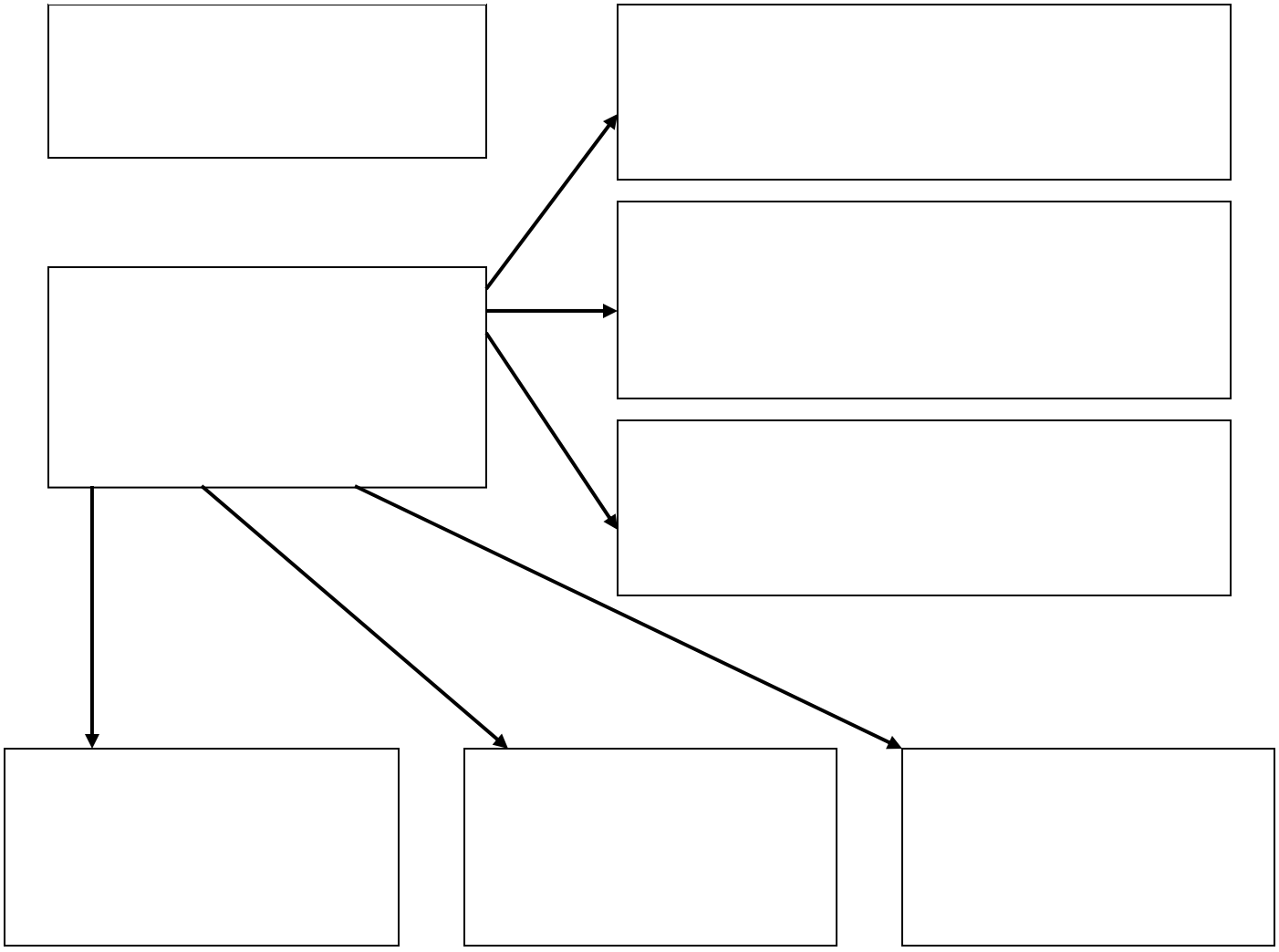
Source of organizer unknown: Sample prepared by Jeanette Gordon, Illinois Resource Center

Name_____ **Date**_____

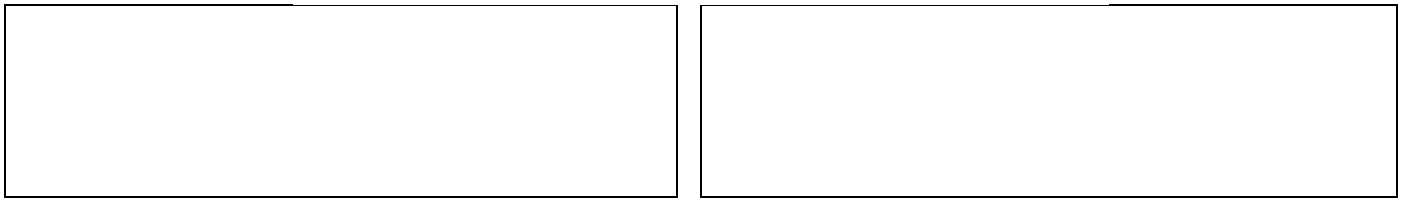
WORD MAP

What is it?

What is it like?



What are some examples?



Challenge: Give two more examples:

Source of organizer unknown:

TEAM JIGSAW with a matrix provides a very flexible structure for jigsaw teaching. Each team teaches a row.

Simple Machine	Purpose	Appearance	How to use	Examples	Way to increase efficiency
inclined plane					
wedge					
screw					
wheel & axle					
pulley					

Individuals can prepare their assigned cell(s) on a paper, and then paste them on the class matrix. Each team then presents their information.

Simple Machine	Purpose	Appearance	How to use	Examples	Way to increase efficiency
1st class lever					
2nd class lever					
3rd class lever					

Examples of Jigsaw with Matrices:
Challenges & Differentiated language objectives

GOVERNMENT EXAMPLES OF JIGSAW

PREVIEW "CHECKS AND BALANCES"

BIG IDEA: In any community, people establish ways of checking-up on others to guide and protect its members.

CONTENT OBJECTIVE: Students use a comparison matrix to compare and contrast how different members of society check up on each other.

Cooperative Structure: Within-team Jigsaw

Compare and contrast orally.

	teen-ager	parent	teacher	police officer
teenager				
parent				
teacher				
police officer				

SOCIAL OBJECTIVE:

Students demonstrate respect toward cultural or family differences.

Language Objective: Orally demonstrate sentence variety by using prompts. Use vocabulary to avoid generalizations.

SAMPLE PROMPTS FOR SIMILARITIES

- Like_____, I find that **sometimes** police officers _____.
- Similar to _____, the teachers in my country **often**_____.
- It **seems common** across cultures for parents to _____
- _____'s_friends and mine both _____.

- **SAMPLE PROMPTS FOR DIFFERENCES**
- Unlike _____, whose parents _____, my parents _____.
- While the teachers in the United States **typically** _____, teachers in my country **usually** _____
- Police officers **tend to** _____ less/more than they do _____.
- Teenagers I know **generally** _____, but _____
- *Evidence of learning: Teacher observations of student talk.*

CHECKS AND BALANCES

In democracies power is divided, balanced, and the groups with power have ways of checking the power of other groups.

	EXCECUTIVE	LEGISTATIVE	JUDICIAL
PRESIDENT		veto a bill passed by Congress refuse to pass legislation call sessions of Congress recommend legislation send troops w/o war declaration propose budget	grant pardons and amnesty appoint judges
CONGRESS	approve federal judges approve treaties/appointments override presidential veto impeach & remove from office determine number of judges approve budget	remove senators and representatives from office	approve federal judges determine number of judges start Constitutional amendments create new courts
SUPREME COURT	declare a law unconstitutional declare pres. act unconstitutional stop or limit presidents actions force president to do something (place an injunction on pres.) set up investigation	declare a law unconstitutional set up an investigation (Note: supreme court can also declare state laws unconstitutional)	
THE PEOPLE	vote for president & vice president lobby/special interest groups campaign for candidate protests and letter writing	vote for senators & representatives lobby/special interest groups campaign for candidate protests and letter writing	(Voting indirectly influences appointments. People do not vote for federal judges) protests/ special interest groups

See directions on next slide.

DIRECTIONS: Roundrobin read the cards and predict placement in the matrix. Read to check placement predictions.

When finished checking the matrix, use the following sentence prompts to express what each branch can do and how that power is checked.

- The president can, _____, but_____.
- The legislative branch can _____, but _____.
- The Supreme Court can _____, but _____.
- The people can _____, but _____.

CHALLENGE: Use the sentence prompts on the back to promote more sentence variety OR read a more complex selection.

Prepared by Jeanette Gordon and Danette Erickson Meyer

DIFFERENCES

1. _____has the power to _____, but _____.
2. While _____can _____, _____.
3. _____can_____; however, _____.
4. One way _____ can check the power of _____ is by _____.
5. **Even though the Constitution gives _____the power to _____that power is curtailed by _____'s option to _____.**
6. _____has the right to _____, but _____checks that power through _____.
7. Given the right to _____, _____can limit _____'s power to _____.
8. **Despite the _____'s Constitutional right to _____, _____ can prevent abuse of that power by _____.**
9. The ultimate check on governmental misuse of power is held by_____ who have the power to _____.

FOUR KINDS OF MOUNTAINS

BIG IDEA: The earth's moving plates cause mountains to form in different ways.

MOUNTAIN	# Plates	Cause	Effect	Picture
Fold Mountains				
Block Mountains				
Dome Mountains				
Volcanoes				

DIRECTIONS: Use the cooperative structure of **Within-Team Jigsaw** to complete the comparison matrix.

CHALLENGE: Use cause-effect sentence prompts to write the cause-effect relationships in different ways.

Prepared by Jeanette Gordon, Illinois Resource Center

COMPARISON OF WEATHER DATA AND WEATHER INSTRUMENTS

Big Idea: Scientists use instruments to collect weather data to make weather forecasts.

WEATHER DATA	WEATHER INSTRUMENT	UNIT OF MEASUREMENT	DESIGN (HOW IT'S MADE)	CHALLENGE What is the scientific principal that influences the design?
temperature				
air pressure				
wind speed				
relative humidity				

DIRECTIONS: Use Within-team Jigsaw to complete the matrix.

CHALLENGE: Read more complex information to answer the final column.

After each team member teaches his/her row, collaborate to complete the final column.

How the Body Fights Disease

BIG IDEA: The body has defense mechanisms that help prevent illness.

Body feature	Where is it?	What does it look like? Draw or describe.	How does it protect?	CHALLENGE Read a harder passage to tell more about how each protects:
Skin				skin
Saliva				Digestive System
Mucus				Respiratory System
Immune system				white blood cells and antibodies

Use Within-Team Jigsaw to complete one row of the matrix.
CHALLENGE: If time, complete the challenge for your row.
Team, if time permits, complete the challenge column.
SUPER CHALLENGE: Prepare to role-play one of the defense systems of the body.

CELL TYPES

BIG IDEAS: Body cells work together to sustain life.
There are different kinds of cells, each with a special job.

NAME	Function of Cells	Shape of cells & location	Why function is important	How cells perform function

CHALLENGE: Use sentence prompts to express why and how cells perform their functions: Sequential action, simultaneous action, conditions, and cause-effect.
Or use sentence prompts to compare and contrast the cells.

SENTENCE PROMPTS FOR COMPARING SIMILARITIES

_____ and _____ are alike in many ways.

Both _____ and _____ _____.

_____, like _____, _____

_____ and _____ the same _____

Both _____share _____.

_____ _____ as _____ as _____.
(is, are) *(adjective: tall, old, etc.)*

A common characteristic of each is _____.

Like _____, _____ _____.

_____, similar to _____, _____.

_____, and so _____.

Neither _____ nor _____ _____.

Each _____ _____ a similar _____.

_____, likewise _____.

Perhaps the most significant similarity is _____.

SENTENCE PROMPTS FOR CONTRASTING DIFFERENCES

_____ and _____ are different in many ways.

_____, but _____.

_____; however, _____.

_____ _____ _____er than _____.
(is,are) (adjective: taller, older, etc.)

_____ _____ not as _____ as _____.
(is, are) (adjective, tall, old, etc.)

_____ _____ more _____than _____.
(is,are) (adjective: beautiful, dangerous etc.)

_____ _____ less _____than _____.
(is,are) (adjective: helpful, interesting etc.)

While _____, _____.

_____, yet _____.

_____; conversely, _____.

In contrast to _____, _____.

_____, in contrast, _____.

It is not common for _____to _____; however, _____.

Unlike _____that_____, _____.

An important difference between _____ and _____ _____.

COMPLEX SENTENCES TO EXPRESS SEQUENTIAL ACTION

Before _____, _____.

After _____, _____.

_____**before** _____ .

_____ **after** _____ .

When_____ , _____ .

_____ **when** _____ .

COMPLEX SENTENCES TO EXPRESS SIMULTANEOUS ACTION

When_____ , _____ .

_____ **when** _____ .

As _____, _____ .

_____ **as** _____ .

While _____, _____ .

_____ **while**_____ .

SENTENCE PROMPTS TO EXPRESS CAUSE AND EFFECT

_____, so_____ .

_____because_____.

Because _____, _____.

Since_____, _____.

_____ since _____ .

_____; consequently, _____ .

_____; therefore, _____ .

_____ causing _____ .

_____ which causes (caused) _____ .

_____ resulting in _____ .

_____ which results (resulted) in _____ .

_____affects (affected) _____ .

Now that _____, _____.

COMPLEX SENTENCES TO EXPRESS CONDITIONS

If _____, _____.

_____ if _____.

Unless _____ , _____ .

_____ unless _____ .

Only if _____.

_____only if _____.

If the particular condition doesn't matter, the result will be the same, use the following:

Even if _____, _____.

_____whether or not _____.

Use the following when something probably won't happen in the future, but it might.

In case _____.

_____in case _____.

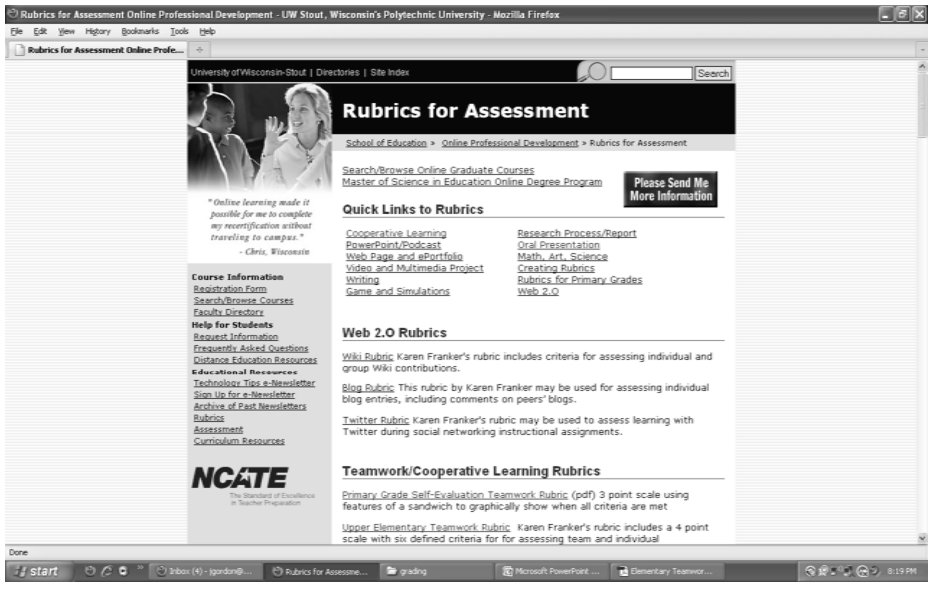
In the event that _____.

_____in the event that _____.

Cooperative Grading

1. "Reward the team and grade the individuals."
2. Give partial credit to the team and part to the individuals.
3. Use rubrics to assess the process and the products.
   - Students self-assess.
   - Students assess their own teammates.
   - Students assess each team's presentation/product.
4. Constantly monitor the effects of your grading.

http://www.uwstout.edu/soe/profdev/rubrics.cfm



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This rubric may be used for self-assessment and peer feedback.

Elementary Teamwork Rubric

CATEGORY	Exemplary	Proficient	Partially Proficient	Unsatisfactory	POINTS
Focus on the Task	3 points	2 points	1 point	0 points	___/3
	Stays on task all of the time without reminders.	Stays on task most of the time. Group members can count on this person.	Stays on task some of the time. Group members must sometimes remind this person to do the work.	Hardly ever stays on task. Lets others do the work.	
	A true team member who works hard and helps others in the group.	A strong group member who tries hard!	Sometimes an active group member, but needs to try harder.	Sometimes chooses not to help out, and does not complete tasks.	
Work Habits	3 points	2 points	1 point	0 points	___/3
	Is on time for meetings, turns in all work when it is due.	Usually on time for meetings, turns in most work when it is due.	Sometimes late for meetings, often turns in work late.	Late for all or most meetings, and late turning in work.	
	Completes assigned tasks and does not depend on others to do the work.	Completes most assigned tasks.	Does not follow through on most tasks and sometimes counts on others to do the work	Does not complete tasks. Depends on others to do all of the work.	
Listening, Questioning and Discussing	3 points	2 points	1 point	0 points	___/3
	Respectfully listens, discusses, asks questions and helps direct the group in solving problems.	Respectfully listens, discusses and asks questions.	Has trouble listening with respect, and takes over discussions without letting other people have a turn.	Does not listen with respect, argues with teammates, and does not consider other ideas. Blocks group from reaching agreement.	
Research and Information-Sharing	3 points	2 points	1 point	0 points	___/3
	Gathers information and shares useful ideas for discussions. All information fits the group's goals	Usually provides useful information and ideas for discussion.	Sometimes provides useful information and ideas for discussion.	Almost never provides useful information or ideas for discussion.	
Problem-Solving	3 points	2 points	1 point	0 points	___/3
	Actively seeks and suggests solutions to problems.	Improves on solutions suggested by other group members.	Does not offer solutions, but is willing to try solutions suggested by other group members.	Does not try to solve problems or help others solve problems.	
Group/Partner	3 points	2 points	1 point	0 points	___/3

Teamwork	Works to complete all group goals.	Usually helps to complete group goals.	Occasionally helps to complete group goals.	Does not work well with others and shows no interest in completing group goals.	
	Always has a positive attitude about the task(s) and the work of others	Usually has a positive attitude about the task(s) and the work of others.	Sometimes makes fun of the task(s) or the work of other group members.	Often makes fun of others' work and has a negative attitude.	
	All team members contributed equally to the finished project.	Assisted group/partner in the finished project.	Finished individual task but did not assist group/partner during the project.	Contributed little to the group effort during the project.	
	Performed all duties of assigned team role and contributed knowledge, opinions, and skills to share with the team. Always did the assigned work.	Performed nearly all duties of assigned team role and contributed knowledge, opinions, and skills to share with the team. Completed most of the assigned work.	Performed a few duties of assigned team role and contributed a small amount of knowledge, opinions, and skills to share with the team. Completed some of the assigned work.	Did not perform any duties of assigned team role and did not contribute knowledge, opinions or skills to share with the team. Relied on others to do the work.	
				TOTAL POINTS	___ /18

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Readings on Authentic Assessment
Examples of Other Rubrics

Updated: Friday, July 30, 2010

Brian Olson Lincoln Middle LaCrosse, WI

Name: _____
Period: _____

Oceanography Section Presentations

This unit will allow you to have a lot of freedom with regards to how you will learn the information. You will be randomly assigned into a group of three or four people. Your group will be the "teachers" for the class regarding the information in your assigned chapter and section. You will be assigning chores to each individual to be working on in order to be ready to present the information after 4 days of working and preparing.

You will create your own ways of how you want to construct your presentation. There will be a group grade based upon the presentation to the class, and an individual grade given based upon the completed study guide. As you present your information to the rest of the class, other students will be filling out the study guide. The presentations and study guide will be worth a grand total of **75 points.** Presentations will start taking place on **Wednesday, May 9, 2007, and continue for the next 2 days.**

You will be working in a group of three or four, so you will need to decide who is going to gather information about particular aspects regarding oceanography, brainstorm possible teaching lessons for the class, and construct any aids to help in your method of presentation. Every group member will need to be contributing during the process; if there are any problems, please see Mr. Olson.

What follows are the sections of Chapter 13 and 14 devoted to information regarding oceanography. You will be assigned a specific section from a chapter, and then you and your group members can get to work!

Possible methods of presenting the information for all sections include:

- **technology (Power Point, Word, etc.)**
- **drawings/pictures/descriptions or use of overheads from Mr. Olson**
- **lab experiment/demonstration**
- **concept map**
- **Venn diagram**
- **a method of your choosing**

Chapter 13 Section 1: Wave Action

You need to teach information *about*:	You can present this knowledge *by*:
• a description about the parts of a wave	• Discover Activity, page 428
• why we have waves	• "Try This" Activity, page 430
• how waves affect the shore	• use of a Slinky

Chapter 13 Section 2: Tides

You need to teach information *about*:	You can present this knowledge *by*:
• a detailed explanation as to how tides are created	• Discover Activity, page 434
• difference between daily and monthly tide cycles	• Sharpen Your Skills Activity, page 436
• difference between spring and neap tides	

Chapter 13 Section 3: Ocean Water Chemistry

You need to teach information *about*:	You can present this knowledge *by*:
• how undersea volcanoes created ocean's salt	• Discover Activity, page 439
• gases and temperatures in ocean water	• Science At Home, page 443
• how temperature and pressure changes with depth	

Chapter 13 Section 4: Currents and Climate

You need to teach information *about*:	You can present this knowledge *by*:
• how surface currents are influenced by winds, the Coriolis effect, and continents	• Discover Activity, page 446
• how deep currents cause ocean water below the surface to circulate	• Sharpen Your Skills Activity, page 448
• impact of upwellings	• Real World Lab, pages 450-451
• the importance of El Niño	

Chapter 14 Section 1: Exploring the Ocean

You need to teach information *about*:	You can present this knowledge *by*:
• a continental shelf, continental slope, and the abyssal plain	• Discover Activity, page 458
• seamounts, volcanic islands, mid-ocean ridges, and trenches	• Science At Home, page 464
• a map of the features of the ocean floor	• Skills Lab, page 465
• significance of sonar	

Chapter 14 Section 2: Life at the Ocean's Edge

You need to teach information *about*:	You can present this knowledge *by*:
• physical factors that determine where marine organisms can live	• Discover Activity, page 466
• ocean life in the intertidal zone	
• the major food source for ocean life	
• key characteristics of plankton, nekton, and benthos	
• how pollution impacts estuaries	

Chapter 14 Section 3: The Neritic Zone and Open Ocean

You need to teach information *about*:	You can present this knowledge *by*:
• conditions in the neritic zone	• Discover Activity, page 472
• coral reefs: importance of, life around, and human impact on	• Sharpen Your Skills Activity, page 476
• conditions in the surface and deep zone	

Chapter 14 Section 4: Resources From the Ocean

You need to teach information *about*:	You can present this knowledge *by*:
• at least 5 things that the oceans provide	• Discover Activity, page 479
• how oceans are an important source of food	• "Try This" Activity, page 481
• mineral and fuel resources	• Sharpen Your Skills Activity, page 482
• forms of ocean pollution	• Science and Society, page 485

Oceanography Unit Rubric

Name: _____

-Group Grade:

_____ / 7 The information clearly and comprehensively relates to the assigned chapter and section: "You need to teach information *about:*"

_____ / 7 All information on visual aids or that is spoken is completely accurate

_____ / 5 The presentation shows evidence of organization, creativity, and higher-level thinking

_____ / 2 The presentation lasts **at least** 7 minutes

_____ / 2 The presentation is presented in a professional manner by everyone with loud and clear voices

_____ / 2 Everyone participates during the presentation

_____ / 5 Individual point value given to individual persons (averaged from all three or four point values)

_____ / 30 *Presentation Points*

Write all of your group member's names and what point value they should receive out of 5 total points:

Your name _____ ___ / 5
Group member's name _____ ___ / 5
Group member's name _____ ___ / 5
Group member's name _____ ___ / 5

37

-Individual Grade:

_____ / 45 *Points on the Study Guide*

-Final Grade:

_____ / 75 **Total Points Earned**

Name: _____
Period: ____
45 points

Oceanography Study Guide

Please fill in the answers to the items as best you can, based upon what you know having researched your own section and from learning the information by the presentations of other groups.

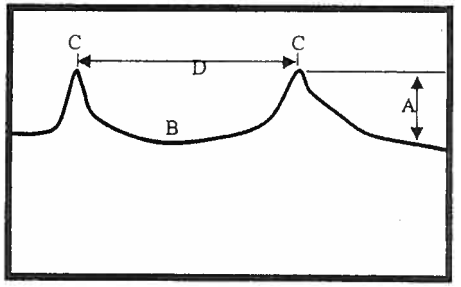
Chapter 13 Section 1: Wave Action

1. We have waves because of _____. *(1 point)*

2. How do waves affect the shore? *(1 point)*

3. Write the letter from the diagram that matches each term. *(2 points)*

_____ trough
_____ wavelength
_____ wave height
_____ crest



Chapter 13 Section 2: Tides

4. Why do we have tides (they have nothing to do with tsunamis)? *(1 point)*

5. Explain how tides occur daily. *(1 point)*

6. Explain how tides occur monthly. *(1 point)*

Chapter 13 Section 3: Ocean Water Chemistry

7. Oceans were formed over millions of years from undersea _____ erupting and spewing dissolved chemicals into the water, and gradually lava built up areas of land. Rivers then carry calcium from the combination of rocks, minerals, and groundwater into oceans. *(1 point)*

8. The two most abundant dissolved elements in ocean water are _____ and _____. *(2 points)*

9. Temperature _____ and pressure _____ as you descend from the surface to the deepest part of the ocean. *(2 points)*

Chapter 13 Section 4: Currents and Climate

10. Currents, which are large streams of moving water that flow through the oceans, are caused by winds called _____ currents. *(1 point)*

11. How do deep currents affect the circulation of water in the world's oceans below the surface? *(2 points)*

12. _____ is an abnormal climate event that occurs every 2 to 7 years in the Pacific Ocean, causing changes in winds, currents, and weather patterns that can lead to dramatic climate changes. How has this event impacted the United States? *(2 points)*

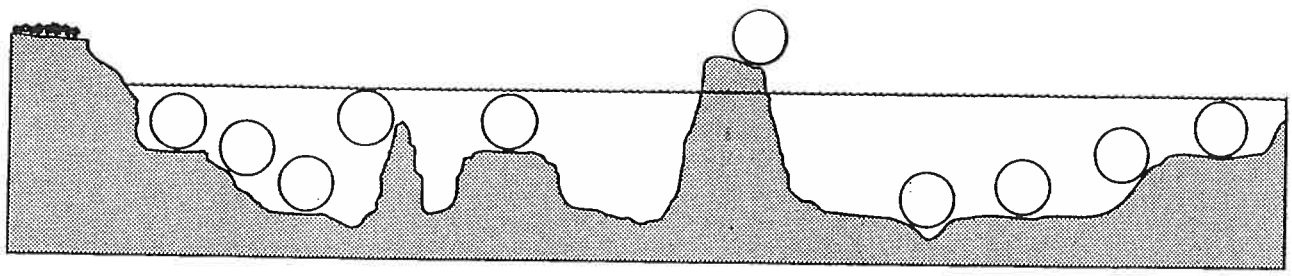
Chapter 14 Section 1: Exploring the Ocean

13. How does a seamount differ from an island? *(1 point)*

14. Because of the darkness, cold, and extreme pressure, scientists developed _____, which stands for _____, which uses sound waves to calculate the distance to an object. *(2 points)*

15. Write the letter of the feature in the appropriate circle on the drawing. *(5 points)*

a. abyssal plain	f. continental shelf
b. seamount	g. continental slope
c. continental shelf	h. trench
d. volcanic island	i. mid-ocean ridge
e. continental slope	j. abyssal plain



Chapter 14 Section 2: Life at the Ocean's Edge

16. Plankton is a major food source for ocean life. Please list the key characteristics of the following marine organisms, and provide examples of each: *(3 points)*

    Plankton: _____

    Nekton: _____

    Benthos: _____

17. What is an estuary? How does pollution impact estuaries? *(2 points)*

Chapter 14 Section 3: The Neritic Zone and Open Ocean

18. The _____ is the part of the ocean that extends from the low-tide line out to the edge of the continental shelf, and beyond the edge of the continental shelf lies the _____. *(2 points)*

19. What is a coral reef? What types of ocean organisms do you find there? *(2 points)*

20. Describe the conditions that exist in the:
    surface zone: *(1 point)*

    deep zone: *(1 point)*

Chapter 14 Section 4: Resources From the Ocean

21. How are oceans an important source of food? *(1 point)*

22. _____ is a strong, light metal obtained from seawater. _____ and _____ are mined for use in building construction. In some areas of the world, _____ and _____ are mined from sand deposits. *(5 points)*

23. The remains of dead marine organisms sink to the bottom of the ocean where they get buried by sediments, and over thousands of years, the remains transform into _____ and _____. *(2 points)*

24. Why do the world's oceans need to be protected? *(1 point)*

Story Impression:
A Reading Strategy

Collaborate with your team to make up a story using seven words important to the plot.

eagle	wind	mountain
fish	Gluscabi	lake
snake	wolf	

Note: 8 words were important for ELLs to understand, but they can use only 7. Use visuals for level 1-2 ELLs.

eagle

wind

mountain

lake

fish

Gluscabi

Native American

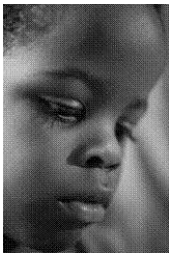
snake

wolf

Common Problem

Two students are making up the story.

Others are left out.



Roundrobin **orally** tell the story.
Use all of the words in the story.

1. Who is the main character? Where is the character and what is the character doing as the story begins. (Very easy.)
2. Suddenly there is a problem. What is the problem? What are the consequences for the character? How does she/he feel?
3. Try to solve the problem, but you are not successful. Another problem arises.
4. Solve the problem and end the story. (More challenging than telling a story.)

YOUNGER STUDENTS

- Use fewer words.

1. Who is the character? Where is the character and what is she/he doing?
2. Suddenly there is a problem. What is the problem?
3. How does the character solve the problem? How does the story end?

Team Presentations

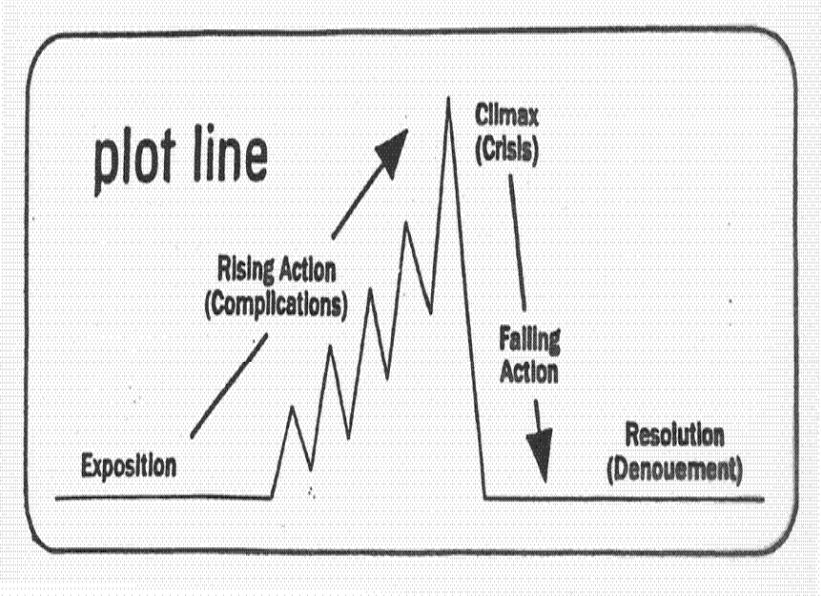
- Do the same day. Don't give a lot of time to make up the story. (The spontaneity actually lowers anxiety. Perfection is not expected.)
- Have the words visible on the back wall.
- Each student tells his/her own part.
- All students listen respectfully.
- If students forget, the teacher asks the questions to each student, and they make it up on the spot. The teacher uses guiding questions as needed.

If story used with older learners:

Do follow-up age-appropriate literacy tasks.

- Sort sentence parts as either cause or effect.
- Differentiate fragments from sentences.
- With partner take turns combining causes with the effects. One person has cause that matches partner's effect.
- Sequence the sentences in the order of the story. Use handout to self-check.
- Challenge: Use sentence prompts to write additional cause-effect sentences about the story.

This story can be used to introduce plot line. It matches exactly (rising action, climbing the mountain, climax on top).



Use lower reading source to teach higher-level writing tasks.

Individually:

1. Separate sentence parts into either a possible beginning or a possible ending.
2. Share those that could be a complete sentence as written.
3. Suggest ways fragments could be changed to make complete sentences.

Incorporate higher-order thinking and challenge options into coop tasks.

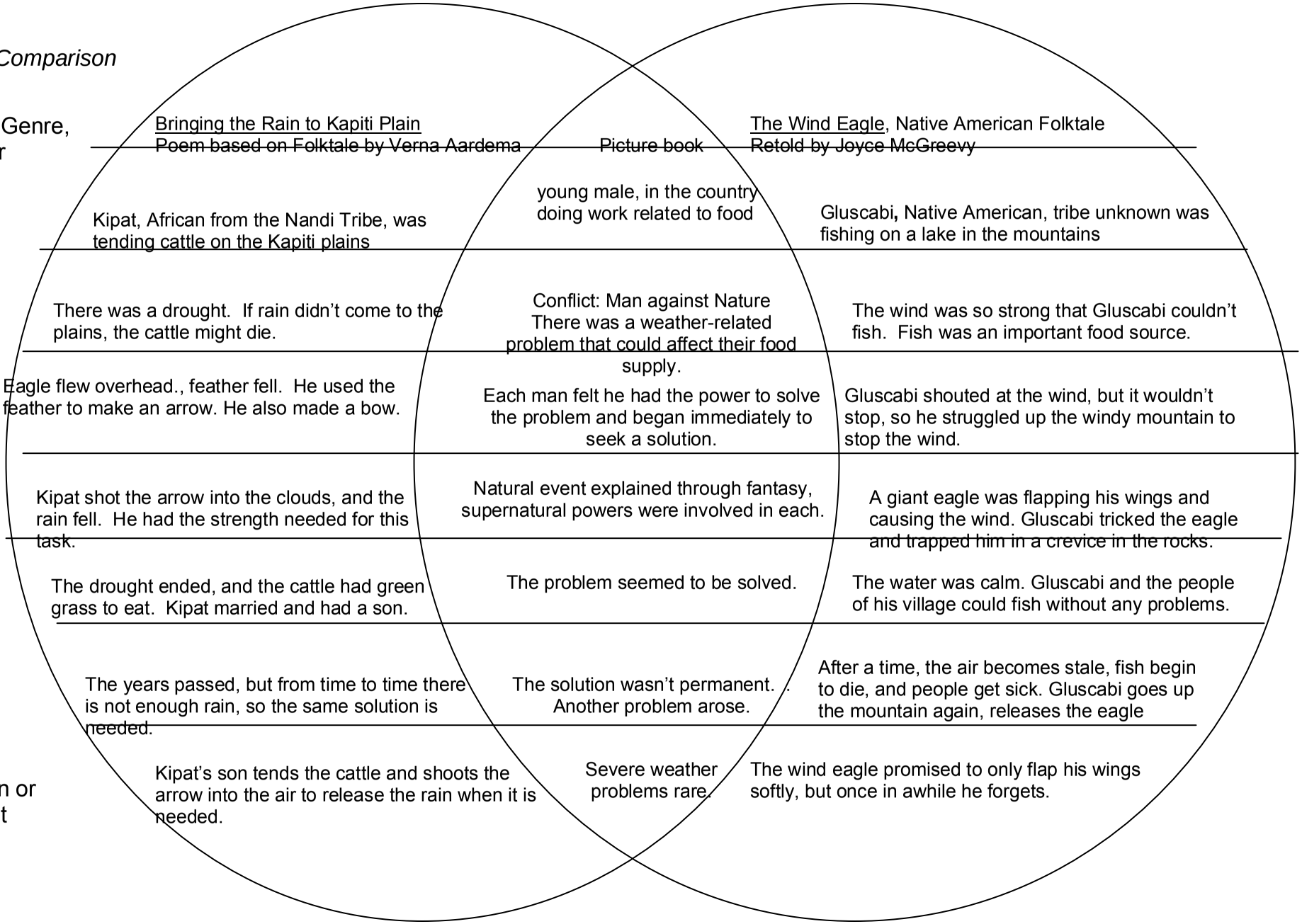
With a partner:

1. Take turns reading a beginning and finding an ending to complete the cause-effect sentences.
2. Sequence the sentences and check your work with the handout provided.
3. CHALLENGE: Write your own sentences using the cause-effect prompts on the back of the handout.

PLOT COMPARISON: *Bringing the Rain to Kapiti Plain* and *The Wind Eagle*.

BIG IDEA: Long ago, people in many cultures told folktales to explain the unknown.

BIGGER IDEA: All cultures have ways of explaining the unknown. **(See directions next page.)**



Aspects of Comparison	Bringing the Rain to Kapiti Plain Poem based on Folktale by Verna Aardema	Picture book	The Wind Eagle, Native American Folktale Retold by Joyce McGreevy
1. Title, Genre, & Author			
2. Exposition	Kipat, African from the Nandi Tribe, was tending cattle on the Kapiti plains	young male, in the country doing work related to food	Gluscabi, Native American, tribe unknown was fishing on a lake in the mountains
3. Conflict & consequences	There was a drought. If rain didn't come to the plains, the cattle might die.	Conflict: Man against Nature There was a weather-related problem that could affect their food supply.	The wind was so strong that Gluscabi couldn't fish. Fish was an important food source.
4. Rising Action	Eagle flew overhead., feather fell. He used the feather to make an arrow. He also made a bow.	Each man felt he had the power to solve the problem and began immediately to seek a solution.	Gluscabi shouted at the wind, but it wouldn't stop, so he struggled up the windy mountain to stop the wind.
5. Climax	Kipat shot the arrow into the clouds, and the rain fell. He had the strength needed for this task.	Natural event explained through fantasy, supernatural powers were involved in each.	A giant eagle was flapping his wings and causing the wind. Gluscabi tricked the eagle and trapped him in a crevice in the rocks.
6. Falling Action	The drought ended, and the cattle had green grass to eat. Kipat married and had a son.	The problem seemed to be solved.	The water was calm. Gluscabi and the people of his village could fish without any problems.
7. A second conflict	The years passed, but from time to time there is not enough rain, so the same solution is needed.	The solution wasn't permanent. Another problem arose.	After a time, the air becomes stale, fish begin to die, and people get sick. Gluscabi goes up the mountain again, releases the eagle
8. Resolution or Denouement (Ending)	Kipat's son tends the cattle and shoots the arrow into the air to release the rain when it is needed.	Severe weather problems rare.	The wind eagle promised to only flap his wings softly, but once in awhile he forgets.