Nature Channel

Junior English Language Arts
Study of Informational Texts and Media Literacy
(Grades 3, 4 & 5)

LEARNING LOG

Name: _____

Nature Channel Learning Log

First Edition, April 2016
3600 Yonge St.
Toronto, Ontario, Canada M4N3R8

Authors: Barbara J. Smith & Fran Bouwman

This document edition will be used as a pilot resource to support innovative schools. The intent of sharing this first version with students, staff and families, is so we can gather further input for future revisions of this living curriculum.

All we ask is that if you use these materials that you give credit to the author(s) of this initial work, in your introduction.

Acknowledgement: Many thanks to Fran Bouwman for collaborating on this curriculum writing project and Emily Walton for help with editing.

PURPOSE of LEARNING LOG RESOURCE:

1. To support the Ontario English Language Arts, Mathematics and Science Curriculum
2. To support independent and paired study during station work or during home study (holiday or at-home interest/ extended homework activities.
3. To add support as an enrichment or remedial resource (students can work at their own pace)
4. To provide a learning log (evidence of learning) built in to student resources.

The ELA Challenge!

Trailblazer (Expert)	629 + points
Pathfinder (Apprentice)	560 - 629 points
Rookie (Novice)	< than 560 points

Challenge	Maximum Points
Writing Portfolio Explanation (piece of poetry and prose)	10
Word Canoe Vocabulary	180
Tricky Book Words	20 (bonus)
Perfect Semester Bonus ☺	20
Grammar Quiz	30
Cinquain Poem	10
Found Poem	22
Read Aloud Poem	20
Comma Quiz (teacher will make)	20
Reading Comprehension	54
KWHLW Chart	10
Animal Rescue Summary	10
Eco Review	100
Eco Business Letter	60
Eco Documentary	70
7 Venn Diagrams (10 each)	70
Learning Log Challenge (complete tasks in book)	10
Classroom Work	10
Classroom Chats	14
TOTAL	700

First Thoughts - What I Know About…

Experts _____

_____

_____

What I Know About **business letters**_____

_____

_____

What I Know About **biographies**_____

_____

_____

What I Know About **documentaries** _____

_____

_____

Essential Target (ET) - Identify, define & spell social & life science words & adjectives.

Word Canoe

Each Monday students can either be a Word Guide or a Word Paddler. Paddler's can spell words gathered from Life Science in Semester 2.

http://clipart-finder.com/data/mini/31-beaver_rowing_canoe.png

Canoe Words for Portage Mondays

Week 1 (10) definition dictionary thesaurus pronunciation syllables synonyms antonym vocabulary vowels consonants	**Week 2** (10) adjective ecosystem field biotic biotic habitat protect threaten cycle environment
Week 3 (15) fearless, patience, ability, confidence, honesty, growth, passion, bliss, peace, forgiveness, direction, strength, courage, understanding, wisdom **Extension:** contentment, love, optimism, thankful, trust, hand-eye coordination, awareness, connectedness, perseverance, mindfulness, gentleness, grateful, mercy, guidance, acceptance	**Week** (10) cinquain passage phrase meaning visualize migrate comparative describe concentrate definition

Week 5 (10) government partnership communities protect restore quality contaminated sediment, wildlife wastewater	**Week 6** (5) assertive interrogative imperative exclamatory question
Week 7 (10) overpass designed animals collisions population stretch eventually monitoring structure tunnels	**Week 8** (10) woodchuck strawberry freezes watches disappears burrow escape chambers hibernates danger
Week 9 (10) article author paragraph experience believe perspective alternative inference evidence conversation	**Week 10** (10) beetles creatures attract pollinate aroma mammals nocturnal baobab medicine buoyant
Week 11 (10) dragonflies odonatologist species leeches beautiful insects underwater hatches larva compound	**Week 12** (10) surprise beavers snipped balance gnaws pieces predators waterproof rudder enemy

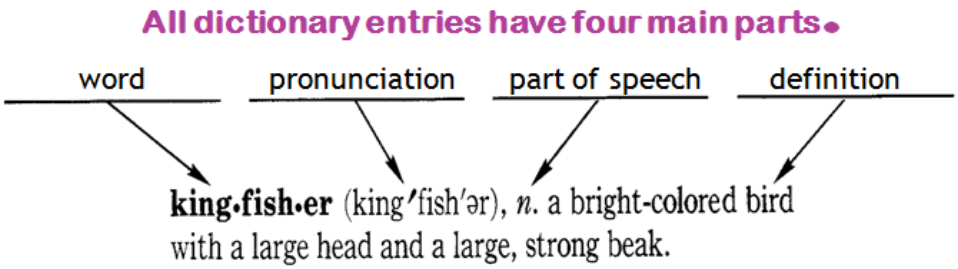
Week 13 (10) temperature desert rainfall unpredictable adapt rodents traits veins prey reptiles	**Week 14** (10) scientific observation Birditation reluctant combination behaviour listening recognize sightings researchers
Week 15 (10) cattails sparkling feathers branch weight special struggle shriek scream crawl	**Week 16** (10) different reference choices expression realistic pronounce unfamiliar encyclopedia volume information
Week 17 (10) (group determines words)	**Week 18** (10) (group determines words)

How well did you identify, define & spell social & life science words & adjectives?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

1. Dictionary Skills

- Number the following words in dictionary order.

	environment
	ecology
	ecosystem
	economy
	environmental
	energy
	ecological



http://img.photobucket.com/albums/v408/silverwolf42/parts.png

Which dictionary is your favourite?

- Look through at least 3 book samples and at least one on-line sample.
- Record your top three – and explain why you selected your #1 choice.

#1	
#2	
#3	

I think _____ *is my favourite because:*

(give 1 reason – rookie; 2 reasons = pathfinder; 3 reasons = trailblazer)

Extension: Vocabulary Task for A Book of your Choice

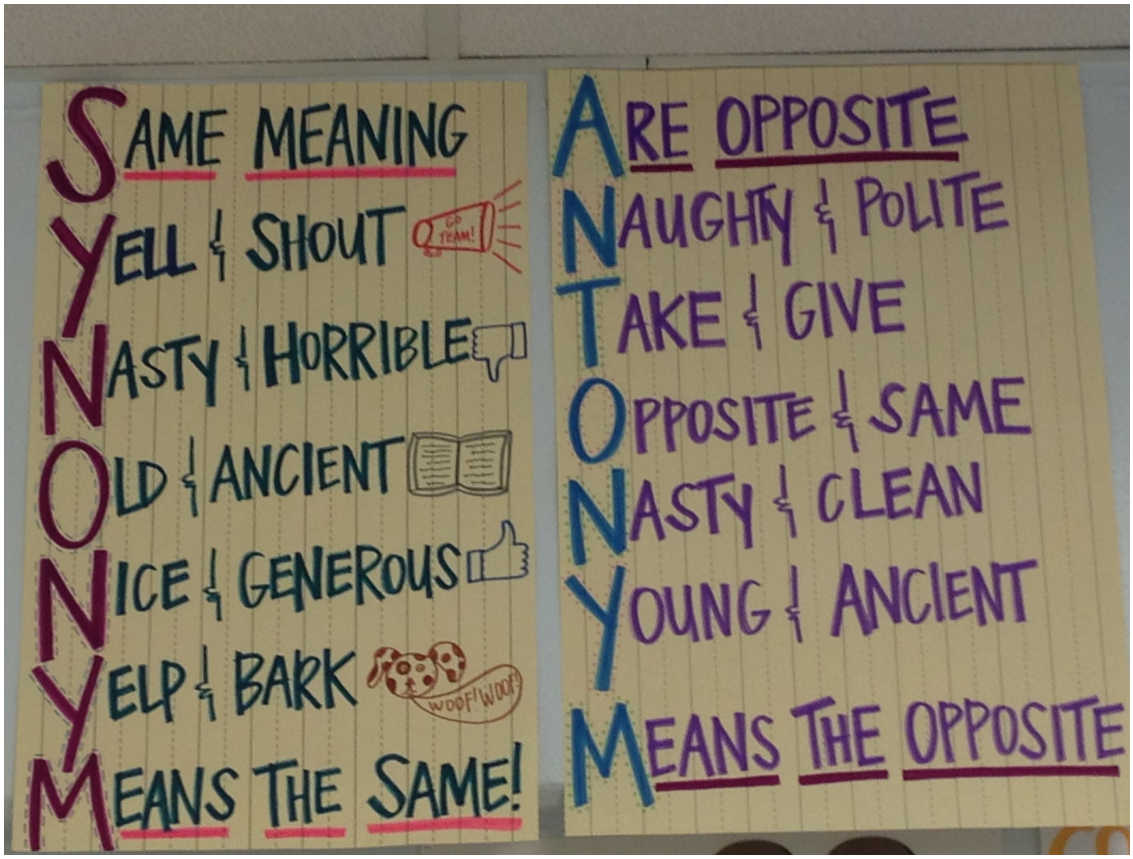
Tricky Words from an information text of your choice:(optional)	
Word	Meaning

2. Thesaurus Skills

Trailblazers use a thesaurus to spice up their poems, sentences, paragraphs and longer texts. No one wants to hear words repeated! B-O-R-I-N-G!!!!!

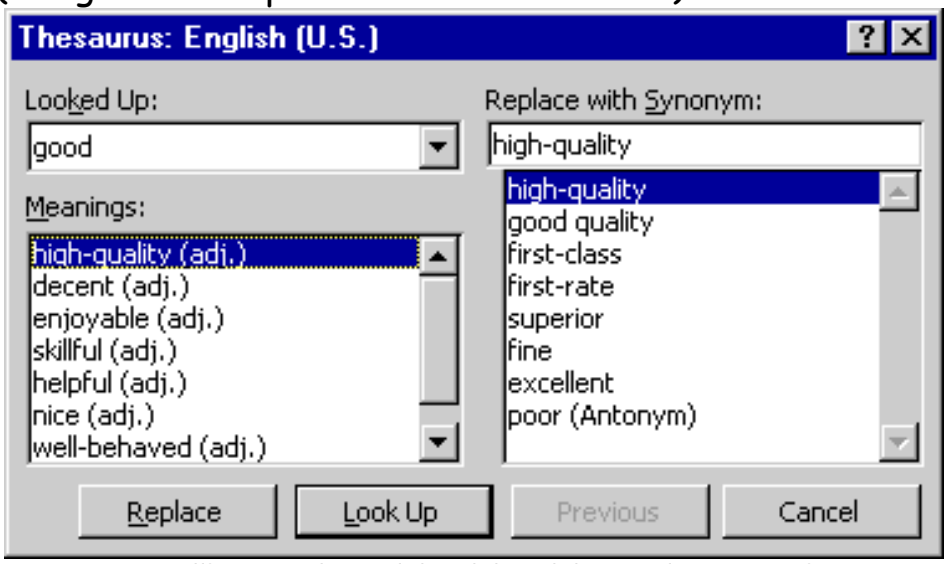
A thesaurus gives you many synonyms. These options can really help turn a boring piece of writing into something people want to read or hear!

A thesaurus will also give an antonym, so you can use opposite meanings to emphasis your point!



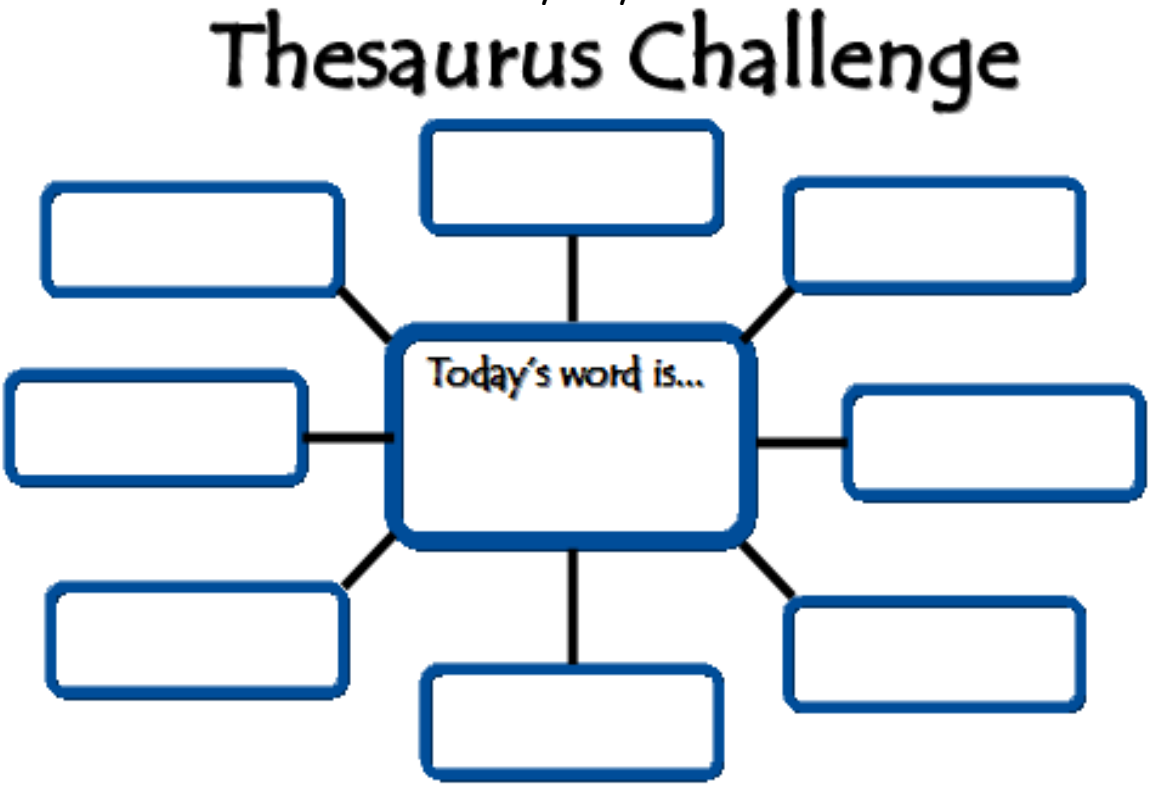
https://s-media-cache-ak0.pinimg.com/originals/6c/df/f5/6cdff5db9a2cbee4620582569e85fb8f.jpg

- Look at a thesaurus that comes loaded on most computers.
- Work with a partner to find some synonyms from the spelling word lists (using this computer- based thesaurus).



http://flylib.com/books/1/102/1/html/2/images/g10ob13.gif

- Use the web below to list the synonyms for one word:



http://www.communication4all.co.uk/Screen%20Shot%20Images/TCW.png

You can find a thesaurus in book form and they can also be found on the web. (i.e. Thesaurus.com below)

http://d33v4339jhl8k0.cloudfront.net/docs/assets/536d64d8e4b03c6512282391/images/5670a6789033603f7da28ae8/file-RwlCSov0um.png

How well did you use thesaurus to locate & use synonyms?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Grammar Voyageurs

3. Noun and Verb Review

- Now read the first part of this article, 'Cleaning Up the Great Lakes', (http://www.ec.gc.ca/doc/eau-water/grandslacs-greatlakes_e.htm), as a class. Circle the nouns and put a "v" over top of the verbs and a "PN" over each proper noun.

Cleaning Up the Great Lakes

The Government of Canada is working in partnership with communities and other levels of government to protect and restore water quality in the Great Lakes. Since 1989 the Government of Canada has invested $355 million in targeted actions to restore and protect great lakes water quality and ecosystem health. This includes support to over 800 partnered projects to clean up contaminated sediment, restore fish and wildlife habitat, and improve municipal wastewater treatment systems. Working with our partners, we have successfully restored environmental conditions in three Great Lakes areas that had been severely degraded: Collingwood Harbour, Severn Sound, and Wheatley Harbour. We have also made significant progress in other great lakes areas of concern…

Extension:

- Now read the rest of the article on your own, circle the other nouns and verbs.
- Make a list of money invested in the Great Lakes – and then use a superlative adjective to talk about where the Great Lakes get their largest investment.

Investing in the Great Lakes
The Government of Canada is currently investing $48 million annually in federal funding for Great Lakes initiatives: $22 million from Environment Canada programs and initiatives, and another $26 million for various activities by other federal departments.

Environment Canada's $22 million in funding on average per year is spent in the following areas:

- $8 million to rehabilitate fish and wildlife habitat, to assess and remediate contaminated sediment, and to improve the quality of municipal wastewater effluent in Great Lakes Areas of Concern. This includes activities undertaken with provincial, regional and local partners through Great Lakes Sustainability Fund projects.

- $6 million per year to remediate contaminated sediment in Great Lakes Areas of Concern – environmental "hot spots" that are severely degraded. This funding comes from Canada's Action Plan for Clean Water.

- $8 million per year is used for scientific research, monitoring, lending expertise to partnered projects, consultation and community engagement, and participation in restoration and clean-up initiatives.http://www.ec.gc.ca/doc/eau-water/grandslacs-greatlakes_e.htm)

Source of Funding	Amount
Government of Canada	
Environment Canada	
Great Lakes Sustainability Fund	
Canada's Action Plan for Clean Water	
Research	

http://ijc.org/greatlakesconnection/wp-content/uploads/2016/05/cropped-great-1.jpg

Top 10 Proper Noun Titles

- Look through books in the STEM Library to find your top ten titles. When recording the title of a book, usually every word is capitalized.

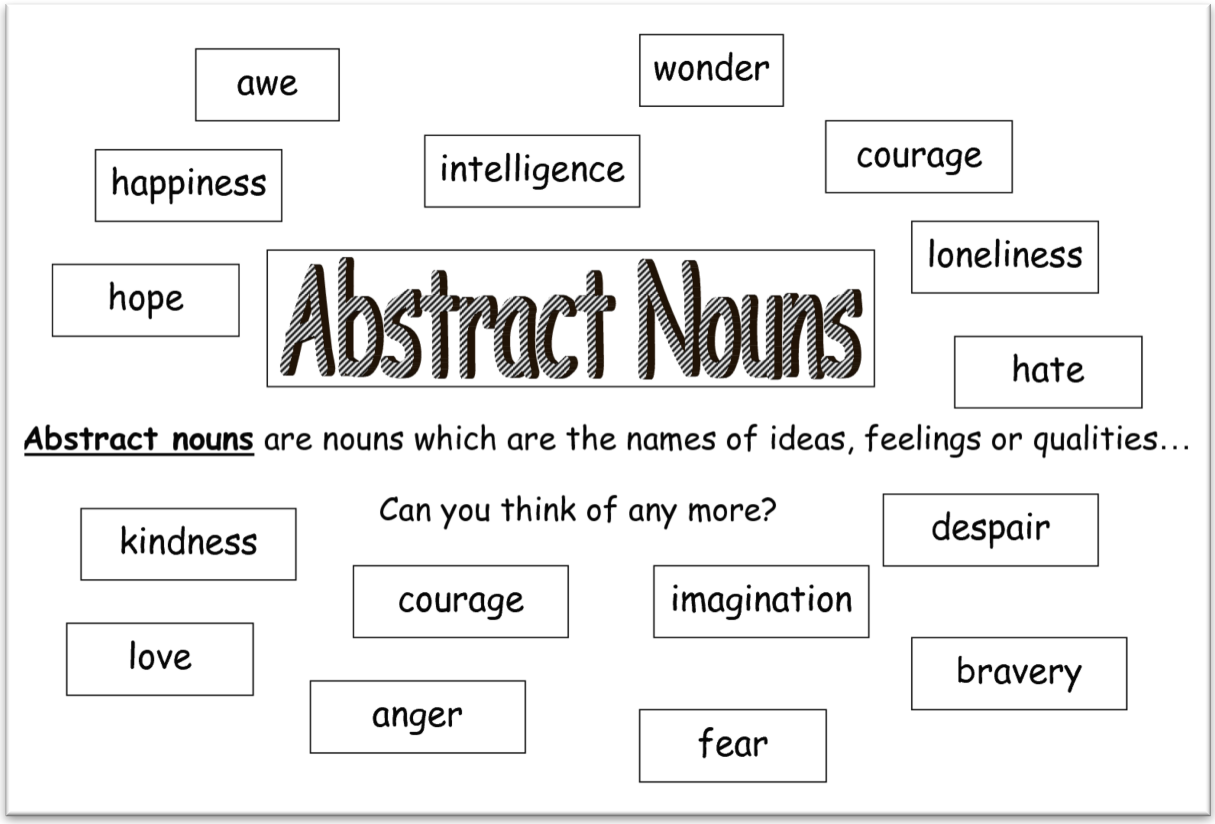
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

- What titles do some people have?
- Look at this list from *Wikipedia* and choose your favourite one.
  https://en.wikipedia.org/wiki/List_of_titles

_____

Abstract Nouns

- Many nouns are easy to find in lists, poetry and sentences. Most nouns are things or people you can see. Abstract nouns still answer the question "what", but you cannot see them.
- Look at the poster below and add three more abstract nouns to this list.



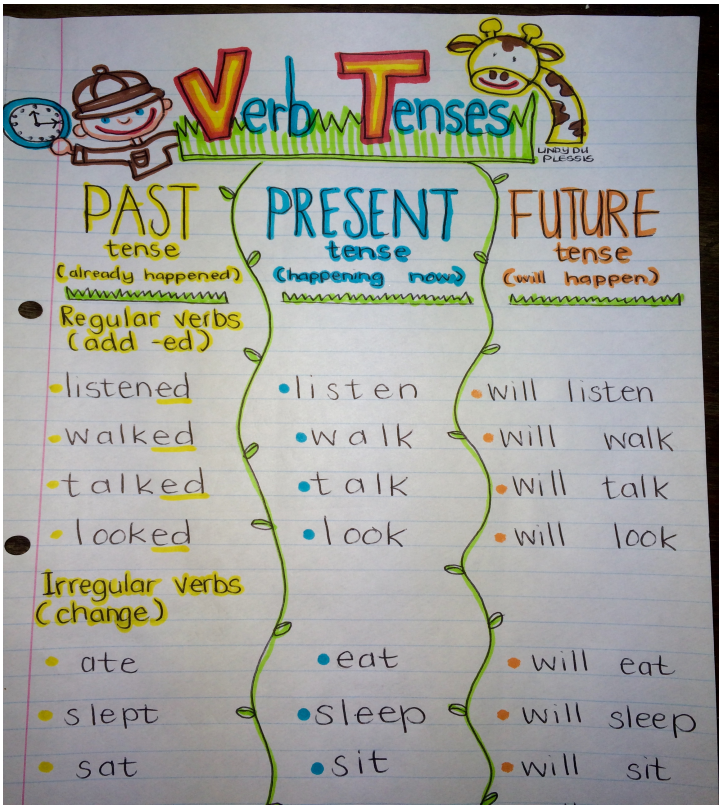
http://www.studysquare.co.th/studyenglish/wp-content/uploads/2015/04/abstract-noun-%E0%B8%84%E0%B8%B7%E0%B8%AD-%E0%B8%AD%E0%B8%B0%E0%B9%84%E0%B8%A3.png

More abstract nouns:

Verb Tenses

Verbs can have suffixes that can help say if it means the action was in the past, present or future.

- Look at the poster below – and make a list of three other action verbs, as they would be written in the past, present and the future.



https://s-media-cache-ak0.pinimg.com/originals/8c/51/53/8c5153335bf9f1b8d5fc1b0507c6f217.jpg

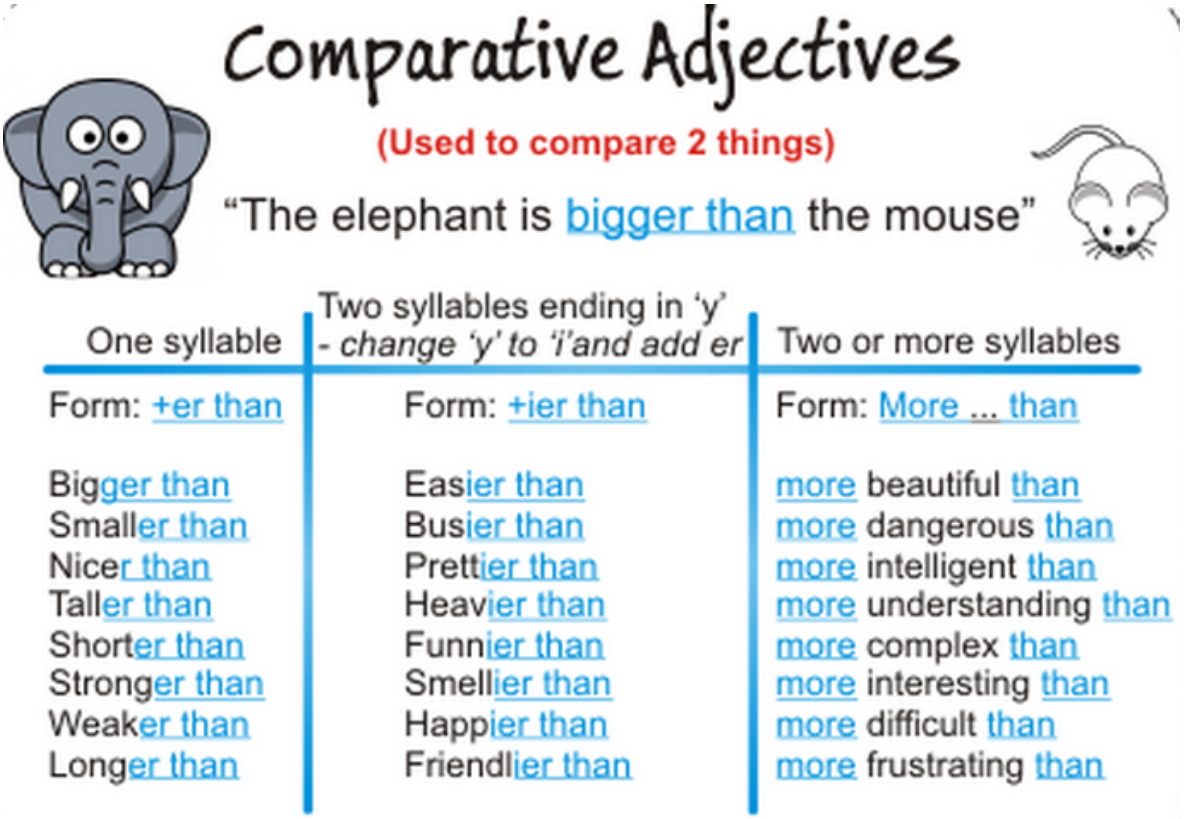
Past	Present	Future

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

4. Eco-Adjectives

Researchers need to use adjectives to describe their findings.

- Look at how comparative adjectives are used when comparing the difference between an elephant and a mouse.



http://3.bp.blogspot.com/-UHPiFE2-kE4/VHN-vrGuWDI/AAAAAAAAEoE/admeLom0Dow/s1600/comparatives2.pn

- Look at your spelling words for this week and complete the sentence below.

_____ *is more difficult to spell than*

_____.

- Look at these adjectives and comparative adjectives from http://examples.yourdictionary.com/examples-of-comparitive-and-superlative-adjectives-for-kids.html#OOeytMfkKZV1ksMP.99:

Angry –angrier; angriest	Fresh – fresher; freshest
Big – bigger; biggest	Heavy – heavier; heaviest
Brave – braver; bravest	Late – later; latest
Bright – brighter; brightest	Light – lighter; lightest
Calm – calmer; calmest	Long – longer; longest
Cold – colder; coldest	New – newer; newest
Cool – cooler; coolest	Old – older; oldest
Dark – darker; darkest	Quick – quicker; quickest
Dirty – dirtier; dirtiest	Rich – richer; richest
Dull – duller; dullest	Simple – simpler; simplest
Dry – drier; driest	Small – smaller; smallest
Early – earlier; earliest	Soft – softer; softest
Easy – easier; easiest	Sweet – sweeter; sweetest
Fine – finer; finest	Thin – thinner; thinnest

Extension: Shade in the superlatives above that you might hear in a sports broadcast. Interesting how 'best' has 'est' built in. Note: the *superlative* is the third adjective listed in each row.

"The naturalist may find bees on the trail." By adding in adjectives the message can read: "The *expert apiarist* may find rare and distinct species of "sweet-seeking" bees." It gives the reader a more precise sense that the writer has more expertise.

Based on the following examples, record what you think an adjective does well.

- The rhythmic hum of the bees was calming.
- Without a healthy bee population, most foods we rely on could disappear altogether.
- In Bangladesh, there are giant honeybee nests.

An adjective _____

STEP OUTSIDE:

- Let's explore words that describe an ecosystem along a river.
- Review this video, and fill in the chart before you head outside.
  https://www.youtube.com/watch?v=JPHqUxxyLsY

Biotic	Abiotic

- Describe the habitats found along a river.

  _____

  _____

  _____

- What kinds of things threaten an ecosystem?

  _____

  _____

  _____

- How can you protect a river ecosystem?

  _____

  _____

  _____

TECH CHECK:

Choose a link to demonstrate what you know about adjectives:

- http://www.chompchomp.com/terms/adjective.htm
- http://owl.english.purdue.edu/owl/resource/730/1/
- http://www.writingcentre.uottawa.ca/hypergrammar/adjectve.html
- http://www.bbc.co.uk/skillswise/words/grammar/interestsentences/adjectives/quiz.shtml
- http://www.softschools.com/quizzes/grammar/adjective/quiz219.html
- http://eslus.com/LESSONS/GRAMMAR/POS/pos6.htm

- Read the following poem and put round brackets on each adjective.
- Put a star above the adjectives you think are better than others.

https://s-media-cache-ak0.pinimg.com/originals/37/4c/c4/374cc4697af3cab9cfa0eaf4c9544eb1.jpg

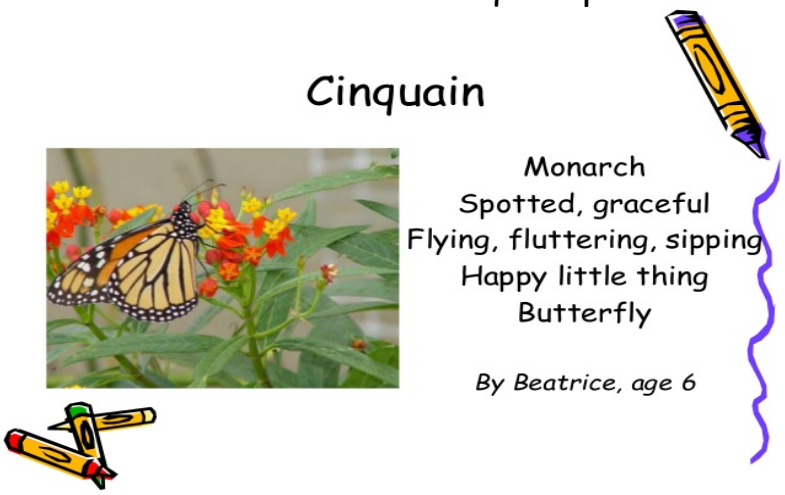
How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Eco Poetry

ET- Identify hyperboles & similes & write cinquain poems.

5. Cinquain Poems

- Read aloud this poem written by a primary student and evaluate whether it fits the definition of a cinquain poem.



http://image.slidesharecdn.com/helpingchildrencelebratenaturebyfindingthepowerofpoetry-140823113805-phpapp02/95/children-celebrate-nature-by-finding-the-power-of-poetry-23-638.jpg

Remember a Cinquain Poem…

- Has five lines
- Can form a diamond *shape*
- And can be either:

Format A	Formal B	Format C
Line 1: One word Line 2: Two words Line 3: Three words Line 4: Four words Line 5: One word	Line 1: A noun Line 2: Two adjectives Line 3: Three –ing words Line 4: A phrase Line 5: Another word for the noun	Line 1: Two syllables Line 2: Four syllables Line 3: Six syllables Line 4: Eight syllables Line 5: Two syllables

http://www.dec.ny.gov/docs/administration_pdf/lpanimalcinquain.pdf

Beatrice created a cinquain poem; it followed Format _____.

- Now develop a **cinquain** about an animal of your choice.
- Use Format B.
- Before you begin let's visualize about your animal (with your teacher's help).

1. What is the animal or creature? _____

2. What are some adjectives that describe the animal or creature?

   _____

   _____

3. What are some things that it does? How does the animal move, find food, eat, find shelter and find water?

   _____

   _____

   _____

4. How does it make you feel when you see it or think of it?

   _____

   _____

5. What role does it play in the environment?

   _____

   _____

6. What is another word or words that you can use to name this animal?

   _____

http://www.sparklebox.co.uk/topic/living/wpimages/wp00c07e57_05_06.jpg

- Write your cinquain poem here. (8 points)

_____

Animal's Name

_____, _____

Two adjectives describing the animal

_____ _____ _____

Three action words that end in "ing"

_____

A short phrase about the animal

_____

Another name or word for the animal

- Read this poem aloud to your classmates.
- Draw an image of the poem and label it. (2 points)

Simile and Hyperbole Review

- Look at this poem and talk about where the author uses similes and hyperboles!

Imagine by Roland Egan

1. Imagine a snail as big as a whale,
2. Imagine a park as big as a shark,
3. Imagine a bee like a tree,
4. Imagine a toad as long as a road,
5. Imagine a hare as big as a chair,
6. Imagine a goat as long as a boat
7. And a flea the same size as me

https://image.slidesharecdn.com/16simile-140723012631-phpapp02/95/16-simile-28-638.jpg?cb=1406406208

How well did you identify hyperboles & similes & write cinquain poems?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

6.Found Poems

A **Found Poem** is a type of poetry where the author takes words, phrases, and whole passages from other sources/texts and makes small changes in spacing and lines, or by adding or deleting words, sometimes making new meaning.

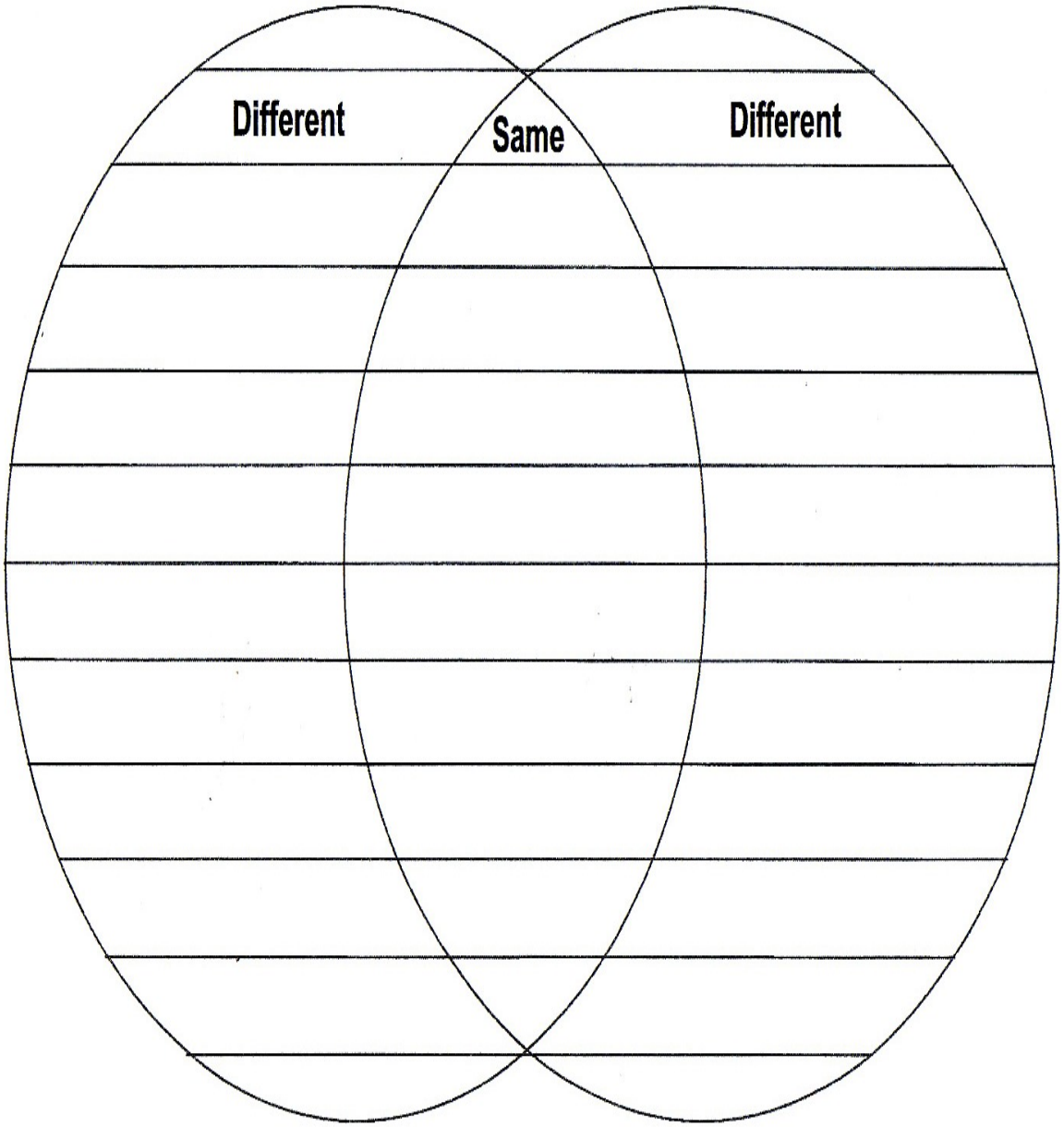
- Let's look at how this interesting fact can transform into poetry.

  Interesting Facts (from http://identify.whatbird.com/obj/35/_/Broad-winged_Hawk.aspx)
  During migration, weather and geography cause these birds to concentrate into groups that number in the thousands. These large groups are referred to as "kettles." Research has shown that Broad-winged Hawks typically migrate about 4,300 miles, covering an average of 70 miles each day. A group of hawks has many collective nouns, including a "boil", "knot", "spiraling", "stream", and "tower" of hawks.

- Watch what happens when the lines change and you leave out words like "the", "a" and add in some cleverly-placed adjectives.

Interesting
Migrating shifting weather,
boundless distant lands
birds concentrate
"kettles" groups
by the thousands
Broad-winged Hawks
Boil, knot, tower, spiraling, stream
100-kilometer a day
warriors.
(inspired by http://identify.whatbird.com/obj/35/_/Broad-winged_Hawk.aspx)

- Examine both texts and create a Venn Diagram that shows which words were used or not in the newly formed, found poem:



- Apart from words left out or added in, what else was done that made sense?

_____

- In pairs – take one paragraph from the 'In the Spotlight' article, to make your own Found Poem. *(Your teacher will make sure each pair has a different paragraph.)*

In the Spotlight

1 Luke is giving up a Saturday to help his grandfather. Unlike many of his friends in Pinedale, Wyoming, who will be watching TV or playing video games today, Luke will be herding sheep. A few of his friends are also sheepherders, but they don't take their sheep to a meadow like Luke does. They just move their sheep from one area of their pasture to another. Also, some of Luke's friends take care of small flocks with fewer than 10 sheep, so they have more time for other activities. Luke, however, tends dozens of sheep. He follows in the footsteps of many family members who have herded sheep before him.

2 On this chilly morning Luke steps out of his grandfather's house and walks quickly to the pen where the sheep are held. The denim fabric of his jeans rustles with each step he takes. Approaching the large pen, Luke is greeted by a chorus of bleating sheep. As he swings open the gate, he is careful to avoid the mass of sheep that push their way through. At first, the sheep seem out of control. Luke takes a staff, or a long stick, that is leaning against the fence and gently taps and prods the sheep, herding them close to one another. He then takes a quick count. Satisfied that all the sheep are present, Luke whistles to them. Moving as a unit, the woolly white animals start walking together up a well-worn path. Luke strolls behind the sheep.

3 Despite his easy gait, Luke isn't relaxed. His pace is slow, but he is alert as he makes sure that the sheep don't stray too close to the edge of a rocky ledge. Although bear and wolf attacks are rare, they still happen. A lone sheep would be easy prey for these animals.

4 Luke walks a mile or so to the nearest meadow. He has made this trek on several Saturdays, bringing his lunch and some snacks for the long day ahead. When his sheep reach the meadow, Luke whistles again, and the sheep spread out in the field and graze. Luke circles them and scans the area for danger. A couple of sheep wander too far from the flock, so Luke uses his staff to nudge them toward the rest of the animals. Finally, he sits on a rock to watch them.

5 Luke enjoys the freedom he has been given. There are many jobs he isn't old enough to do, but sheepherding makes him feel grown up. He is proud that he has earned his grandfather's trust, and Luke will stop at nothing to do a good job—even on a Saturday. "I'll take sheepherding over video games any old day," he thinks. "Keeping up with the sheep's tricks and watching out for wild animals is much more interesting than sitting in front of the television."

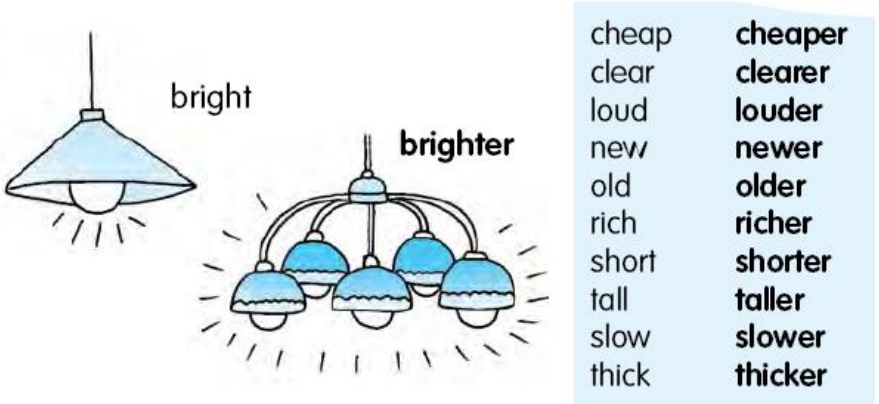
- Try to keep your first draft of your poem to 8 or 12 lines in length.

Poetic Purpose

- Select at least 5 words from the image of the 'Chart of Sticky Tabs' to use to help edit your found poem.

From Bright to Brighter Words

- Use comparative adjectives to edit more connections between words in your poem.



http://www.falibo.com/course/level_2/img/comparative_02.jpg

Poet's Voice

Does your poem share how you feel about the animal? What words are clues about your feelings?

If these words are not there 'yet', edit some and list them here.

- After you have your poem drafted, think about some interesting and creative titles:

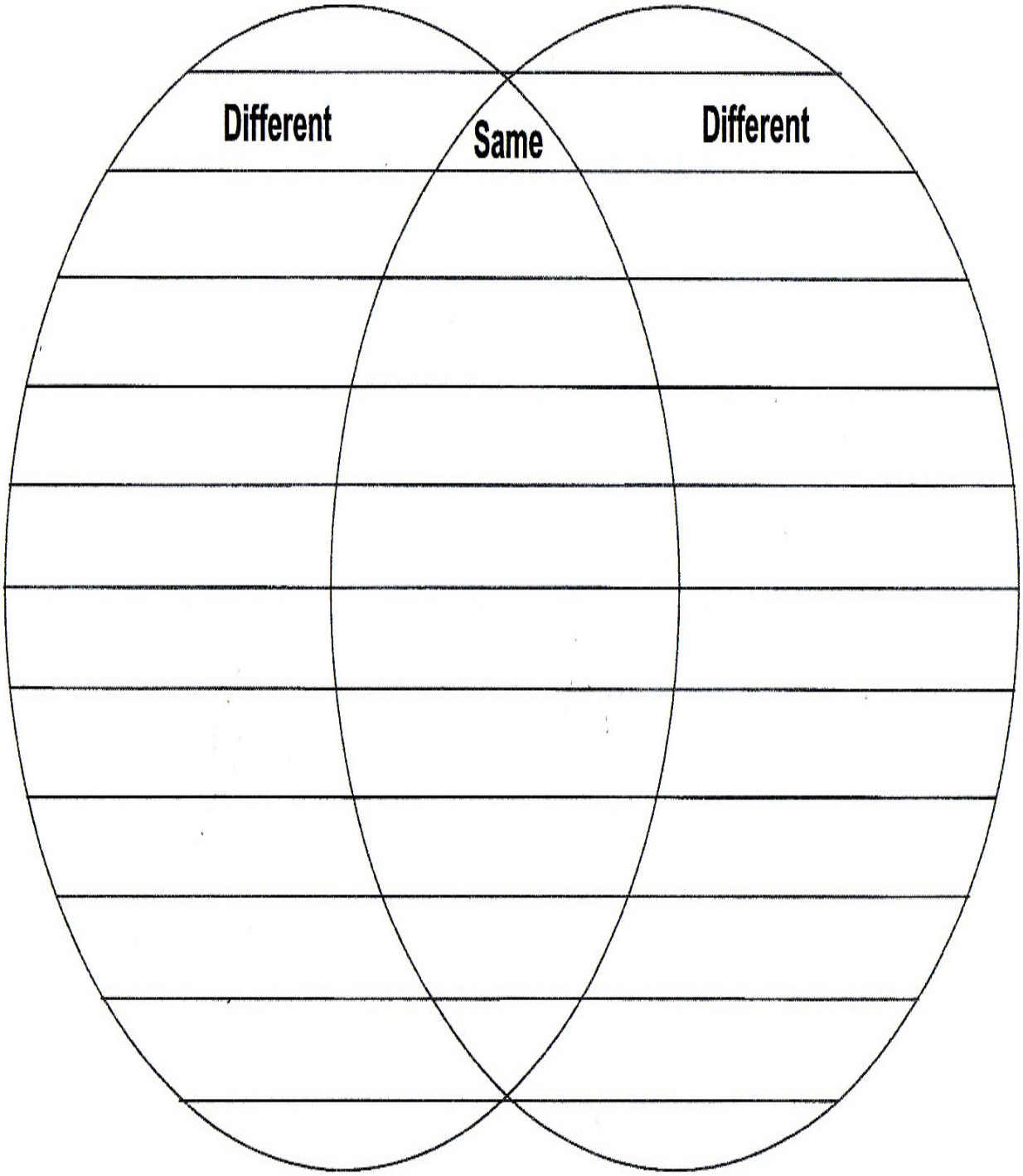
Title Options (2 points):

Self	**Information**	**Teacher**
	use of powerful descriptive adjectives	
	included at least 5 nature facts	
	creative title	
	changes and improvements made to each line	
	draft written on every other line (to make room for edits)	

TOTAL =

/20 possible points

- Find 2 nature poems and talk about what words are the same and different in each poem.
- Complete a Venn diagram to compare the words in these poems.



- Choose one poem to present on a PowerPoint slide to your classmates.

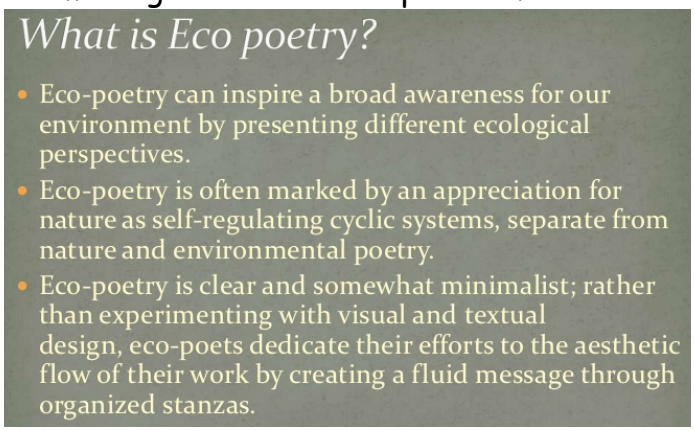
Self	Speaking Technique: 2 (WOW); 1 (okay); (Not Yet)	Teacher
	stressed key words	
	volume was good for audience to hear	
	pace was good for all to follow	
	added prop/costume that complimented the reading	
	spoken word was rehearsed and/ or memorized (you crushed it!)	
TOTAL	Up to 20 points	

- You may also read a poem you created. (option)

How well did you speak persuasively using technology (presenting PP)?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension:

- Create a Found Poem using this text as inspiration.



https://image.slidesharecdn.com/eco-poetryecologicalawareness-120911150322-phpapp02/95/eco-poetry-ecological-awareness-2-728.jpg?cb=1347419273

Teacher Telegram

Dear_____,

_____

_____

_____,

_____

Student Telegram (response)

Student -- Please add a note back. (what you liked, any ideas for improving the activities…)

Dear ,

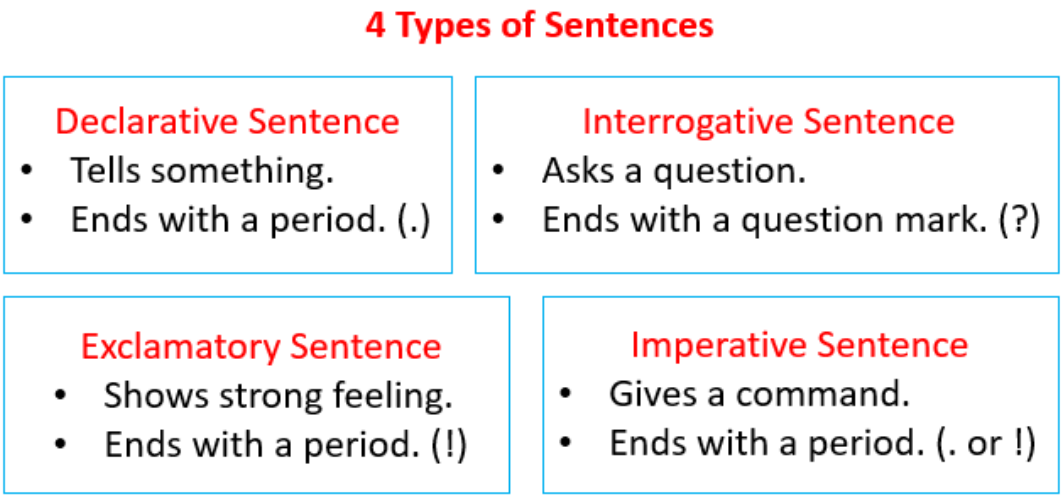
_____

_____

Sincerely,

_____

7. All Kinds of Sentences



http://www.onlinemathlearning.com/image-files/types-of-sentences.png

Asking questions is an important skill for a Trailblazer Scholar. The following sentences have been taken from the article, 'Guard Your Garden with a Hungry Toad'. Look at the example of how a sentence can be changed to become a question.

Emerging from hibernation in the spring, a hungry toad will eat up to 10,000 insects in three months.

Making questions from statements:

- *What insects cause the most harm in a garden?*
- *What kinds of toads eat the most insects in a garden?*
- *How long do toads hibernate?*
- *What is the lifespan of different toads?*
- *What if toads ate plants and not insects?*

- Make an **interrogative question** from an assertive sentence:

1. Its fast-draw tongue, uncoiling quicker than the eye can see, plucks harmful insects off flowers, vegetables, grass, or leaves, and even snaps them out of the air in mid-flight.

Trailblazers also know how to make **exclamatory sentences**.

2. Cutworms, flies, grubs, sow bugs, caterpillars, grasshoppers, and beetles are all in its diet.

The garden was a feast for the hungry toad!

- Make an exclamatory sentence from this assertive sentence.

3. Frogs and toads can snare at ground level insects that birds sometimes miss.

Trailblazers also know how to write **commands** and give directions.

The toad is a natural insect trap.

Use the toad as a natural insect trap.

- Make an imperative sentence from this assertive sentence.

4. Toads can snare at ground level insects that birds sometimes miss.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

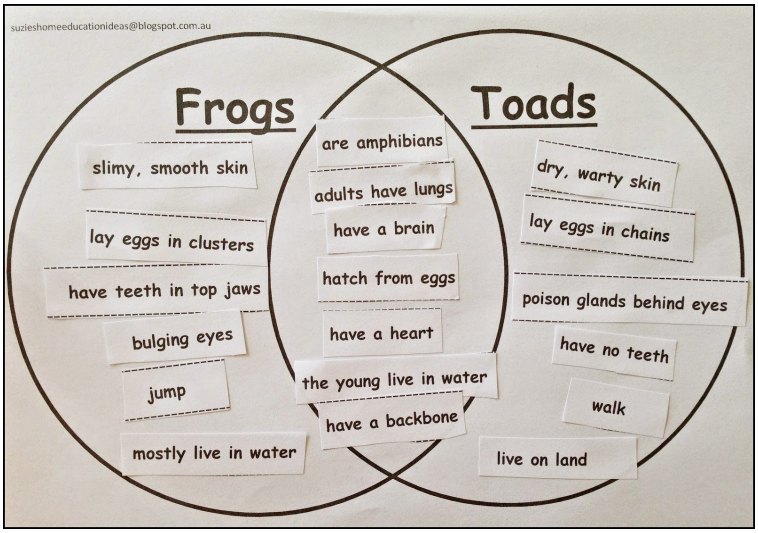
Extension:

- Read for fun the text where these sentences came from (William J. O'Neill, National Geographic News Service).

One of the best assistants a gardener can employ works for no pay. The homely toad is a relentless exterminator. Naturalist Paul Zahl says either a toad or a frog can do the job equally well, and both are "strategically located" to snare at ground level insects that birds sometimes miss." Dr. Zahl said. "Sluggish and slow moving, it takes up a vantage point at dusk and then zaps nearly everything that comes within range." Dr. Zahl views faster-moving frogs as more aggressive, but acknowledged that since frogs prefer to stay near a pond, toads may be better suited to most gardens. He pointed out that both amphibians need moisture, and suggested that to keep a toad in a garden, it is a good idea to provide it with a shallow pan of water.

Being kind to a toad may not come easily to some people. Science has determined that it simply isn't true that handling a toad will cause warts—despite all the warnings given to thousands of children for centuries. Scientists agree that most species of toads are basically harmless—and undoubtedly are boons to farmers and gardeners. Giant toads from South America, as well as some other species, have even been imported to the United States to help control insect pests.

Though toads are still around, they no longer are as common in some areas as they were a few decades ago. The growing use of insecticides has reduced their numbers. The chemical sprays usually do not harm frogs or toads, but cut down the animals' food supply. The urban gardener who decides that a toad would be useful in the backyard will probably have to go out into the woods or the countryside to fetch one. A word of caution: Toads are cheaper than petroleum-based insecticides, but they also are noisier at night. Light sleepers may choose to do without them.

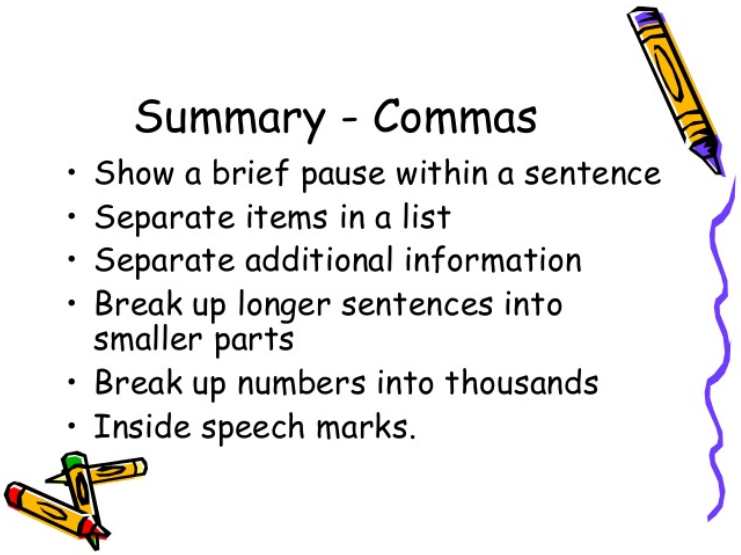


http://3.bp.blogspot.com/-uzcA4LE3fkg/VNhikGT197I/AAAAAAAAGHI/pHxd06lIntA/s1600/worksheet.jpg

8.Commas

A trailblazer uses commas accurately when writing sentences.

- Read the different reasons for using commas:



https://image.slidesharecdn.com/jwcommas-130320024958-phpapp02/95/jw-commas-12-638.jpg?cb=1363747834

When we write a friendly letter, we use commas at the beginning (in the salutation), at the end in the closing, as well as in the date within the heading.

- Circle the commas in this example below.

https://s-media-cache-ak0.pinimg.com/236x/15/ba/82/15ba82428666c7d54c7a585419e4f591.jpg

Commas are used to allow the reader to pause.

- Read the sentences below out loud to your partner, making space for comma.
- Circle the commas in the sentences below.

Sadly, even a frog is good-looking alongside the average toad, with its blotched, warty appearance.

The lumps on a toad are poison sacs, which cause most animals that clamp their jaws around a toad in hopes of an easy meal to quickly spit it out.

Yet the poison will not harm humans, although it can sting if it comes into contact with a cut or with the eyes.

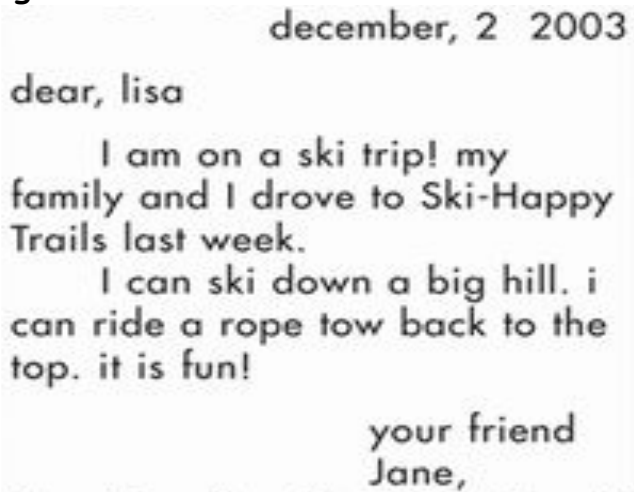
- Commas need to be used in lists of three or more items.
- Look at the examples below and point out what words are used in lists, too.

https://image.slidesharecdn.com/commaswithassessmoviemay13-130908113301-/95/reviewing-commas-lesson-4-638.jpg?cb=1378640552

Quiz and TECH TIME:

- http://grammar.ccc.commnet.edu/grammar/quizzes/comma_quiz.htm
- http://www.softschools.com/quizzes/language_arts/punctuation_comma/quiz2140.html
- http://www.grammarbook.com/grammar_quiz/commas_1.asp
- https://www.quia.com/quiz/300692.html?AP_rand=97707529

- Fix the following letter:



december, 2 2003

dear, lisa

I am on a ski trip! my family and I drove to Ski-Happy Trails last week.

I can ski down a big hill. i can ride a rope tow back to the top. it is fun!

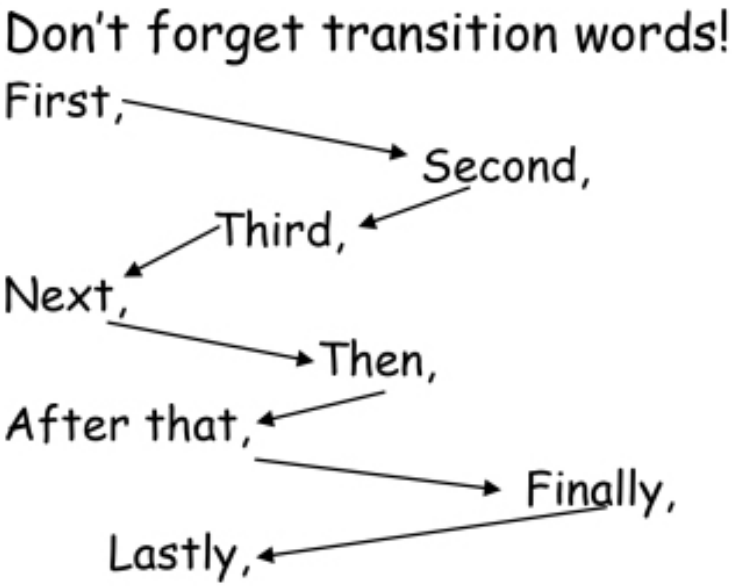
your friend
Jane,

- Place the commas in these sentences to make them make sense:

1. Two types of snakes poisonous and non-poisonous live in Ontario.
2. The rattlesnake that is on the endangered species list is known for its marked brown body and rattle.
3. Although many people are afraid of snakes these animals which are actually very timid help control pest populations.
4. Wider scales which are found on the belly of a snake are used to move it forward.

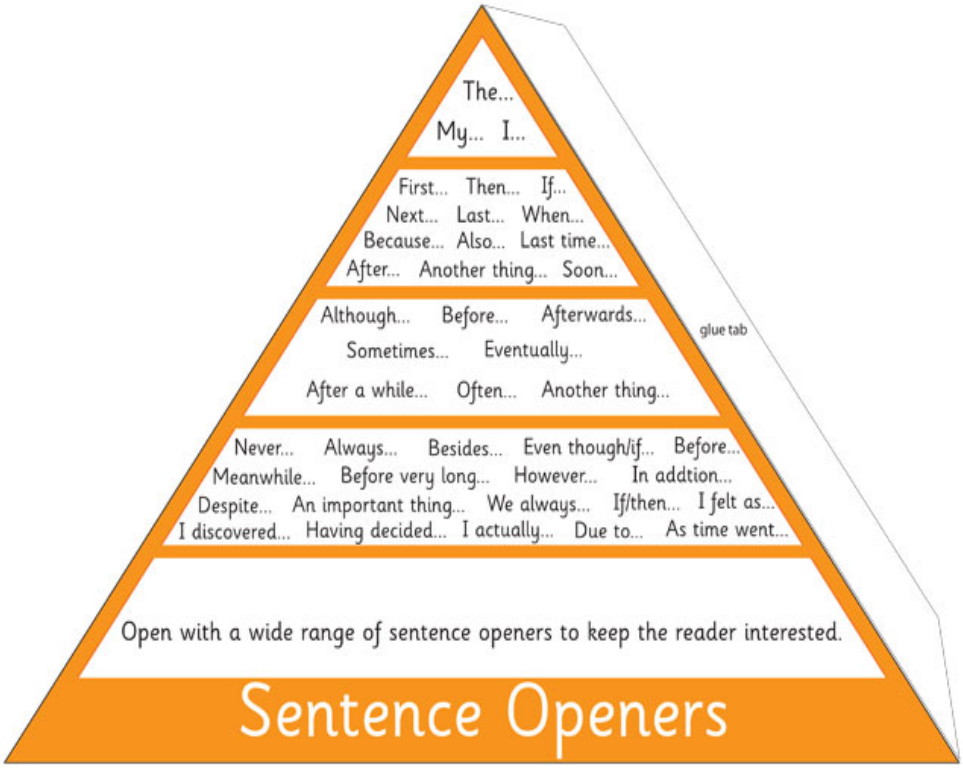
How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension:



https://sehatilaoli.files.wordpress.com/2015/09/e3916-simpletransitionwords.jpg?w=342&h=276

- Read up on commas and more conjunctions. (http://englishgrammarshortcut.blogspot.ca/)



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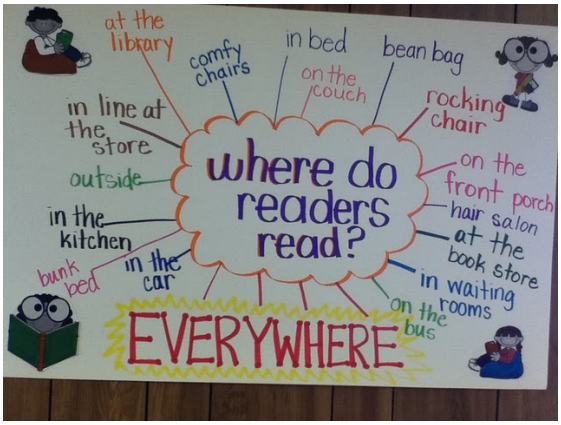
Eco-Reading

9.Reading (and listening to Eco Articles)

Survey Time

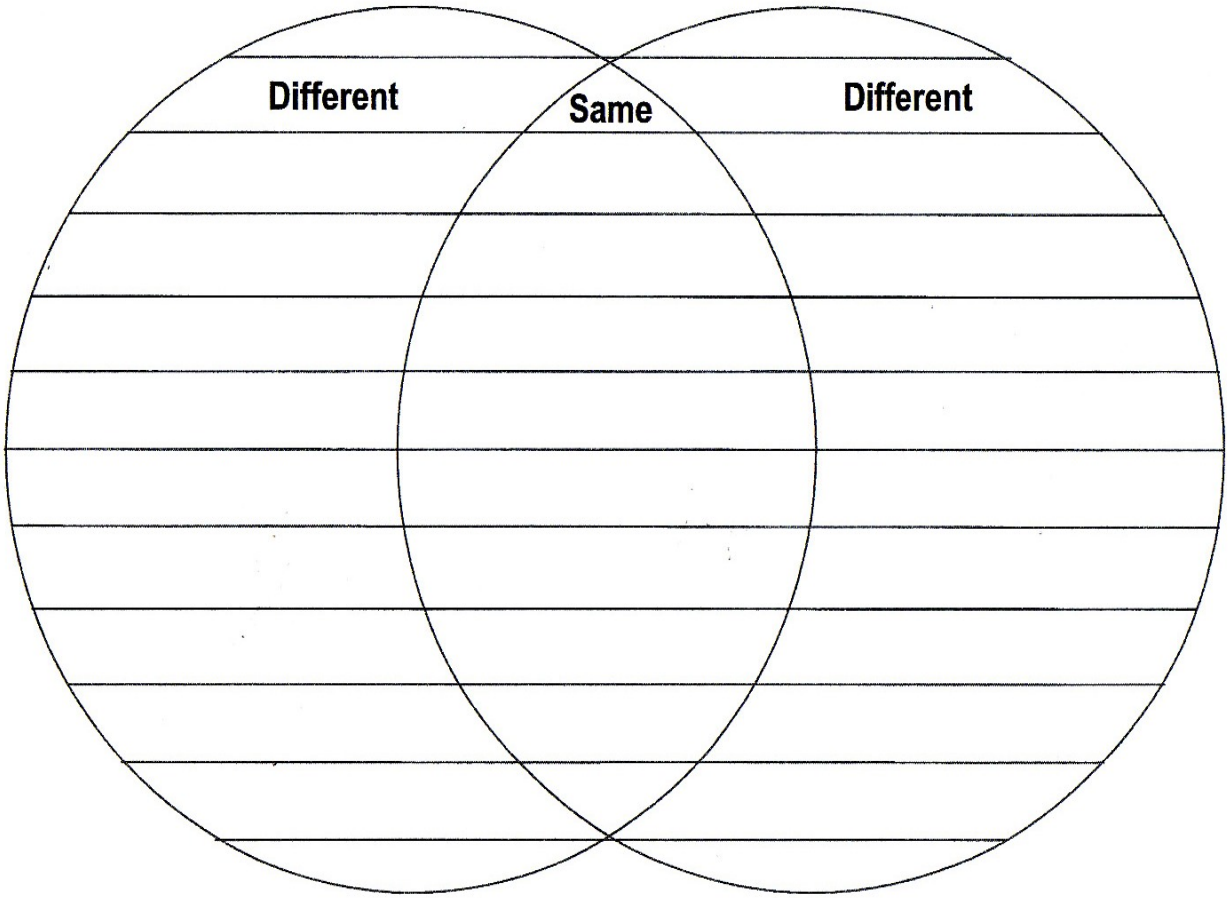


- Where do you like to read?

I like to read:

_____

- Find a book about a place where an animal lives and use a Venn diagram to compare that ecosystem to a library.



- Now choral read this article together.

Wildlife Crossings Made Roads Safer for People and Animals
A multi-million-dollar wildlife overpass has been completed south of Sudbury — one that's aimed at local animals. The overpass is the first of its kind in Ontario. It's to make sure wildlife doesn't cross the new section of Highway 69 near the turn-off to Killarney. Andrew Healy, an environmental planner with the Ministry of Transportation, said the overpass is designed to keep animals off a section of the highway that sees an above-average number of collisions between drivers and wildlife. "There's a very high moose population, as well as a re-introduced elk population," Healy said. "So those are large animals that you really don't want to hit with your car." A six-kilometre stretch of fencing will keep wildlife off the road and guide them towards the overpass. A few animals have already used the bridge, even though the fence isn't up yet. The Highway 69 overpass will eventually be filled with grass and trees.

Kari Gunson, who works for EcoKare, the company that's monitoring the bridge, has seen animals testing out the overpass. "The animals are coming around and checking the structure out and learning that it's there, which is good and positive," Gunson said.The project cost the province $3.9 million. The ministry also plans to install five to 10 wildlife tunnels along Highway 69 — each costing about $1 million. The passages would be used by animals such as deer, lynx or bobcats, so they wouldn't have to cross the road. "In other areas, we're also looking at combining wildlife crossings with snowmobile culverts and just opportunities to allow different kinds of users to get from one side of the highway to the other," Healy said. The first underpass will be on the same section of highway as the wildlife bridge. Both structures are built, but the section of road won't open to motorists until later this summer.
(http://www.cbc.ca/news/canada/sudbury/ontario-builds-first-bridge-for-animals-near-sudbury-1.1148087)

Reading Out Loud:
- Talk about how to use expression to help read the material like you think the author would want it presented.
- Talk about how you use cues in the words from the article to help you figure out and pronounce unfamiliar words.

- What kind of images would help you understand the article?
- Brainstorm with your classmates, friends and parents about other ways to reduce animal collisions.

1.

2.

3.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

- Look at what other people have done.
- Watch this video: https://www.youtube.com/watch?v=yirjdcdu32g
- What do you think of the ideas?

https://lh3.googleusercontent.com/-z9YWaitbx-M/VkNKg7rtKHI/AAAAAAAG7Gw/5sclGiYLdcM/w405-h210/DailyMedicalinfo_rm_quiz_moods_Quiz_Template.jpg

TECH CHECK:

- https://www.workplacesafetynorth.ca/news/news-post/oh-deer-avoiding-wildlife-highway
- https://www.scientificamerican.com/article/roadkill-endangers-endangered-wildlife/
- http://www.rom.on.ca/en/collections-research/research-community-projects/community-projects/the-.. ontario-road-ecology-group

http://www.ontarioparks.com/parksblog/wp-content/uploads/2016/03/PICT0035-1-825x510.jpg

- Talk about things we might do to help living things from being run over on roads.
- Now read together what ecologists do and circle/underline key words you think are important in the paragraph.

"Ecologists help people understand the connection between living things and their environment. There are many fields in ecology, including animal behavior, population biology, conservation biology and marine ecology. Within these fields there are many amazing careers to pursue on land and sea. Ecologists must be really curious about how life works on earth. See how some curious kids became ecologists."
(http://kids.nceas.ucsb.edu/ecology/careers.html)

- Which ecology careers do you want to learn more about?

    - Ecoinformatics Specialist
    - Ecotoxicologist
    - Environmental Consultant
    - Environmental Economist
    - Environmental Educator
    - Environmental Lawyer
    - Research Assistant
    - Research Scientist
    - Program Manager
    - Science Writer

I am interested in knowing more about the

_____ *career*

*because*_____

_____

Becoming an Eco-Expert

(Video: https://www.youtube.com/watch?v=JPHqUxxyLsY)

- Work with a partner to make a mind map on poster paper starting with the word ecosystem in the middle.
- Add 5 details (novice); add 30 details (becoming an expert).
- Record the details you added to your poster here.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension:

- Close your eyes and listen to what one ecologist does for a living.

Imagine standing knee-deep in a fast-moving, frigid creek 20 metres from where it runs into a spectacular alpine lake. In front of you is a large fishing net strung between the creek's banks, and caught in it are five enormous bull trout. You are an ecologist and you've been here for two weeks gathering data on the endangered bull trout population.

Two decades ago, the province wanted to encourage sport fishing and tourism in the area, so it introduced rainbow and brown trout to the lake. These new species became direct competitors with the bull trout for food and habitat, sending the bull trout population into sharp decline. Years of study and work have been dedicated to reviving the bull trout population by removing the introduced fish. You are here to see if these measures are working.

As an ecologist, you spend a lot of time studying the population dynamics of the bull trout, and this time of year is always hectic for you. This is when the bull trout make a run up the creek to spawn, giving you your best opportunity to gather data. The fishing net contraption you have placed across the creek allows the trout to swim upstream to their spawning grounds but catches them before they return to the lake. Several times a day, you wade out to the nets to grab the fish that have been caught and bring them to your mobile station on the bank.

One at a time, you put the bull trout in a basin of water with a bit of anesthetic that temporarily sedates the fish so you can work with each one for about 10 minutes. When the fish is sufficiently calm, you take it out of the basin and check for an identification chip implanted just under the skin. If the fish doesn't have a chip, it's probably a juvenile born last year, in which case you will implant a chip before putting it back in the water. Once you have identified the fish, you measure its length and weigh it on your portable scale. You then put the fish in another tank, where you will keep it until the anesthetic’s effects have worn off and the fish can be safely returned to the creek to continue on its way to the lake.

Once the spawn is over, you will compare the data from this year to years previous. The ID chip lets you track each fish individually so you can check if it is growing longer and gaining weight, indications of an abundant food supply. Also, the ID chip lets you measure recruitment rates by counting how many new juveniles are caught without chips, as well as death rates by counting how many fish from last year didn't return to the creek. These factors will allow you to evaluate the recovery of the lake's bull trout population.

After a couple of long weeks in the field, you will return to your office and begin analyzing all the data using statistical software to indicate the size and growth of the bull trout population and whether it is going to survive in the lake.
(http://www.eco.ca/career-profiles/ecologist/)

- After reading the ecologist description, work with a partner to fill in this chart with your ideas.

Novice	
Expert	

- Tell your teacher what you think is the difference between an apprentice and an expert.

Role Play:

- In pairs, take turns being a novice and a trailblazer or pathfinder.
- Agree on a topic or job you would like to explore and help each other fill out the following chart.
- Act out your roles.

What question would a novice ask?	
How much responsibility would a novice be given?	
What question would an expert ask a novice?	
How much responsibility does an expert have?	

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

The Great Lakes is a habitat for many living things.

Cleaning Up the Great Lakes

- Watch this National Geographic Video:
  https://www.youtube.com/watch?v=6LbZz8vyMqw

1. Did you know that the Great Lakes were polluted? How does that make you feel?

   _____

   _____

2. Do you think that people who first built factories along the Great Lakes knew what kind of affect they might have on the water?

   _____

   _____

3. After watching the film, what can we do to help improve the quality of water in the Great Lakes?

   _____

   _____

- Let's find out about what the people at What Water Wants (WWW) do.
- Watch the video about 'The Beaver River Watershed Initiative':
  http://www.whatwaterwants.org/

- Now watch this video to find out about watersheds:
  https://www.youtube.com/watch?v=QOrVotzBNto

What do you think a Watershed is?

_____

_____

- Read the following passages and respond to the questions below:

Not Just a Hole in the Ground by Elizabeth C. McCarron (7 points)
The woodchuck sits up on its hind legs, chewing a wild strawberry. Looking around, the chuck freezes when it spies the farmer's dog. The dog sniffs the air, spots the chuck, and charges toward it. The woodchuck watches the enemy coming closer and closer, then POOF! The chuck disappears from sight, and the dog is left puzzled. The woodchuck has dropped into its burrow to escape. A woodchuck burrow is more than just a hole in the ground. It is a complex system of entrances, tunnels, and rooms called chambers. Burrows give woodchucks a place to sleep, raise young, and escape enemies. When a woodchuck hibernates (sleeps through the winter), it makes a simple burrow and plugs the entrance with sand. A woodchuck uses its strong claws to dig its own burrow. In soft soil, a woodchuck can dig an entire burrow in one day. Each summer burrow usually has several entrances. This lets the woodchuck roam and still have a safe hole nearby in case danger comes along. For the main entrance, a chuck may choose the woods at the edge of a meadow. The hole must be hidden from view but close to food. The plunge hole is a special burrow entrance. It goes straight down two or more feet. When an enemy comes near, the woodchuck may give a shrill whistle, then drop straight down into the hole. This is how the woodchuck "disappeared" from the dog's sight! Under the ground, tunnels and chambers connect the entrances. There is a sleeping chamber, a turn-around chamber, and a nursery chamber. A woodchuck burrow can even have a bathroom! A woodchuck may bury its waste in a chamber. Sometimes it adds waste to the mound of sand that marks the main entrance. This mound lets other animals know whether or not a burrow is active (being used). Many animals look for empty woodchuck burrows. And why not? The burrows are warm in winter, cool in summer, and ready-made. Rabbits use empty burrows to avoid summer heat. They may even pop into an active burrow to escape an enemy. Skunks, weasels, and opossums use empty burrows as woodchucks do—for sleeping, hiding, and raising their young. Foxes may take over active burrows to raise their own young in the warm dens. Now you can see that a burrow is more than just a hole in the ground. It's the perfect place for woodchucks—or other animals—to sleep, hide, and raise young. To a woodchuck, there's no place like its burrow!

A woodchuck finds a food source above the outer part of its burrow.

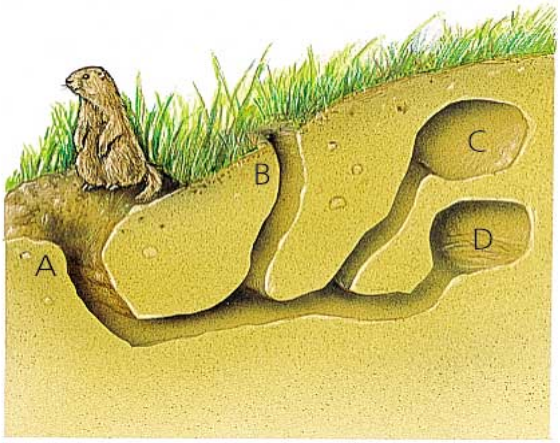
What is the woodchuck MOST likely to do?
A. dig another burrow
B. take over another burrow
C. hibernate for the winter
D. dig another entrance

Which sentence BEST tells how the woodchuck lives through the winter?
A. The woodchuck has dropped into its burrow to escape.
B. Burrows give woodchucks a place to sleep, raise young, and escape enemies.
C. When a woodchuck hibernates, it makes a simple burrow and plugs the entrance with sand.
D. The hole must be hidden from view but close to food.

Why would a woodchuck make a burrow with several entrances?
A. to have many views of the meadow
B. so the woodchuck can escape danger more quickly
C. so the temperature in the tunnels will remain cool
D. to let other animals know the holes are being used

- Label the following elements of a burrow.

Spy Hole _____
Entrance _____
Nest _____
Excrement chamber _____



Rolin Graphics, Inc.

(http://www.yourdictionary.com/burrow#rC249DY4886eYypX.99)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Author(s) point of view - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message? Complete the 'What if…?" sentence

What if…

- When you had your classroom chat, did you:

(a) sight evidence from text to support your claim _____

(b) restate other group members' contributions? _____

(c) acknowledge another person's point of view? _____

(d) link responses to the topic of conversation and/ or what was said by the previous speaker? _____

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension

- Develop interpretations about texts using stated and implied ideas to support their interpretations.

READ ALOUD:

- Read out loud this passage.
- Use expression to help read the material you think the author would want it presented.
- Try to pronounce unfamiliar words by using cues (others' words/ images.

Going Batty! (6 points)

Flies and beetles aren't the only creatures attracted to smelly flowers. Many plants are pollinated by bats. What odors do bats prefer? Some like the smell of rotting fruit. And some like the musty aroma of fellow bats. In Africa, the baobab tree (Adansonia digitata) produces gorgeous blossoms that reek rather like these flying mammals. Because bats are nocturnal, the flowers open at night and are pale in color so the bats can see (and smell) them more easily. While they are eating the flowers' nectar, the pollen sticks to the bats' fur or mouths. As they fly from bloom to bloom, they transfer it. The baobab is a magnificent and important plant. Animals live in its branches. People use all of it—the bark for cloth and rope, the leaves for medicine, the fruit for food—and sometimes even take shelter inside its huge trunk. Another important relative of the baobab is the silk cotton tree (Ceiba pentandra). This tree's fruits produce kapok—a fluffy material once widely used in lifejackets, sleeping bags, quilts, mattresses, and pillows because it is buoyant and warm. In many places the wood is still used to make canoes. Like the baobab, the kapok has malodorous flowers that attract bats. In some places, bats appear to be the plant's only pollinator and seed disperser. Eliminate the bats, and you eliminate the tree—one of many good reasons to protect these mammals. Baobab and kapok blossoms, like carrion flowers, certainly smell great to their animal pollinators, but there's a good chance Mom won't like them. So when it comes to Mother's Day, it's best to stick with roses.

Where does the rafflesia get its food?

A. from carrion beetles
B. from another plant
C. from bats
D. from soil

How does a plant attract insects at night?
A. by its appearance and odor
B. by its appearance and size
C. by its location and odor
D. by its location and size

What is the best conclusion that can be drawn from the information in paragraph 5?
A. Plants do not rely on pollination to reproduce.
B. Plants have many ways to appeal to pollinators.
C. Plants must be pollinated by more than one animal.
D. Plants do not make pollen at certain times of the year.

According to the selection, what would most likely happen if bats were to disappear from Earth?
A. Flowers would become more fragrant.
B. Baobab trees would become more common.
C. Silk cotton trees would no longer reproduce.
D. Colorless flowers would no longer be necessary

Why is the baobab tree important?
A. It serves many different purposes.
B. It is one of the oldest trees in the world.
C. It is one of the largest trees in the world.
D. It stores water in periods of dry weather.

Like the baobab, the kapok has malodorous flowers that attract bats. The prefix mal- means "bad."
What does the word malodorous mean?
A. stinky
B. strange
C. prickly
D. poisonous

- Read the 'Dragon Hunter' on your own and circle key words to help prepare for a classroom chat about it. (3 points)

The Dragon Hunter by Keith Wilson (http://www.projectnoah.org/spottings/2024046002)
I am a dragon hunter. Dragonflies, that is! My name is Keith Wilson. I'm an odonatologist. That's a scientist who studies dragonflies. I don't hunt to kill. I hunt to discover. So far, I have helped to find many new species, or kinds, of dragonflies.

Flying Colors
About 5,500 dragonfly species buzz around the world. Hunting them is not easy. Many of them live deep in rain forests. To find them, I have to walkthrough thick bushes. I have to put up with leeches. They are worms that drink blood. I even have to watch out for hungry crocodiles. So why do I look for dragonflies? The answer is simple. I love them! They can speed by. They can make sharp turns and sudden stops. They can hover. They can even fly backward. Best of all, dragonflies are beautiful. They come in many colors and patterns. Who doesn't like looking at these amazing insects?

Super Sizes


Dragonflies come in many sizes. The smallest one is the size of your thumbnail. The largest one would cover your face. I recently looked for the heaviest dragonfly in the world—the giant petaltail. It lives in Australia. You might think such a large bug would be hard to miss. The petaltail, however, is very rare. Few people have ever seen it. After looking for a week, I spotted several of them zooming around. (hover = stay still in the air)

Built to Hunt
The hungry petaltails were hunting. Dragonflies are built to hunt. They have two compound eyes. Each eye is made of 30,000 smaller eyes. All those eyes help a dragonfly see everything. A dragonfly can spot a tasty meal from up to 18 feet away. Dragonflies have six legs. The insect cannot walk on its legs, however. It uses its four wings to get around. It soars through the sky at 30 miles an hour, looking for prey.
From Water to Air

A dragonfly begins its life underwater. It hatches from an egg and becomes a larva. A larva is a young dragonfly. It can swim, but it cannot fly. A larva lives in a lake or stream. It can grow for several years. Then it crawls out of the water. It sheds its hard skin and becomes an adult. An adult dragonfly doesn't have much flying time. Some adults live for only a few weeks. Others are around for several months. During that time, a dragonfly is very busy. It flies. It hunts. It eats. If the dragonfly is female, it also lays eggs. Soon there will be more young dragonflies.

Dragonflies in Danger
I worry about dragonflies. People are cutting down forests where the bugs live. That could cause some species to die out. I want to protect these tiny dragons for others to see and enjoy.

What is this article mostly about?
A. the life of dragonflies
B. how to protect dragonflies
C. how to photograph dragonflies
D. the colors of dragonflies

According to the article, what can an adult dragonfly do?
A. live for years
B. fly backward
C. walk on legs
D. swim in water

After reading this article, what could the reader conclude about dragonflies?
A. Some dragonflies are in danger.
B. Dragonflies are easy to find.
C. Dragonflies look like tiny dragons.
D. Some dragonflies can be pests.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

READ ALOUD

- Read the following article 'Busy Builders' and then select a passage/paragraph of your choice to read aloud.
- Use expression to help the material feel realistic.
- Try to pronounce unfamiliar words by using cues (others' words/images).

Busy Builders by George Laycock (8 points)

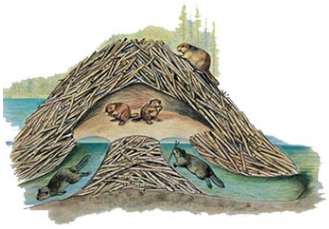
A farmer in Minnesota had a big surprise one morning when he looked out his kitchen window. His beautiful cornfield had turned into a muddy lake. The farmer rushed out to his truck and hurried to the creek. He discovered that, during the night, a family of beavers had moved in and built a fine new dam across the creek. It was working perfectly, too. Hardly a drop of water was getting through! The farmer spent many hours tearing down the dam. Finally, the water ran out of his cornfield and back to the flowing creek. That night the beavers built a new dam. Every night, after the farmer had torn down the dam, the beavers rebuilt it. They used up the trees and the brush. Then they snipped off all of the farmer's corn to build one last dam of cornstalks. When they finally moved on, they left behind a farmer who never wanted to see such hard-working beavers again!

How does the beaver do it? It sits up on its short hind legs, using its wide, flat tail for balance. It gnaws away at the wood with its long, sharp front teeth until the tree begins to crack. As the tree falls, the beaver dives into the water to keep from being hit! Next, the beaver cuts the tree into smaller pieces that it can push or pull through the water. The lakes and ponds created by beaver dams also provide homes for many other animals. The beaver feels very safe in the water, where it can escape from wolves, bobcats, bears, and other predators. It can stay underwater for 15 minutes without coming up for air. The beaver's feet have webs between the toes, making each foot a strong paddle for swimming. Thick, waterproof fur protects the beaver from the cold. In the water, the beaver uses its flat tail to help it steer, like a rudder on a boat. When an enemy comes around, the beaver lifts its heavy tail and slaps it on top of the water. This makes a loud cracking sound like a gunshot that warns other beavers to dive into safe water.

Beavers always seem to be busy cutting trees and building dams or beaver homes. Often they work at night so they can stay out of the way of people. Sometimes, they can be very helpful to people. Wildlife rangers in New Jersey once wanted to flood an area. They wanted to create a new nesting area for water birds. Human experts said it would cost 25,000. Then a family of beaver "experts" moved in and built a dam for free! Everyone, including the beavers and birds, was happy.

Why did the beavers in the article use cornstalks instead of wood to rebuild the dam?

A. The beavers were tired of building with wood.
B. The wood had been used up building the other dams.
C. The cornstalks were easier to knock down than wood.
D. The dam was stronger with cornstalks in place of wood.



It gnaws away at the wood with its long, sharp front teeth until the tree begins to crack.

What does gnaws mean in the sentence?

A. beats
B. chews
C. pushes
D. taps

What does a beaver do when a tree falls?

A. returns to its home
B. dives under the water
C. hides behind another tree
D. slaps the pond with its tail

What is the main reason beavers make dams?

A. to catch food
B. to flood cornfields
C. to help water birds
D. to protect themselves

In the water, the beaver uses its flat tail to help it steer, like a rudder on a boat. What would the rudder on a boat do?

A. guide the boat
B. power the boat
C. keep the boat afloat
D. make the boat steady

Describe how a beaver builds a dam. Use details and information from the article in your description.

According to the article, how can beaver dams help other animals?

A. The dams keep humans away.
B. The dams store water to drink.
C. The ponds they form keep wolves away.
D. The ponds they form provide places to live.

Why did the wildlife rangers in New Jersey want to flood an area?

A. Some birds needed a place to nest.
B. A beaver family needed a place to live.
C. Nearby crops needed water to stay alive.
D. Local animals needed a pond for drinking.

How was the dam the beaver "experts" built in New Jersey different from a dam that human experts would have built?

A. The humans' dam would have cost more money.
B. The humans' dam would have been better for the beavers.
C. The beavers' dam was bigger than the humans' dam would have been.
D. The beavers' dam was stronger than the humans' dam would have been.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

- Read the following article and illustrate it (4 points) like it might be in a magazine.
- Be prepared to discuss at a Classroom Chat.

How Animals Adapt to Desert Life (10 points)
High winds often whip across a desert, blowing bits of sand and dust. The temperature can climb to over 100ºF during the day, and the desert's clear skies offer little protection from the sun's hot rays. Also, little rain falls in a desert; the average amount is only ten inches a year. This rainfall is unpredictable too. It may rain for several days, and then not rain again for a few years! Even though the desert presents such tough challenges, some creatures still call this place home. How have they adapted to life in a hot, dry place?

Desert animals have found several ways to beat the heat. Most animals know the best trick. They sleep during the day and creep out during the evening hours when it's cooler. Tortoises, foxes, snakes, some lizards, and rodents all spend their days napping in underground burrows. Here the temperature stays about 86ºF. The kangaroo rat even shuts the door to its burrow. He fills it with dirt to keep out the heat and any unwanted visitors. Other animals, like the desert toad, sleep much longer than a day. They bury themselves in a cool burrow and sleep right through the hottest part of the summer.

Desert animals also have physical traits that help them handle the heat. For example, jack rabbits and foxes have large ears with lots of tiny blood veins. Heat escapes from the veins. This helps cool their bodies. Another helpful feature is a thick coat. Instead of keeping it warm, a camel's thick coat blocks out the sun's hot rays. Finally, many desert animals have light-colored fur, feathers, or scales. The pale colors absorb less heat. They help the animals hide in the sand too.

One of the biggest challenges of desert living is not the heat but the lack of water. Desert animals must find ways to obtain enough water in their diet. One animal solves this problem by making its own water. The kangaroo rat eats dry seeds, but its body changes the seeds into food and water. This animal never needs to take one drink during its lifetime!

Other animals, like snakes, get water from the prey they eat. Still others get water when they eat plants. Leaves and cacti contain lots of liquid. Of course, some animals do need to take a drink, and the camel can take the largest drink of all. It may gulp down thirty gallons in ten minutes! Some people assume this water is stored in the camel's hump, but actually the hump only stores fat. The water, a camel needs to survive, is stored in its blood and cells.

Today, many animals live successfully in the deserts around the world. In the Sahara Desert alone, there are forty different kinds of rodents, such as mice and gerbils. There are almost one hundred kinds of reptiles. These creatures all have one thing in common. They have learned to adapt to their hot, dry home.

Animals live successfully in deserts can be supported by -

A. there is little rainfall in most deserts
B. mice and gerbils live in the desert
C. hundreds of animals have adapted to desert conditions
D. there are challenges linked with living in a desert

He fills it with dirt to keep out the heat and any unwanted visitors. In which word does un- mean the same as it does in unwanted?

A. uncle
B. uniform
C. unaware
D. underneath

High winds often whip across a desert, blowing bits of sand and dust. The author uses this sentence to create an image of —

A. a weather forecast
B. severe desert conditions
C. a sandy beach
D. major thunderstorm conditions

Based on information in the article, why do some desert animals have thick coats?

A. To keep the animals warm
B. To block the heat from the sun
C. To protect them from enemies
D. To help the animals hide in the sand

Many desert animals burrow during the day because —

A. the sun makes them tired
B. they enjoy taking long naps
C. they want to avoid the heat
D. the night temperature is cool

What happens when a kangaroo rat eats dry seeds?

A. Its body uses the seeds to keep the rat cool.
B. Its body turns the seeds into food and water.
C. It gets thirsty and looks for sources of water.
D. It can go for a long time without eating again.

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

- When you had your classroom chat, did you:

(e) Sight evidence from text to support your claim _____

(f) restate other group members' contributions? _____

(g) acknowledge another person's point of view? _____

(h) link responses to the topic of conversation and/ or what was said by the previous speaker? _____

Extension:

- Read this article by Susan Quinlan

What Is an Ecosystem? by Susan Quinlan (10 points)
Plants help animals by making food from sunlight, air, water, and soil minerals. Different animals help plants by carrying their pollen or seeds, or by enriching the soil with their droppings. All the plants, animals, and other living things in one place interact with one another in many ways. They fit together like the pieces of a three-dimensional puzzle. Scientists call this puzzle an ecosystem. An ecosystem includes a place, all the living things in it, and all the connections among them. Because there are so many connections in an ecosystem, it can be hard to figure out exactly how it works.

Scientists were puzzled, for example, by the underwater ecosystems around two Aleutian islands that lie near each other. Amchitka and Shemya Islands are surrounded by rocky ocean floor and clear water of the same temperature and saltiness. Since the places are nearly identical, one would expect to find similar life there. Instead, the two islands have very different ecosystems.

The ecosystem around Amchitka Island has dense underwater forests of giant kelp (a plant-like organism that lives in the ocean). It has a large population of shrimp-like animals and fish, thousands of sea otters, bald eagles, and lots of seals. In contrast, Shemya Island has no sea otters, few seals, and no bald eagles. Underwater, there is almost no giant kelp, few shrimp-like animals, and few fish. Instead, the rocky ocean floor is carpeted with bottom dwelling, hard-shelled animals, such as sea urchins, barnacles, and blue mussels.

Why are the ecosystems around these islands so different? The scientists discovered that all the differences arose because Shemya lacked a single animal species—the sea otter. Sea otters disappeared from the islands in the late 1800s when hunters killed them for their thick, soft fur.

Fortunately, a few sea otters survived. After decades of protection, they finally returned to Amchitka. But they had not yet reached Shemya when the scientists were there. The scientists discovered that the sea otters triggered a series of ecosystem changes. These diving mammals eat many different underwater animals, including sea urchins. Any large urchins that venture into near shore waters where the sea otters dive are quickly eaten. On Shemya, however, where there are no sea otters, the ocean floor is patrolled by hordes of sea urchins. Sea urchins eat giant kelp. They also gnaw through the anchoring base of the kelp. Without an anchor to the ocean bottom, the kelp soon washes ashore and dies. So giant kelp can't survive in places like Shemya.

On Amchitka, where sea otters limit sea urchin numbers, a giant kelp forest thrives. A kelp forest slows ocean currents and makes waves smaller, creating pockets of calm water. Shrimp-like animals flourish in this quiet water and feast on dead kelp. In contrast, bottom-dwelling animals, like barnacles and mussels, are smothered by sand and silt that settles to the bottom in calm water.

Many kinds of fish feed on shrimp-like animals, so there are more fish in kelp forests. Since harbor seals and eagles eat fish, more of them live around kelp forests, too. An ecosystem isn't just a collection of plants and animals in a particular place—it's a system of connections. The invisible connections that link the living and nonliving parts are what keep the ecosystem working. Just as the absence of sea otters dramatically changed the underwater world around Shemya Island, seemingly small changes in any ecosystem can make many surprising things happen.

Because nature's connections are so complicated and because we know so little about them, scientists often can't predict what will happen when humans change nature. Often we discover nature's connections only after we break them—or later, when we try to put nature back together through ecosystem restoration. "What Is an Ecosystem?" by Susan Quinlan, from Muse, January/February 1998.

Which sentence tells the main idea of this article?

A. Sea urchins are important to a healthy island ecosystem.

B. Hunters in the 1800s changed the island ecosystems forever.

C. Sea otters, seals, and sea urchins live in the same ecosystem.

D. Changes in nature can produce unexpected results in an ecosystem.

With which statement do you think the author would most likely agree?

A. People should avoid activities that may harm an ecosystem.

B. Ecosystems need change in order to stay strong and healthy.

C. Ecosystems can never be repaired once they have been damaged.

D. Scientists should be able to predict the effects of changes on ecosystems.

How are the islands Amchitka and Shemya alike?
A. Similar water surrounds both islands.
B. Sea otters have returned to both islands.
C. Kelp beds have grown around both islands.
D. Similar fish populations live around both islands.

What caused the sea life around Amchitka Island and Shemya Island to be so different?
A. Bald eagles preferred to nest on Shemya Island.
B. The sea otters returned to only Amchitka Island.
C. Shrimp-like animals grew larger around Shemya Island.
D. The water temperature was warmer around Amchitka Island.

According to the article, which event happened first?
A. Otters were protected on Amchitka.
B. Sea urchins ate the giant kelp forests.
C. Sea urchin numbers grew around Shemya.
D. Otters nearly disappeared from the islands.

In Amchitka, where sea otters limit sea urchin numbers, a giant kelp forest thrives. This sentence means the sea otters:
A. compete with sea urchins for food.
B. keep track of sea urchins in the kelp.
C. keep the sea urchin population down.
D. find sea urchins that live in kelp forests.

A kelp forest slows ocean currents and makes waves smaller, creating pockets of calm water. Shrimp-like animals flourish in this quiet water and feast on dead kelp. What does the word flourish mean?
A. grow well
B. seek warmth
C. become quiet
D. avoid enemies

READ ALOUD:

- Read out loud a paragraph selected by your teacher from this article called 'Birditation'.
- Use expression to help be realistic.
- Try to pronounce unfamiliar words by using cues (others' words/ images.)

Birditation

While scientific observation for some kinds of research can take years, you can also use scientific observation on a much smaller scale. While I was recovering from a bout with the Epstein Barr virus, I started doing what I call Birditation, as a form of stress reduction. Basically, you throw out some bird seed, find a comfortable spot, and then sit still and quiet to watch the birds.

At first, the birds were reluctant to come close, but after several days they began to get used to me. Over time, they became more used to me being there, and I got better at sitting very still. The combination led to them coming very close, letting me observe all sorts of interesting behavior. Observation includes more than just what you see. Listening to their calls, you quickly learn to recognize feeding calls, fussing at other birds for getting too close, and warning calls when the cat comes by. The more you observe the birds, the more you will learn about them. Now I usually know that our cat is coming minutes before he hops up onto the porch.
This is also a great activity for journaling, keeping track of when new species migrate into or out of your area. Soon after taping this video, all of the white crowned sparrows and dark headed juncos you saw in the video left to head north. About the same time, our summer hummingbirds, orioles, and kingbirds began to show up.

Give it a try. Remember that for the first few days, you may not see many birds, but the longer you do it the more you will see…
http://thehappyscientist.com/content/birditation)

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Talk about this website called: 'HAWK WATCH':
(http://brucetrail.org/system/downloads/0000/0544/Hawk_Watch_Field_Guide_BT_Magazine_Spring_2013.pdf)

- Then read the following article about birds from the Cornell University's *Lab of Ornithology*.
- Be prepared to talk about it during a Classroom Chat.

The Great Backyard Bird Count

The Great Backyard Bird Count (GBBC) is a free, fun, and easy event that engages bird watchers of all ages in counting birds to create a real-time snapshot of bird populations. Participants are asked to count birds for as little as 15 minutes (or as long as they wish) on one or more days of the four-day event and report their sightings online at birdcount.org. Anyone can take part in the Great Backyard Bird Count, from beginning bird watchers to experts, and you can participate from your backyard, or anywhere in the world. Each checklist submitted during the GBBC helps researchers at the Cornell Lab of Ornithology and the National Audubon Society learn more about how birds are doing, and how to protect them and the environment we share. Last year, more than 140,000 participants submitted their bird observations online, creating the largest instantaneous snapshot of global bird populations ever recorded. The 19th annual GBBC will be held Friday, February 12, through Monday, February 15, 2016. Please visit the official website at birdcount.org for more information and be sure to check out the latest educational and promotional resources.

"This count is so fun because anyone can take part —we all learn and watch birds together—whether you are an expert, novice, or feeder watcher. I like to invite new birders to join me and share the experience. Get involved, invite your friends, and see how your favorite spot stacks up." -Gary Langham, Chief Scientist

Bird populations are always shifting and changing. For example, 2014 GBBC data highlighted a large irruption of Snowy Owls across the northeastern, mid-Atlantic and Great Lakes areas of the United States. The data also showed the effects that the polar vortex had on bird movement around the country…be sure to check out some of the images in the 2015 GBBC Photo Contest Gallery. Cornell Lab of Ornithology gbbc@cornell.edu or the National Audubon Society citizenscience@audubon.org. The Great Backyard Bird Count is made possible, in part, by generous support from Wild Birds Unlimited. (https://www.audubon.org/news/how-begin-birdin)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

- When you had your campfire chat, did you:

(a) sight evidence from text to support your claim _____

(b) restate other group members' contributions? _____

(c) acknowledge another person's point of view? _____

(d) link responses to the topic of conversation and/ or what was said by the previous speaker? _____

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension: Trailblazers in the senior grades can find key points in essays.

- Try and read Emma Bryce's essay published in: http://www.audubon.org/news/will-wind-turbines-ever-be-safe-birds.
- Circle key words as you go, as there are many details to keep track of.

Will Wind Turbines Ever Be Safe For Birds? (Emma Bryce)

In 2010 David Newstead, a U.S. Fish and Wildlife Service field biologist, visited the Gulf shoreline of Laguna Madre, Texas, to survey skimmers, terns, and egrets. But it was a flock of 15 American White Pelicans that caught his eye, flying toward the nearby Peñascal wind farm. As he watched, a pelican at the flock's tail end was swiped by a massive turbine blade and "literally 'erased' from the air," Newstead wrote afterwards. This in itself isn't surprising—wind turbines are notorious bird killers—but this specific farm was supposedly equipped with radar that could detect approaching birds and halt the blades. The radar had failed to do its job.

Wind turbines kill an estimated 140,000 to 328,000 birds each year in North America, making it the most threatening form of green energy. And yet, it's also one of the most rapidly expanding energy industries: more than 49,000 individual wind turbines now exist across 39 states. The wind industry has the incentive to stop the slaughter: Thanks to the Migratory Bird Treaty Act, it's illegal to kill any bird protected by the Act—even if the death is "incidental," meaning it occurs unintentionally on the part of the wind farm. The Bald and Golden Eagle Protection Act recommends that to avoid eagle deaths, specifically, companies seriously consider where they site their wind developments, and that they also limit turbines' impact using techniques like radar to detect incoming birds. But as the accident at the Peñascal wind farm shows, it's unclear if deterrents like these actually work.

The Ways Wind Farms Try to Scare Birds Away - There are many kinds of retrofits that people are testing to hopefully make wind turbines better for birds. Here are some of the options.

Cameras, Radar, and GPS - The most advanced and widespread technologies are those that use radar and GPS to detect incoming flocks and turn off the turbines in time for the birds to fly through. In 2006, company Babcock and Brown was the first to install such a system at the Gulf Wind Project in Texas (now owned by Pattern Energy). At other sites, these technologies are species-specific: In California's Tehachapi Mountains, wind developer Terra-Gen has tailored its bird detection systems to protect the California Condor, North America's largest and most threatened bird species (only about 230 survive in the wild). Since most condors are tagged with GPS sensors, the wind farm sets up a system that shuts down the turbines when a condor is within two miles of the wind farm—all in less than two minutes.

Bright Blades - A 2010 study suggested that purple wind turbines would in theory cause fewer bird strikes than the typical white ones. That's because white blades attract insects, and insects attract foraging birds. So, cutting down on the insects could dissuade foraging avians from coming too close.

Bright Lights - Lighting systems are also being investigated as a deterrent tool: In 2012 the National Science Foundation awarded a $150,000 grant to researchers who showed that UV lighting could be used to deter bats and birds from wind farm sites. Right now, their patent is pending.

Turbines That Look Like Trees - As an alternative to the designs we have today, inventors are increasingly looking to vertical axis turbines, whose "blades" circulate around a central spire, allowing plenty of them to be packed into a space together. This allows inventors to try out all kinds of artful designs (which could make them less of an eyesore on the landscape)—and, it's also thought that these vertical shapes might be less detrimental to birds.

Smart Blades - Renewables company Laufer Wind has partnered with the government to see if better understanding of how birds fly might help them design improved blades trained to recognize approaching birds. To that end, they've been studying the flight of a domesticated falcon, a bird called "Houdini." The bird is fitted with a GPS chip that records his motions as he soars, yielding data that will create a precise algorithm of Houdini's flight. Recently, the team has expanded the research to include eagles—one Golden and one Bald. These two trained raptors, named "Spirit" and "Nova," are providing GPS-tagged flight information, just like Houdini.

Armed with better information on how birds fly, the researchers would create a radar system more capable of picking birds out of the landscape, and shutting down in time for them to safely pass, explains Jason Roadman, the project's NREL field test engineer. Additionally, the researchers are testing out a camera system that can spot birds up to 0.62 miles away, which would prompt a turbine shutdown.

*Too Good To Be True**?*** **-** But do any of these methods actually mean fewer birds die? Unfortunately, proof is scant. "I would say it's highly experimental; none of it has been proven to work," says Garry George, renewable energy director at Audubon California. In the case of the obliterated pelican, the wind farm operators said their radar was built to detect large incoming flocks, not individual birds (federal law enforcement officials visited the scene, but there's no public information on whether the farm was charged for the bird's death). Other radars—even state-of-the-art facilities such as the White Pine County Wind Farm in Nevada, where two Golden Eagles died in three years—have bad track records.

And the plot to train blades to recognize bird flight is equally flawed, says Lisa Linowes, the founder of prominent wind industry watchdog WindAction. "I think it's yet another opportunity for money to be spent [on something] that's already been tried," she says. Besides, even if it does work, every species of bird approaches a turbine in a different manner, so training blades to recognize all birds could take years of research—something the NREL and Laufer Wind researchers acknowledge too.

Plus, it can take people 45 minutes to shut down turbines after birds have been detected, Linowes says—plenty of time for birds to reach them, and get hit. Some retrofits, like the condor avoidance scheme, factor this issue into the design—but many do not.

There is one easy way wind companies can avoid bird deaths: Put wind farms in places where birds are unlikely to fly in the first place. "Right now one of our big considerations is siting," says Christy Johnson-Hughes, a biologist from the USFWS's ecological services. Migration pathways and certain landscape features—such as wetlands and migratory stopover points—are known areas where birds gather. "Putting turbines in those exact places is probably risky," says Brian Millsap, USFWS national raptor coordinator. "Siting is the one and only thing that we really understand at this point."

The Path Forward **-** One of the most notorious wind farms—Altamont Pass Wind Farm in northern California—is a lesson in how poor siting can hurt birds. The farm, which straddles a windswept mountain pass, is also in the midst of a major avian migration route, and has been responsible for tens of thousands of birds' deaths since its inception in the 1960s.

The U.S. Fish and Wildlife Service now recommends that all new wind developments consider several factors before choosing their location. Among these, companies are encouraged to avoid birds' migration routes, places where raptors' prey congregates, and water-filled landscapes that would encourage birds to flock, such as wetlands.

These guidelines are currently voluntary—but with an update to the MBTA expected in the upcoming year, that may change soon. In months to come, USFWS plans to overhaul the MBTA, and in a show of pragmatism, it's proposing that wind farms be allowed "incidental take permits," which would make it legal for wind companies to (unintentionally) kill a limited number of protected species each year. But companies would only be awarded permits if they can prove they're doing everything possible to avoid bird strikes, like ensuring best siting and deterring birds from blades.

"The permit rule would modernize and strengthen the Migratory Bird Treaty Act and put in place critical new protections for America's birds from coast to coast," says Mike Daulton, who leads Audubon's national policy team. By placing pressure on wind companies to abide by these rules—or face massive fines—it could protect North America's most threatened species. It's "a win-win for the industry and for birds," says Daulton. "It will provide legal certainty to the industry and new protections for the birds."

If any retrofits are found to be effective, they may become part of the future best management practices for wind farms, too. Recognizing their potential, the U.S. Department of Energy (DOE) awards grants to researchers who want to test experimental technologies, and the non-profit organization American Wind and Wildlife Institute (AWWI) is compiling the first comprehensive catalogue of these solutions. AWWI also plans to conduct independent reviews of each product.

There's no doubt that turbines—as we know them now—are flawed inventions, and it could be a long, experiment-filled time before we manage to craft the perfect design. But in a warming world, where more and more birds are going to be threatened by climate change, a pragmatic approach to energy creation and safeguarding the planet's birds might be the one we have to accept.

Correction: An earlier version of this article misstated that it takes 45 minutes for turbines to stop—in fact it is the whole process of turning them off that takes 45 minutes.

Many essays use both a main title and sub-headings.

- Which was your favourite 'sub-heading': _____
- Did the author share 2 points of view? _____
- What did the author want the reader to believe? *The author wanted the reader to believe* _____

- What did the author site to make her claim credible?

The author sited _____

_____

- Did this article tell you if there are other hazards that birds face? _____
- What should you do to become more of an expert on this topic?

_____

- Wind turbines have been in the news in the local area. Look through the news and see if you can find both sides of the story.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

READ ALOUD:

- Read out loud a paragraph of your choosing.
- Use expression to help it seem more realistic.
- Try to pronounce unfamiliar words by using cues (others' words/ images.)

Swim, Baby, Swim! By Mary Leister (12 points)

One summer morning, a young blackbird clung to a cattail stem near his nest. His mother had woven the nest from fresh grasses, but it was now brown and dry. It hung crookedly in a clump of cattails on the edge of a farm pond. The little brown bird held tightly to a stem and flapped his wings. On a nearby cattail, his father's yellow head glowed in the sun. Both parents clucked nervously as they watched their last baby learn to fly. The little bird blinked his dark eyes and looked around. He saw a world of green plants and sparkling water. He fluffed up his feathers. Then he flapped his wings again and gave a little push with his feet against the cattail stem. All of a sudden, something really special happened—off he went flying through the air! He wobbled as he flew across the edge of the farm pond and looked for a place to land. His toes grabbed a long thin willow branch that hung out over the water. But the branch sagged under his weight. He slipped off the end of it and plopped down into the pond! Now the little bird's parents hopped around the cattails and called to their baby. But there was nothing they could do to help him. Then something special happened again. The little bird began to swim! He dipped his wing tips low into the water. When he pushed back with all his might—just as though he were flying—he moved the tiniest bit toward shore. As the young bird splashed his wings in the water, bright sparkling droplets showered on his head. The drops spilled over his back and soaked his last dry feathers. The pond looked calm and quiet. But the baby blackbird wasn't the only animal in the water. And some of the creatures—big fish, bullfrogs, and snapping turtles—would eat little birds whenever they had the chance. As the little bird struggled along toward shore, a female bass noticed the ripples he was making. Then the big fish saw tiny feet and wet, feathery wing tips coming toward her. She started to drift upward toward the struggling bird. Meanwhile, the bird's frantic parents were watching from the willow tree. They shrieked and screamed and darted about in the branches while the young bird swam on.

By now the little bird's wet feathers felt very heavy, and he was getting tired. He swam slower and slower. All the while, the bass kept moving toward him. With one more powerful swish of her tail and a snap of her jaws, the wet blackbird would be hers—feet, feathers, and all! But just as the bass was about to lunge for the bird, an otter came streaking through the water. The fish zipped away from the hungry otter and went to find cover in the weeds. Off went the otter to search for the bass.

So the little bird was safe from the fish! With a last push of his wing tips, the young blackbird reached the edge of the pond. He flapped out of the water and crawled up on shore. There he dropped onto the damp clay soil in a wet heap of feathers. Now his parents circled wildly above him, squawking and shrieking. With luck, their noise would frighten away any enemies. As the young bird lay there, the rays of the summer sun warmed and dried him. He stood up and began to fluff out his feathers and straighten them with his beak. Then he stretched his wings and gave a little push with his feet against the damp clay of the shore. Off he flew into a clump of cattails growing on the other side of the pond. For the rest of that day the little bird rested in the shelter of the cattails. Meanwhile his parents still clamored and fussed. But now they also brought him all the insects he could eat. The next morning, the young bird flew away from the pond and headed for a marsh. There were plenty of dangers in the marsh, as he would soon discover. But for this day, at least, he would stay away from the pond.

Why does the little bird fall in the pond?

A. He slips off a thin branch.
B. He is learning how to swim.
C. His wings get tired from flying.
D. His wing tips dip too low in the water.

His toes grabbed a long thin willow branch that hung out over the water. But the branch sagged under his weight. When the branch sagged, it:

A. bent.
B. disappeared.
C. dripped.
D. grew.

How do the young bird's parents try to protect him?
A. They attack the big bass.
B. They hop around the cattails.
C. They help fluff out his wet feathers.
D. They make noise to keep danger away.

Which pair of words from the story has almost the SAME meaning?
A. noticed, saw
B. dropped, hung
C. grabbed, spilled
D. struggled, screamed

With one more powerful swish of her tail and a snap of her jaws, the wet blackbird would be hers—feet, feathers, and all! But just as the bass was about to lunge for the bird, an otter came streaking through the water.

When the bass was about to lunge for the bird, she meant to
A. dive down and swim under him.
B. move quickly forward and grab him.
C. jump out of the water and splash him.
D. turn around and swim away from him.

How is the little bird saved from the bass?
A. The bird begins to swim fast.
B. The bird grabs a willow branch.
C. The otter chases the bass into the weeds.
D. The bass begins to chase the bird's parents.

The otter swims after the fish because the otter wants to
A. eat the fish.
B. race the fish.
C. rescue the bird.
D. swallow the bird.

How are the otter and the bass ALIKE?
A. They look for food.
B. They chase the little bird.
C. They try to warn the little bird.
D. They swim slowly in the pond.

Why do the young bird's parents call and scream AFTER he makes it to the shore?
A. They are telling their son to fly to the marsh.
B. They are trying to frighten away other animals.
C. They are thanking the otter for chasing the fish.
D. They are yelling at their son for falling in the pond.

What is the young bird's BIGGEST problem in the story?
A. finding the marsh
B. drying his feathers
C. getting out of the pond
D. escaping from the otter

What is the MOST important lesson the young bird learns in this story?
A. Stay close to your nest.
B. Be careful where you land.
C. Swimming is easier than flying.
D. The marsh is safer than the pond.

Why did the author write the story 'Swim, Baby, Swim'?
A. to show how pond animals live
B. to tell about a bird learning to fly
C. to explain why fish hunt young birds
D. to describe how animals raise their babies

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

- Search through articles and books to find information about bees and the business of honey. Fill in this KWHLW chart.

KWHLW CHART	
QUESTIONS	
What do I know?	
What do I want to learn?	
How will I find out?	
What have I learned?	
What do I still want to know?	

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

READ ALOUD:

- Read out loud this passage.
- Use expression to help it seem more realistic.
- Try to pronounce unfamiliar words by using cues (others' words/ images.)

Starfish (1 point)

(1) After visiting the beach, I wanted to learn about starfish. (2) Of course, starfish aren't really stars. (3) This name comes from their shape. (4) They're not fish either, though they start their lives in water pools by the seashore. (5) They can take care of themselves even when they are young. (6) Young starfish know what to eat. (7) Some starfish can later live deep in the sea, though they can't swim. (8) They move by using their legs and tube feet. (9) Large starfish also use their tube feet to grab and pull open the shells of clams and other sea animals. (10) A starfish has no head or tail, just its five legs. (11) If a leg falls off, it grows right back.

Eric wants to learn more about different kinds of starfish. He would find MOST of his information

A. in a telephone book under "starfish."

B. in the dictionary under "starfish."

C. under the heading "starfish" in an encyclopedia article.

D. under the word "starfish" in a reference book about word choices.

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

READ ALOUD:

- Read out loud this passage.
- Use expression to help it seem more realistic.
- Try to pronounce unfamiliar words by using cues. (others' words/ images)

Field Trip to the Zoo (1 point)
(1) Last week, we had a great time on a field trip to the San Diego Zoo. (2) My school is in Vista California so our trip took an hour. (3) Visiting the zoo was worth the long ride each way. (4) Before we went on the trip, we read a book called Watching Gorillas with Jane Goodall. (5) Most of my friends liked the gorilla exhibit the best because of the book. (6) It's like an amazing african rain forest. (7) We saw gorillas, waterfalls, and beautiful plants, and we also heard a recording of the sounds of a real rain forest. (8) We watched the gorillas sitting near the waterfall. (9) I liked the gorillas, but I liked the polar bears even better. (10) We looked through a big window and watch the polar bears swim in the cold water. (11) Our guide told us many interesting facts about polar bears. (12) She said that most of them live far north, in places like Alaska, Canada, Greenland, and Russia. (13) One bear as we watched the bears, swam right up to the glass. (14) I won't forget the day that I came face to face with a huge polar bear!

Which encyclopedia volume should the student use to find more information about polar bears?

A Volume I Aa–At
B Volume IX Ce–Cu
C Volume XV Ou–Qu
D Volume XVII Sh–Ta

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

- The following article from *National Geographic Kids* was written in 4 sections:
    1. (Introduction)
    2. "Help in the Hospital" (second section)
    3. "Growing Stronger" (third section)
    4. "A New Tree House" Conclusion
- In pairs, you will take turns reading the full article.
- Then you will be assigned one of the four sections to summarize and share with your classmates.

Animal Rescue by Kitson Jazynka
Hungry for some tasty leaves, the hungry koala slowly walks across the ground towards the stand of eucalyptus trees. It's fragrant green leaves are a koala's main food.

The trees, like much of the eucalyptus found in the suburbs of Australia's northeastern Queensland state, grow in someone's yard. Unfortunately, for the koala, the yard is home to its deadliest predator: dogs.

The dogs viciously attack the little koala, biting and shaking him. Somehow the koala escapes and struggles up the nearest tree. Badly injured, the terrified animal wedges himself into the fork of a branch to rest. The barking dog below can't reach him now, but he is trapped in the yard. Even if he could get down, without medical care he will soon die of his wounds.

After two days, the homeowners finally notice the injured animal. They call Moreton Bay Koala Rescue, a local volunteer group. From the ground a rescuer stretches a long pole with a soft disk at the end above the koala's head, encouraging him to move down from the tree. The rescuers gently place the wounded animal in a large cage and drive him to the Australia Zoo Wildlife Hospital, an hour away. During the trip they decide to name the koala. Lewis.

HELP IN THE HOSPITAL
The medical staff is startled by the severity of Lewis's wounds. "When I first see him, I think, How could he still be alive?" veterinarian Amber Gillett says.

Shaving off Lewis's thick fur reveals deep bites near his throat and on his legs and abdomen. Gillett must perform surgery on Lewis's belly to check for potential lethal injuries. Luckily the koala passes the gut check. Next, Gillett cleans Lewis's badly infected bite wounds. The medical staff gives Lewis strong antibiotics, closes his wounds with dozens of stitches, and bandages him almost from head to toe.

Most injured koalas treated by the hospital are either hit by cars or mauled by dogs. Gillett believes that as suburbs continue to take over the dwindling forest habitat – nearly two-thirds have been cut down – people should be more responsible about their pets. "There are all sorts of wildlife coming in and out of people's yards," she says. "Dogs and cats are hunting because that's what's in their nature."

GROWING STRONGER

"Lewis was very scared when he came in," Gillett says. "After a few days he knows we are not a threat." The staff changes Lewis's bandages and cleans his wounds every day. In addition to fresh eucalyptus leaves, Lewis is fed a protein-rich baby formula to help him regain strength. To keep him warm until his fur grows back, the staff customizes some baby clothes for him to wear.

It takes more than three months for the deep wounds on Lewis's arms and legs to heal. After such a long recuperation, his muscles need some exercise. The physical therapy program is perfect for a koala; climbing eucalyptus trees in a fenced-in area outside. "We start him off in small trees, only bout six-feet high," Gillett says. "Then we introduce him to something a bit bigger." Eight months after his arrival at the hospital, a fully furred Lewis is scaling tree over 60 feet tall and gathering his own leaves. He's ready to return to the wild.

A NEW TREE HOUSE

Lewis is driven back to the area where he was rescued, then carried in a cage deep in the bush – far from private property and dogs. After a half hour hike, the release team finds an ideal tree and opens the cage. "He is a bit hesitant," Gillett says. "He is sort of looking around as if to say, what am I doing here?"

But Lewis gets a good grip on the bark and knows just what to do. He climbs straight up the tree, finds a comfy spot, and starts eating.

Gillett is thrilled with her patient's progress. "To see him come from the sick little animal that was on death's door to being back up a tree again, looking happy and healthy – it is pretty amazing."

- Summary Points for sub-heading "_____":

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

READ ALOUD:

- Read the passage below and then practice reading out loud a paragraph of your teacher's choice.
- Use expression to help it be more realistic.
- Try to pronounce unfamiliar words by using cues. (others' words/ images.)

Grandmother of the Glades (*from Kids for a Better Environment*) (6 points)
For more than 70 years, Marjory Stoneman Douglas has fought to preserve and protect Florida's Everglades. Through her writings and speeches, she has described the importance of this wetland area and its plants and animals. On November 30 Douglas was honored for her long and tireless efforts. During a ceremony at the White House, President Bill Clinton awarded her the Medal of Freedom. The Medal of Freedom is the highest presidential honor that a nonmilitary person can receive. During the presentation, the tiny woman rose slowly from her wheelchair. To many she might not have looked like a determined activist, yet even at age 103 Douglas is still strong and outspoken. Douglas was born on April 7, 1890. She grew up mainly in Massachusetts. Unlike most women of her generation, she attended college. After her graduation her father convinced her to visit Miami, Florida. Douglas moved there in 1915 and became a reporter for the Herald, a newspaper that her father had founded. Though few women worked in journalism, Douglas found the career that she was meant to pursue. Douglas soon fell in love with the Everglades. The Everglades that Douglas loved so dearly was then a large area of wetlands stretching from Lake Okeechobee to the southern tip of Florida. It was home to a vast number of species of plants and animals. Sharp-edged saw grass grew from much of the water. Ancient cypress trees dripped with Spanish moss, and orchids and other colorful flowers decorated the landscape. Alligators, raccoons, otters, and panthers were among the animals native to the Everglades.

The lubber grasshopper, the longest grasshopper in the United States, also lived there. But Douglas's favorite animals were the hundreds of species of birds. Wood storks and great blue herons swooped down into the water to catch fish. At night the faint call of the barred owl could be heard.

Between 1915 and 1920 the city of Miami doubled in size. Developers were draining the Everglades to use the land for further expansion. Douglas supported efforts to preserve the wetlands. The Everglades supplied freshwater to the people of South Florida. Also, many of the Everglades' plants and animals were rare. In her own weekly newspaper column, Douglas wrote about the beauty of the region. She also joined a committee endorsing a proposal to establish the Everglades as a national park. By the early 1940s, support for preserving the Everglades was growing. People recognized that parts of the Everglades were dying. Draining the land made it suitable for farming and development, but the native plants and animals could not survive without the shallow water. Also, wildfires were able to spread farther because the land was drier. In 1942 Douglas began work on a book about the Everglades. Her research helped her understand more about this unique body of water. She learned that the Everglades is not a grassy swamp but rather that it is a very wide, shallow river. The waters flowed south and emptied into the Florida Bay and the Gulf of Mexico. Douglas's book was published in 1947. Titled The Everglades: River of Grass, it describes the unique natural world of the Everglades. For the first time people viewed the area as a community of plants and animals living in harmony with the environment. People began to understand that the balance of land and water was very delicate. Many people who had been against preserving the area were now converted to Douglas's cause. Around the same time that Douglas's book was released, President Harry Truman dedicated part of the Everglades as a national park. It had taken 25 long years to finally persuade the government to take this step. Douglas attended the ceremony to celebrate the park's official opening. The victory, however, was only partial. The part of the Everglades that was not protected remained in danger. In 1969 Douglas learned of plans to build an airport for jets in the Everglades. She was nearly 80 years old and losing her sight. Still, she organized the Friends of the Everglades. This group fought against the construction and won. Today we can thank Douglas for rescuing the Everglades from ruin. Its preservation can be attributed largely to her.

In 1989 the Sierra Club, a national environmental group, named her honorary vice president. In Key Biscayne, Florida, a nature center is named after her. But perhaps her greatest honor is her nickname. People fondly call her the Grandmother of the Glades.

The word attributed means —
A. misunderstood
B. announced
C. credited
D. explained

According to the article, how was Douglas's career as a journalist similar to her attending college?
A. Both represented four years of her life.
B. Both were encouraged by her mother.
C. Both were more common for men than women at that time.
D. Both required her to write for a newspaper in Miami.

What is this article mainly about?
A. Some areas of the Everglades have not been preserved as a park.
B. Douglas has spent much of her life helping to save the Everglades.
C. Douglas's book about the Everglades was successful.
D. The Everglades is actually a river of grass rather than a swamp.

Which sentence in the article implies that interfering with the Everglades can be harmful to people as well as plants and animals?
A. The Everglades supplied freshwater to the people of South Florida.
B. By the early 1940s, support for preserving the Everglades was growing.
C. The waters flowed south and emptied into the Florida Bay and the Gulf of Mexico.
D. It had taken 25 long years to finally persuade the government to take this step.

According to the map, the area shown with diagonal lines represents -
A. Everglades National Park
B. the Gulf of Mexico
C. Lake Okeechobee
D. the Florida Bay

Read the four protest signs below.

1 Don't drink the water from the Everglades.

2 Stop the Everglades from becoming a national park.

3 Don't build runways in the Everglades.

4 Stop the construction of the nature center.

Which of these signs would most likely have been carried by a member of the Friends of the Everglades?

A. Sign 1
B. Sign 2
C. Sign 3
D. Sign 4

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension:

- Read about the 'Lionfish Invasion and respond to questions.

The Lionfish Invasion

What is as graceful and beautiful as a butterfly, as ferocious as the most dangerous predator, and delivers a painful sting with its poisonous spines? It is the lionfish, a fish from the coral reefs in the tropical waters of the South Pacific and Indian Oceans. But you don't have to travel halfway around the world to see a lionfish. Perhaps you have seen one in a friend's home aquarium? Lionfish are popular saltwater aquarium fish all over the world, but especially in the United States. Nowadays, they also live in Atlantic 5 waters off the East Coast of the United States. These lionfish are what scientists call an invasive species or an "alien invader."

Lionfish invade U.S. waters Local divers off the coast of North Carolina were not expecting to see what they found one day in August 2002—they spotted the exotic and beautiful lionfish, common to 10 the warm waters of the western Pacific, but unknown at that time as residents of the Carolina coast. They provided the first solid evidence that lionfish were in the Atlantic—an actual specimen that they collected there. A year later, scientists had documented 19 lionfish sightings at eight locations along the North Carolina continental shelf. By then, lionfish were also being observed off the coasts of Florida, Georgia, and South Carolina. 15 Juvenile lionfish were also showing up off of Bermuda, about 650 miles away from the North Carolina coast, and even as far north as Long Island, New York! Since then, many more United States divers have reported sightings of the distinctive fish. Between 2000 and 2003, lionfish sightings were reported at 16 different shipwrecks and natural hard bottom locations.

During a summer 2004 research expedition, NOAA scientists collected 155 20 lionfish at 19 different locations off the North Carolina coast alone. The jump in numbers and distributions over such a short time, plus sightings of juveniles smaller than those sold for aquaria, strongly indicates that the lionfish is reproducing in the Atlantic Ocean. If this is true, it's the first time that a western Pacific fish has populated the U.S. Atlantic coast.

How did the lionfish 25 get into the Atlantic Ocean?
Lionfish are a popular ornamental aquarium fish that were likely released on purpose when people no longer want them as aquarium pets! The swift and warm Gulf Stream, which likely transported buoyant lionfish eggs and larvae from Florida northward, helped the lionfish's Atlantic journey. 30 It's pretty unusual for non-native, tropical marine fishes, like the lionfish, to establish themselves at this latitude. In Florida waters and along the continental shelf near the Gulf Stream the temperatures are very similar to the lionfish's native waters. However, from north Florida upward, the waters along the coastline are too cold in the winter for lionfish to survive. Scientists expect them to survive the winter 35 only at water depths greater than 120 ft because this is where the Gulf Stream has influence all year long. Very importantly, the types of predators and competitors present in the marine community in the Atlantic are very different from the native range of the lionfish. Generally, species like the lionfish have not been perceived to pose a significant threat to marine ecosystems because they were not likely to survive 40 long.

Which statement best reflects the central idea of the article?
A. In 2002, divers looking for other species of fish discovered the lionfish off the coast of North Carolina.
B. The beautiful and exotic lionfish, a native of tropical waters, has been populating the waters of the Atlantic Ocean.
C. While dangerous to other forms of marine life, the lionfish has become a popular aquarium pet because of its unique appearance.
D. The warm waters of the Gulf Stream extend from the Gulf of Mexico toward Europe and provide a habitat for the lionfish.

Which of these words is closest in meaning to expedition?
A. a display
B. a contest
C. a trip
D. a report

Eco-stressors

- View the You Tube video. (https://www.youtube.com/watch?v=KW5rhvmAu0c)
- Talk about the details shared in the video.
- What is the point of view of the people who created this video?

READ ALOUD:

- Read out loud a paragraph of your choice from the article 'Stressors'.
- Use expression to help make it more realistic.
- Pronounce unfamiliar words by using cues (others' words/ images.
- Read about 'stressors' that interrupt ecosystems from Parks Canada: (http://www.pc.gc.ca/eng/progs/np-pn/eco/eco2.aspx)

Stressors

We tend to think of national parks as pristine areas, protected from outside influences by their boundaries. The reality is very different. Parks are affected by previous and current land management practices, such as forest harvest, insect control, dams and fire control. Even remote areas are influenced by pollutants and climate change. The fact is, parks are part of larger ecosystems, subject to support and stresses from various sources, and must be managed accordingly…

Stresses originate from both inside and outside the parks. Inside the parks, the presence of alien species, the putting out of natural fires, high levels of visitor use, transportation corridors… Stresses from outside also cause problems...An example of a regional stress is change in the landscape in lands adjacent to national parks, from factors such as urban development, logging, mining, agriculture and transportation. Stresses of a global nature, such as long-range movement of air pollutants and climate change, are also affecting ecological integrity within parks.

- What do you think ecological integrity means?

I think ecological integrity means _____

_____

According to Park's Canada, seven issues (and more) are a concern:

1. Habitat Loss
2. Habitat Fragmentation
3. Losses of Large Carnivores
4. Air Pollution
5. Pesticides
6. Alien Species
7. Overuse

Extension:

- Read through the following descriptions of each issue and draw and label a picture to illustrate the 'stressor':

Habitat loss - In Canada, over 90 per cent of Carolinian forests have been converted to farmland or towns. On the prairies, 99 per cent of the native tall-grass communities and 75 per cent of mixed grass communities have disappeared. In Atlantic Canada, 65 per cent of the coastal marshes have been drained of filled. Across northern Canada, only 35 per cent of the boreal forest remains undisturbed. Largely as a result of this habitat loss, many Canadian species are currently threatened.	
Habitat fragmentation - Fragmentation of remaining habitat is as serious a problem as habitat loss. Many species, from grizzly bears to flying squirrels and salamanders have difficulty surviving in habitats that are broken into isolated fragments. Even within parks, fragmentation occurs as a result of developments such as communities, facilities, trails, roads and railways. Roads and railways also cause direct wildlife mortality. Hundreds of large mammals and thousands of birds, amphibians and other creatures are killed on park roads each year.	

Losses of large carnivores - Across Canada and especially in the south, large carnivores are disappearing or are absent, upsetting natural predator-prey relationships and systems. Even though large carnivores are protected within national parks, these predators are threatened by stresses such as human use and development inside parks, as well as hunting, land development, and other pressures that occur outside park boundaries. From Ontario eastward, wolves are gone from all national parks except Pukaskwa and La Mauricie. In the west, wolves have disappeared from Elk Island and Grasslands national parks. In several national parks, wolf populations are low and have a low probability of persistence.	
Pesticides - Pesticides used outside of parks are being detected within parks…Research…in Banff National Park has found toxaphene in some zooplancton, while trout…have toxaphene…A study in La Mauricie National Park showed high mercury levels in the blood and feathers of the park's loons…Mercury levels in loons from Kejimkujik National Park are also high, leading to reduced nesting and hatching success. The pesticide DDT has been found at significant levels in lake sediments and in fox snakes at Point Pelee National Park. High DDT levels have been correlated with reduced frog populations and species loss in several other parks and wildlife reserves along the northern edge of Lake Erie.	
Air pollution - Airborne pollutants, such as those causing acid rain, continue to harm many parks. Atlantic Canada and southern Quebec have been called the "tailpipe of North America" because this area is downwind from major urban and industrial regions…Decades of research at Kejimkujik National Park show low pH levels in the park's water are linked to decreased reproductive success of brook trout…	
Alien species - Invading non-native species… cause problems for parks across Canada. In Point Pelee National Park, garlic mustard is invading Carolinian forests and out-competing native species. In Riding Mountain National Park the high number of alien plant species in the native rough fescue grasslands is a cause for concern as native plants are out-competed by the invaders. In Gros-Morne National Park, moose and snowshoe hares introduced to Newfoundland several decades ago are altering habitat and vegetation regimes inside the park.	

Over-use - Growing level of human use within most national parks have created crowding, overuse of facilities and infrastructure such as sewage treatment systems, over-development and …other problems that in turn degrade water and air quality, cause erosion and damage wildlife habitat. In Waterton Lakes National Park, every valley has either a road or a hiking trail - or both. Only the most northerly parks have not yet been subject to high use demands	

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension: Extended Reading

- http://www.betterfarming.com/online-news/new-phosphorus-reduction-targets-take-pressure-ontario-agriculture-61332 (water quality)
- http://www.timminspress.com/2016/03/06/timmins-mayor-balks-at-the-10000-from-the-city-required-to-join-boreal-forest-alliance
- http://www.northumberlandview.ca/index.php?module=news&type=user&func=display&sid=40745 (altering wetlands)

Eco Screening

- http://www.science.gc.ca/default.asp?lang=En&n=74C25260-1 (E-Post Cards from the Arctic)
- https://www.audubon.org/conservation (Birds and Costal Waters)
- https://www.audubon.org/news/what-do-birds-and-bees-have-do-global-food-supply (bees)
- http://www.dfo-mpo.gc.ca/science/coe-cde/index-eng.htm (Centers of Eco-expertise)
- http://www.pc.gc.ca/eng/progs/np-pn/ie-ei.aspx (What is ecological integrity? Parks Canada)
- http://www.pc.gc.ca/eng/progs/np-pn/eco/eco5.aspx (Fire Management, Parks Canada)
- http://www.pc.gc.ca/eng/progs/np-pn/eco/eco3.aspx (Ecosystem Management, Parks Canada)
- http://www.pc.gc.ca/eng/progs/np-pn/eco/eco2.aspx
- http://www.ducksters.com/science/ecosystems/world_biomes.php
- http://education.nationalgeographic.org/encyclopedia/ecosystem/
- http://www.windows2universe.org/earth/ecosystems.html

10. Reading Biographies

- Watch a trailer of movie *Fly Away Home*
  http://www.imdb.com/video/screenplay/vi3265724697/ (3 minutes)
- Now read, underline, and explain why you think Bill Lishman is, or is not an ecologist.

'Father Goose' will talk about his work with migrating birds
August 6, 2013|By Christine Cole, Correspondent -

MOUNT DORA — Ecological hero and ultralight-aircraft pioneer William "Bill" Lishman said his colleagues joke about an airport sign for would-be ultralight pilots. "It would say, 'Learn to fly— $25. Learn to land — $5,000,' " Lishman said. "It is so easy to learn to fly ultralights," he said. "It's like learning to ride a bicycle. But learning to land? Learning to deal with the weather? That's another thing." Lishman will talk about his book, "Father Goose," about the resulting film, "Fly Away Home," and about his art and architecture projects at 7:30 p.m. Thursday at the Mount Dora Community Building.

Lishman said he always felt what he calls "wing envy," but colorblindness blocked his path to a pilot's license. So, like others in the 1970s, he began experimenting with hang gliders and small engines. Then, something extraordinary happened. "By chance I was within a flock of ducks," he said. "Our speeds matched. I was in a river of birds. It was an epiphany. I was elated."

Flying at low speeds — 30 to 40 mph — became an asset. By the end of the 1980s, with the increasing loss of waterfowl habitats, he began to wonder if the birds could be taught new migration patterns. In the early 1990s, he successfully led a flock of Canada geese from Ontario to Virginia. He and photographer Joe Duff then focused on endangered species and founded Operation Migration.

In working with the geese, Lishman had learned about “imprinting,” in which some birds learn to follow anything they see in the first day of their lives. But he didn’t want the rare whooping cranes to become imprinted with humans. He created the “crane burka,” a big white bag with a see-through screen and a puppet-like part that looks like a crane’s neck, head and beak. He loaded an MP3 player with crane “contact calls.” He soon became famous as photographs of him in his “trike” leading the rare cranes appeared in the news. “Father Goose” was born.

As the number of whooping cranes exploded — from fewer than 20 in the 1940s to about 400 today — Lishman was once passed in the air by a flock he had raised while he led a new flock southward. In the meantime, Lishman became a well-known sculptor in Canada, built himself an earth-insulated home inside steel domes and wrote his book….

I think Bill Lishman is/is not an ecologist because:

_____

_____

_____

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension: Compare Lishman, Attenborough and Leonardo DaVinci

- https://en.wikipedia.org/wiki/Bill_Lishman
- http://www.canadiangeographic.ca/magazine/dec13/lishman-teaching-birds-to-migrate.asp
- https://www.audubon.org/magazine/january-february-2015/deep-impact-attenborough-88 (David Attenborough)

READ ALOUD:

- Read the passage below and then practice reading it out loud.
- Use expression to help make it more realistic.
- Try to pronounce unfamiliar words by using cues. (others' words/ images)

Biography of the Dr. Robert Krampf (The Happy Scientist)

(http://thehappyscientist.com/content/about-robert-krampf)

My lifelong love of science began when I was five years old. Like many five year olds, I was obsessed with dinosaurs. I decided that when I grew up, I wanted to be a scientist and dig up dinosaur bones. I never outgrew that obsession, and it led me to a career in museum education, and eventually to digging dinosaur bones with several famous paleontologists, but that was only the beginning….Why I decided to become a scientist

A monster movie and two toys started my journey into science education, with a LOT of help along the way from my parents, mentors, and friends.

(http://thehappyscientist.com/content/observation-through-photography)

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Extension:

- Read about Jacques Cousteau, underwater adventurer.

Water Logs – Cousteau and Friends

On June 1st, Fabien Cousteau, grandson of Jacques Cousteau, swam down to the last existing undersea habitat research lab in the world, Aquarius, in the Florida Keys. He'll live there for 31 days, which is a day longer than the time his grandfather's team spent living in his undersea habitat, Conshelf II, roughly 50 years ago. Since then, undersea bases have been created all over the world, and have since lost their funding and ceased operation. Aquarius stands as the last.

The aquanauts joining Cousteau on "Mission 31" are photographers, scientists from Northeastern and MIT specializing in marine biology and underwater engineering, and Aquarius staff. Florida International University, the school responsible for saving Aquarius and operating it after NOAA cut funding last year, is of course sending down some of their own scientists, too. They'll all experience the unique challenge of living underwater for over a month in the pressurized saturated diving environment.

Saturated diving is a type of diving which allows the body to gradually soak up inert gases by staying at depth for a long period of time. These gases would harm a standard scuba diver by expanding like the bubbles in a shaken bottle of soda when the diver returns to the surface, causing pain, paralysis, and sometimes death. With the team sleeping in the base, at depth, and never surfacing, the divers are free to experience the most useful part of living in Aquarius: the ability to dive for 2-8 hours a day (as opposed to about an hour maximum per day that a regular scuba diver can achieve) without suffering from decompression sickness. At the end of the mission, the entire base is slowly brought back to normal pressure so that the gases can escape the diver's bodies safely, at which point the divers are free to resurface.

To find out what the human body and mind go through living in an underwater habitat, I spoke to various experts on living underwater, such as John Clark, Scientific Director for the U.S. Navy Experimental Diving Unit, who researches the effects of deep dives to 1,500 feet and Navy saturation diver Marc Chase who has worked on salvage jobs like the recovery of the USS Monitor's wreck. I also spoke to Mark Patterson and Brian Helmuth, Mission 31 science advisors who have spent working time in Aquarius, and Mark Hulsbeck, the oceanographic field operations manager who will have spent 200 days in the base overall by the end of this mission. In the end, because research about long, relatively shallow underwater living is limited, there are a lot of theories as to the effects of living underwater on human beings, but much of it is controversial, anecdotal, and unproven by even those who study it and have experienced it.

The greatest malady that occurs on these undersea expeditions, according to Mark Hulsbeck, is what some aquanauts call "creeping crud." This ranges from acne to rashes to diaper rash, experienced by divers that pee in their wetsuits. (Given the extended diving time afforded by saturation, urination in a wetsuit is nearly impossible to avoid. Mark Hulsbeck told me "There are two kinds of divers, those that pee in their wetsuits and those who are liars.")

The best cure for these skin maladies is to shower off after every dive and use antibacterial soap, as well as the fresh towels that are frequently delivered to the base in pressure-cooking pots, sealed with bolted lids. Proper hygiene, in other words. Ear infections are also common, but antiseptic solutions made with aluminum acetate are used to take care of them quickly before the infections can worsen. Some aquanauts swear that the high-pressure environment, which is 2.5 times the normal pressure at sea level, increases healing times like hyperbaric chambers do, and that cuts can heal overnight. Others believe that to be untrue; hyperbaric chambers that provide oxygen therapy have a much higher level of oxygen in them than the atmosphere in Aquarius. Besides that, other side effects of living in underwater bases include paleness and reduced vitamin D production, from lack of exposure to the sun. When aquanauts return to the surface, they are distinctly aware of the sensation of wind, which they might have not even realized they were missing.

Taste and Hunger

Many aquanauts have reported that their sense of taste diminishes in the habitat. Mark Patterson theorizes that the higher density of air in the habitat, means that there are fewer parts per million of food odors diffused in the air for the nose to detect. Regardless of what the actual science is, many aquanauts resort to putting hot sauce on everything. Both the extended dive time and thicker in-habitat air pull heat from divers much more rapidly than a normal sea level atmosphere would, and so their metabolisms must work harder to maintain body temperatures. People tend to eat a lot as a result. In the old days, when the habitat was positioned near land in St. Croix, near land, aquanauts were catered fresh local food like beans, rice, and lobster. After the base was relocated to the Florida Keys (after a hurricane struck St. Croix), aquanauts relied on MREs, with choices diminishing as the season progressed. (Brian Helmuth says that the Salisbury steak was particularly not good.) These days, under the management of Florida International University, Aquarius's aquanauts eat rehydrated freeze-dried camping food, which is high-calorie and varied. Hulsbeck expects the aquanauts to get sick of it before their 31 days are up. Occasionally, aquanauts receive deliveries of pizza, hamburgers on special request (or lasagna made by Hulsbeck's wife) which are brought down in sealed containers by support divers, but those meals are rare.

Sleep

In the habitat, because of the exhausting nature of being in the water several hours a day and because even time inside the habitat is busy, everyone sleeps really well at night. One aquanaut, professional photographer Kip Evans, complained that silver fish called tarpon swimming near the bedroom porthole, reflecting outside habitat lights back into the bunk room, made it difficult to sleep. The habitat does, however, have plenty of white noise from carbon dioxide scrubbers, and the general static of reef creatures like snapping shrimp and other animals living their lives on and around the base, which has become an artificial reef.

Breathing and Speaking

The greater air density causes aquanauts' speech to become slightly higher pitched when they first enter the base, but either the pitch adjusts or people's ears adjust to the higher-pitched conversation. Navy divers, Marc Chase told me, take great care to not get respiratory diseases from their dive gear, because the sick person can't be evacuated without the entire team having to also be slowly brought to normal pressure (decompressed) and leaving, too. And in close quarters, it's easier to contaminate each other. They are careful not to let anyone who has an existing cold down into the habitat, and have never had to evacuate the lab because of infection.

Restrooms
Aquanauts use a little hut outside the moonpool, the part of the base with an open floor that gives the aquanauts access to the sea, which they call the gazebo. The gazebo has an air pocket inside of it, and to reach it, aquanauts have to hold their breath and walk or swim over, wearing a swimsuit. Bathroom breaks are often not private as the fish have learned that when a diver enters the gazebo, it's feeding time. After one too many particularly nerve-wracking incidents with fish getting nippy, the Aquarius staff have set up a bubble curtain powered by compressed air to keep the fish away.

Seeing
Other than having to get accustomed to lower amounts of light, people don't report noticing that living underwater affects their vision.

Thinking
Some aquanauts report feeling nitrogen narcosis, a syndrome not uncommonly experienced during diving, wherein at a certain depth a diver can feel drunk. Some have theorized that the depth the habitat is at is not deep enough to cause this effect immediately, but after the aquanauts' bodies become saturated with nitrogen in the habitat after 24 hours, a sense of giddiness occurs. Mark Hulsbeck believes that it might not be nitrogen narcosis at all, but just a sense of joy from doing something as cool as living in an undersea base for a few days.

Psychological Stability
The aquanauts aren't screened for psychological stability or vulnerability to claustrophobia, antisocial behavior, or cabin fever. Navy saturation divers who plan to be on long missions spend the preceding weeks together to vet out incompatibilities in personality and work ethics, however.

Isolation and Boredom
Back in the day, there were no internet connections in Aquarius, and aquanauts could only read books or stay busy to stave off boredom. Now they can watch Netflix and call their loved ones as often as they want.

Limits
When asked if an aquanaut could stay in the base indefinitely, Mark Hulsbeck offered that it's not known what the limits are, but given the higher density of air and relatively higher amounts of oxygen taken per breath, there would be eventual damage to a human's circulation systems, which Hulsbeck referred to as "pulmonary toxicity." The relatively shallow depth of the base was chosen so that longer saturation missions like this one could be feasible, but rarely do missions come as close to being as long as this one will, as most are only 7-10 days.
http://www.popsci.com/article/science/what-happens-human-who-spends-month-under-sea (with video)

11. Viewing Media and Reading Transcripts

- View the following video about cycles, habitats, and niches. https://www.youtube.com/watch?v=JPHqUxxyLsY (cycles, habitats, niche).

READ ALOUD:

- Read the transcript of the video out loud.
- Use expression to help make it sound realistic.
- Try to pronounce unfamiliar words by using cues. (others' words/ images.)

Hi, I'm Emerald Robinson, and in this "What Is" video, we're going to investigate earth's ecosystems. An ecosystem is a community of living things interacting with the non-living parts of their environment.

There are two primary parts of an ecosystem. The biotic part is made of all of the living things, like plants and animals, fungi, and bacteria and viruses. The abiotic part is made of non-living things, like rocks and minerals, water, and energy.

Ecosystems can be almost any size. While many of us think of communities like a coral reef or a forest, an ecosystem can be a small pond or even the area beneath a large rock.

Ecosystems need energy. In most cases, this energy comes from sunlight. "Producers" like plants take light energy and convert it into usable sugar energy through photosynthesis. As animals consume the energy from plants, they are eaten by other animals, and ultimately decompose back into the soil, the energy moves through the ecosystem via a food web.

Two of the most important concepts in the study of ecosystems, are "niche" and "habitat." A habitat is a place where an organism lives. Organisms must get nutrition, shelter, water, and the other things they need to survive from their habitat.

Niche is an organism's special role in the ecosystem. What and how something eats, how it behaves, where it lives - all of these things define an organism's niche. Two organisms cannot occupy the same niche for very long. Eventually one will out-compete the other for food and other resources, forcing the other to move, or to go extinct.

Many of the earth's ecosystems are threatened due to climate change, pollution, and the human destruction of habitats. Scientists called ecologists study and monitor the health of ecosystems and continually work to discover new ways to protect these precious organisms and environments.

- What do you think a transcript is?

*I think a transcript is*_____

_____

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

- Read the following video transcript from a Canadian eco expert.
- Underline/highlight words that name eco-related careers.

Transcript of Video: http://www.science.gc.ca/default.asp?lang=en&n=70FE597E-1

Narrator:
The Government of Canada has made a strong commitment to Science & Technology. Freshwater is a priority area and applied and relevant freshwater science ultimately helps ensure clean, safe and secure water for people and ecosystems. A key federal role is to provide scientific knowledge as the basis for which decisions and sound policies and regulations can be made.

Dr. John Carey: (Director General, Water Science and Technology Directorate) Environment Canada. Environment Canada's Science and Technology Branch leads this exciting research which often starts here at the Canada Centre for Inland Waters (CCIW) in Burlington on the shores of Lake Ontario. Sound water management benefits all Canadians.

Narrator:
The Canada Centre for Inland Waters provides the department with facilities for environmental research and development, as well as monitoring and resource management. A broad range of scientists from Environment Canada's Water Science and Technology Branch play a critical role in providing the knowledge necessary for the management of the GREAT LAKES and other aquatic ecosystems. Dr. Mark McMaster is part of the Ecosystem Health Assessment Project. The project evaluates fish health all across Canada.

Dr. Mark McMaster: (Research Scientist, Environment Canada)
We've developed monitoring programs that evaluate the growth, reproduction and survival of fish. The fish tell us about the health of the aquatic ecosystem and that's important because water is part of our survival.

Narrator:
Collaborative arrangements exist between Environment Canada researchers, technical staff, and other government departments, universities and research organizations, as well as international stakeholders to address a variety of water-related issues. Engineer Ralph Moulton, is with the Boundary Water Issues Unit. They are responsible for the management of water levels in the Great Lakes.

Ralph Moulton: (Senior Engineer, Environment Canada)
Management of the Great Lakes water level is important for the economy and for the environment, as well as for personal well-being. By that I mean that the economy is important for the hydro-electric generation that we get from the Great Lakes and the connecting rivers. The environment aspect of the wetlands on the Great Lakes are a major source for fish breeding and for birds, and for songbirds as well. And for personal well-being we have many people who live along the shoreline or go to cottages on the shoreline, go to the beaches, etcetera. So it's important for all those aspects.

Narrator:
As Canada's largest freshwater research institute, EC has more than 300 staff working at CCIW including aquatic ecologists, hydrologists, toxicologists, physical geographers, modellers, limnologists, environmental chemists, and technicians. The centre has made major contributions to the restoration of the Great Lakes, reductions in acid rain, regulation of toxic substances, creation of international atmospheric conventions, and has helped shape environmental management of Canadian freshwater resources, from the smallest stream to the largest watershed in Canada.
Dr. Tom Edge is with the National Water Research Institute and his area of expertise is water-borne pathogens.

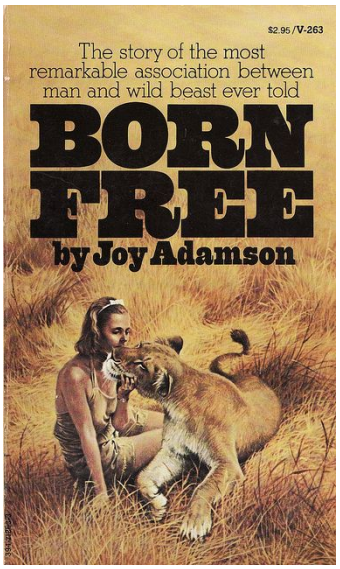
Dr. Tom Edge: (Research Scientist, Environment Canada)
Waterborne pathogens are a disease-causing microorganisms like the bacteria and viruses that can occur in water. Our role is to detect these pathogens in water, and track where they are coming from. We do this with a variety of forensic-type techniques that detect the DNA of the microorganisms in water, and we do this to ensure that Canadians have safe drinking water and clean water to swim in.

Dr. John Carey:
The government is working for you and our science is benefiting you.

What words were tricky to read in the transcript?

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

12. Reading Novels and Viewing Media



Joy Adamson's autobiography, *Born Free*, was published in 1960.

- Read what people said about it at the time:

"This book is in every sense a masterpiece. Sensitively written and superbly illustrated I cannot see what can prevent it from becoming a classic."
(Peter Scott)

"An unforgettable story." (Sunday Times)

"A factual and vivid portrayal of a strange and wonderful relationship. This book is a book to keep and treasure." (Sphere)

Judging a Book by its' Cover

- Look at the cover of the book and make a list of three things you might find out when reading it!

1.

2.

3.

- Read through the following except from Joy Adamson's first page of her 1950's autobiographical best seller, *Born Free*.

For many years my home has been in the Northern Frontier Province of Kenya, that vast stretch of semi-arid thornbrush, covering some hundred and twenty thousand square miles, which extends from Mount Kenya to the Abyssinian border. Civilization has made little impact on this part of Africa; there are no settlers; the local tribes live very much as their forefathers did, and the place abounds in wild life of every discipline.

- What 2 questions do you have after reading the introduction and the reviews from the Peter Scott, the Sunday Times and Sphere?

1. _____

2. _____

- Make a prediction about what you think the main idea is about?

*I think the main idea is about….*_____

*because…*_____

Inside Cover Hints

- Now read what's on the inside cover of the book and compare this to your prediction.

This book is widely regarded as one of the greatest true animal stories ever written…it is much more than an animal story – it is the record of an extraordinary friendship between Joy and George Adamson and Elsa, a Kenya lioness.

Elsa was reared by the Adamsons from a four-day old cub, and from the beginning an atmosphere of mutual respect was established….the Adamsons never discouraged Elsa's natural instincts and, as a result, learned as much about lions as Elsa did about human beings. When Elsa was three years old the Adamsons decided that it was time for her to return to the freedom to which she was born, but her return to the wild had to be accomplished with skill and patience, for Elsa was not used to fending for herself. The last stage of this unforgettable story is perhaps the most remarkable for Elsa lived a double life; mating with a wild lion, and yet returning to resume her old friendly relationship with the Adamsons whenever they visited her area of the bush.

The story of Elsa is unlikely to be surpassed as a record of friendship between man and beast. It is illustrated with the author's own photographs.

- After reading the inside cover, what surprised you, or what ideas made you want to read on? (or what ideas made you NOT want to read on….)?

- Watch the movie, *Born Free*, and record 10 points about the film to complete the following chart:

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

"*Wildlife is something which man cannot construct. Once it is gone, it is gone forever. Man can rebuild a pyramid, but he can't rebuild ecology, or a giraffe.*"
~ Joy Adamson (http://www.azquotes.com/quote/1170066

Map of Africa

- Color in where Kenya is on the map and glue below.
- Label the Northern Frontier Province of Kenya, Mount Kenya and the Abyssinian border.

Cause and Effect

- Read out loud the following excerpt from the end of the book, *Born Free*, and discuss your answer with your teacher.

Again, I thought of Elsa – what a beautiful world she was born into. Whatever losing her might mean to me, we must now try our utmost to give her back to this life and save her from a captive existence, in which she would be deprived of all that nature intended for her. Although, up to now, there was no record of a hand-reared lion being successfully liberated, we still hoped that Elsa would be able to adapt herself to wild life, to a life to which she had always been so close. The week of anxiety ended and we went back to see how Elsa had stood up to the test.

- What do you think caused Elsa to be a friend with Joy?
  (a) Joy gave Elsa food when she was a baby.
  (b) Joy trained Elsa to behave like a human.
  (c) Elsa was afraid Joy would hurt her.
  (d) Joy acted like Elsa's mom when she was a baby cub.

- Why do you think Joy wanted Elsa to be set free?
  (a) Joy wanted Elsa to have offspring.
  (b) Joy wanted Elsa to experience how other lions live.
  (c) Joy didn't want Elsa to be harmed by other animals.
  (d) Joy was not as comfortable with an older lion as she was with a cub.

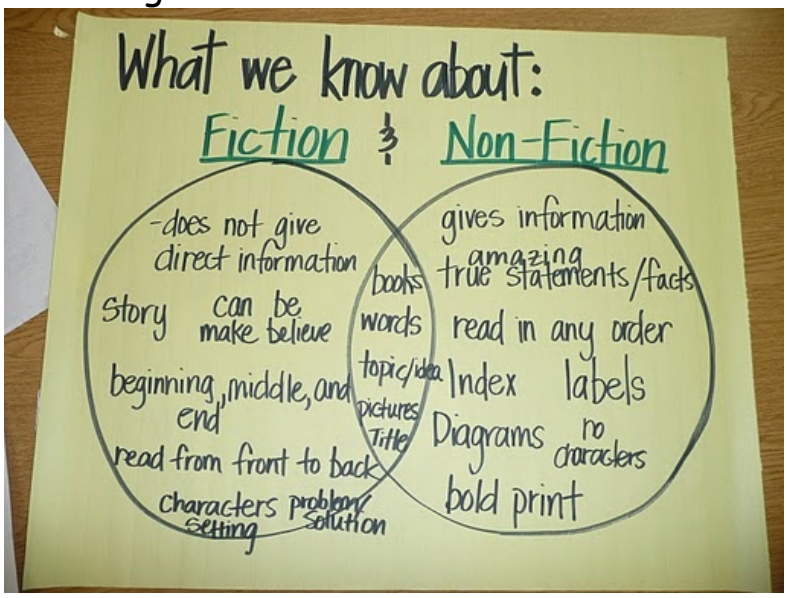
Adjective Review

- Circle the adjectives in the following 'review'.

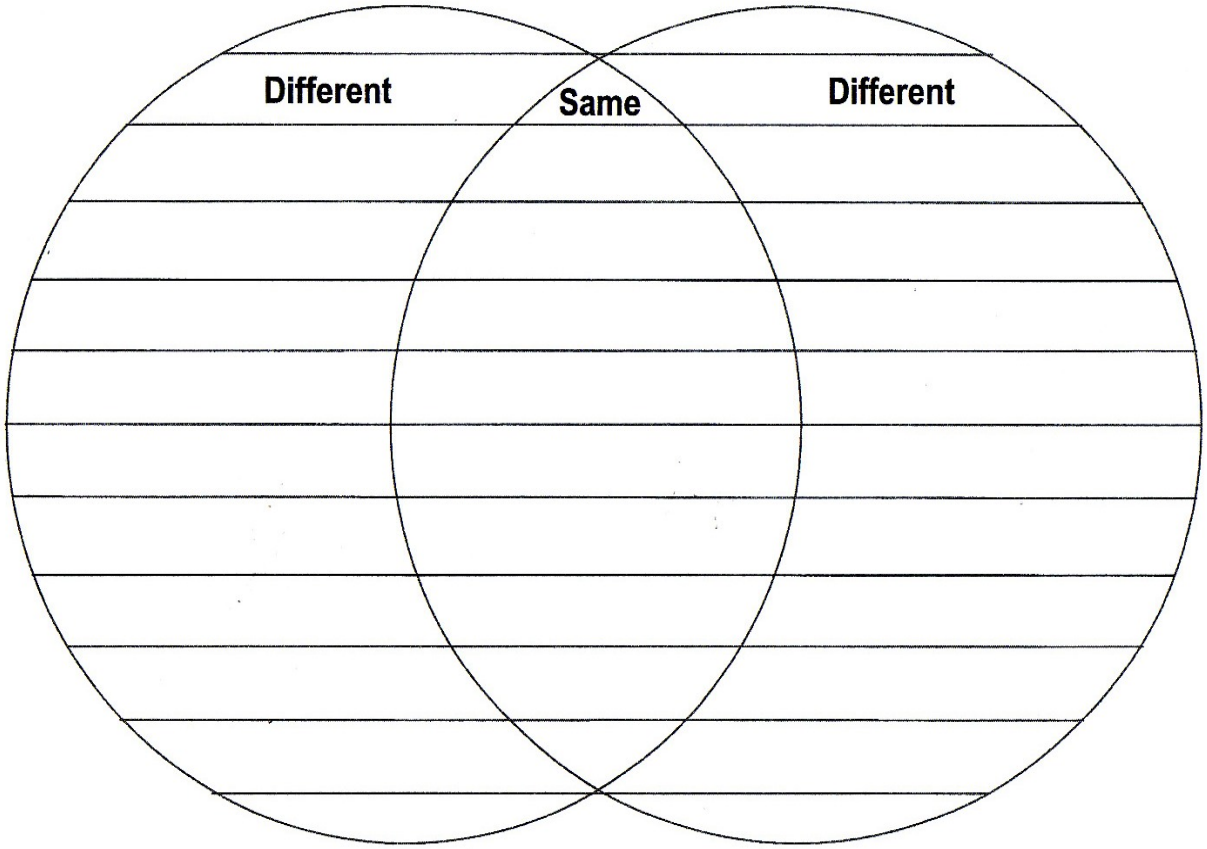
This book is widely regarded as one of the greatest true animal stories ever written…it is much more than an animal story – it is the record of an extraordinary friendship between Joy and George Adamson and Elsa, a Kenya lioness. Elsa was reared by the Adamsons from a four-day old cub, and from the beginning an atmosphere of mutual respect was established…the Adamsons never discouraged Elsa's natural instincts and, as a result, learned as much about lions as Elsa did about human beings.

http://www.dvdtalk.com/reviews/images/reviews/279/full/1452212288_1.jpg

- Now watch the movie, *The Lion King.*
- Discuss the overlap between fiction and non-fiction stories by viewing the Venn diagram below: Fictional and Informational Text.



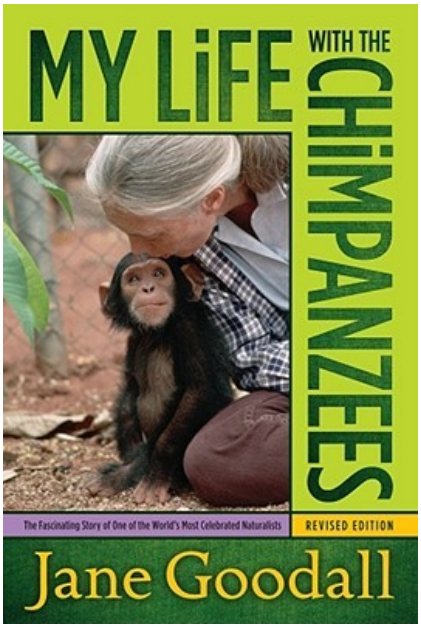
- Use a Venn Diagram to compare *Born Free* to *The Lion King.*



Extension: Read *Born Free*

My Life with the Chimpanzees.

- Read Jane Goodall's complete autobiographical novel, *My Life with the Chimpanzees*.
- As you read – put question marks on the pages, that we can talk about and use to explain what's happening in her story.



Ways to talk about Text:

- *"I found .....tricky to read because....."*
- *"I don't understand the second paragraph on page..."*
- *"I don't get what the author means when she says, ..."*
- *"The author talked about ……..... in Chapter 2...Maybe if I reread that chapter, I can figure out why he's acting this way now."*
- *"The text says..."*

- Now read a web article about Jane Goodall's life:

Jane Goodall created one of the most trailblazing studies of primates in modern times when she dwelled with Tanzanian chimps to observe their behavior.

Synopsis - Born on April 3, 1934, in London, England, Jane Goodall set out to Tanzania to study wild chimpanzees by sitting amongst them, bypassing more rigid procedures and uncovering discoveries about primate behavior that have continued to shape scientific discourse (talk). She is a highly respected member of the world scientific community and is a staunch advocate (enthusiastic supporter) of ecological preservation.

Early Life - Jane Goodall's…fascination with animal behavior began in early childhood. In her leisure time, she observed native birds and animals, making extensive notes and sketches, and read widely in the literature of zoology…From an early age, she dreamed of traveling to Africa to observe exotic animals in their natural habitats.
Early Interest in Primates - At age 18 she left school and found employment as a secretary at Oxford University. In her spare time, she worked at a London-based documentary film company to finance a trip to Africa…she soon met the famed anthropologist Louis Leakey in Nairobi. Leakey hired her as a secretary… Goodall was sent to study the vervet monkey, which lives on an island in Lake Victoria. Leakey believed that a long-term study of the behavior would yield important evolutionary information. He had a particular interest in the chimpanzee, the second most intelligent primate. Few studies of chimpanzees had been successful; either the size of the safari frightened the chimps, producing unnatural behaviors, or the observers spent too little time in the field to gain comprehensive knowledge. Leakey believed that Goodall had the proper temperament to endure long-term isolation in the wild. At his prompting, she agreed to attempt such a study. Many experts objected to Leakey's selection of Goodall because she had no formal scientific education and lacked even a general college degree.

Observing Chimps in Africa…Goodall returned to England to work on an animal documentary…On July 16, 1960, accompanied by her mother and an African cook, she returned to Africa and established a camp on the shore of Lake Tanganyika in the Gombe Stream Reserve. Her first attempts to observe closely a group of chimpanzees failed; she could get no nearer than 500 yards before the chimps fled. After finding another suitable group of chimpanzees to follow, she established a nonthreatening pattern of observation, appearing at the same time every morning on the high ground near a feeding area along the Kakaombe Stream valley. The chimpanzees soon tolerated her presence and, within a year, allowed her to move as close as 30 feet to their feeding area. After two years of seeing her every day, they showed no fear and often came to her in search of bananas.

Discoveries - Goodall used her acceptance to establish…the "banana club," a daily feeding method she used to gain trust//. Using this method, she became closely acquainted with more than half of the reserve's 100 or more chimpanzees. She imitated their behaviors, spent time in the trees, and ate their foods. By remaining in almost constant contact with the chimps, she discovered a number of previously unobserved behaviors. She noted that chimps have…ritualized behaviors and…communication methods, including a primitive "language" system containing more than 20 individual sounds. She is credited with making the first recorded observations of chimpanzees eating meat and using and making tools. Tool making was thought to be an exclusively human trait…to distinguish humans from animals. She also noted that chimpanzees throw stones as weapons, use touch to comfort one another, and develop long-term familial bonds.

The male plays no active role in family life... The chimpanzees place the males at the top... Ethologists had long believed that chimps were exclusively vegetarian. Goodall witnessed chimps stalking, killing, and eating large insects, birds, and some bigger animals, including baby baboons and bushbacks (small antelopes). She recorded acts of cannibalism.. she observed chimps inserting blades of grass or leaves into termite hills to lure worker or soldier termites onto the blade. Sometimes… they modified the grass to achieve a better fit.,.the grass as a long-handled spoon to eat the termites…Her doctoral thesis, "Behavior of the Free-Ranging Chimpanzee," detailed her first five years of study at the Gombe Reserve.

Impact on Africa - Goodall's fieldwork led to the publication of numerous articles and five major books. After attending a 1986 conference in Chicago that focused on the ethical treatment of chimpanzees, she began directing her energies toward educating the public about the wild chimpanzee's endangered habitat and about the unethical treatment of chimpanzees that are used for scientific research.

To preserve the wild chimpanzee's environment, Goodall encourages African nations to develop nature-friendly tourism programs, a measure that makes wildlife into a profitable resource. She actively works with business and local governments to promote ecological responsibility…

Accomplishments - Goodall's stance is that scientists must try harder to find alternatives to the use of animals in research. She has openly declared her opposition to militant animal rights groups who engage in violent or destructive demonstrations. Extremists on both sides of the issue, she believes, polarize thinking and make constructive dialogue nearly impossible. While she is reluctantly resigned to the continuation of animal research, she feels that young scientists must be educated to treat animals more compassionately…

…Her 1989 book, *The Chimpanzee Family Book*, was written specifically for children, to convey a new, more humane view of wildlife. The book received the 1989 Unicef/Unesco Children's Book-of-the-Year Award, and Goodall used the prize money to have the text translated into Swahili. It has been distributed throughout Tanzania, Uganda, and Burundi to educate children who live in or near areas populated by chimpanzees. A French version has also been distributed in Burundi and Congo.

In recognition of her achievements, Goodall has received numerous honors and awards, including…the National Geographic Society Centennial Award in 1988, and the Kyoto Prize in Basic Sciences in 1990. More recently, she was named a Messenger of Peace by the United Nations in 2002… (http://www.biography.com/people/jane-goodall-9542363#recent-news)

Classroom Chat

How does author set the tone or mood for the article?

How does the author use the title opening paragraph as a hook?

Did the article/video remind you of something else you have read or viewed?

Does the article remind you of something you've experienced?

Point of view of author(s) - What does the author want you to believe? Do you agree with the author?

What is an alternative perspective (than the authors)?

Do text patterns help the reader? (headings, sub-heading, font changes…)

INFERENCE (READING BETWEEN THE LINES)
What might be implied?

How might you change the message. Complete the 'What if…?" sentence

What if…

- Now read the article about zoologist, Dian Fossey:

Dian Fossey was a zoologist who was best known for researching the endangered gorillas of the Rwandan mountain forest from the 1960s to the '80s…

Synopsis - Dian Fossey was born on January 16, 1932, in San Francisco, California….Fossey became interested in primates during a trip to Africa in 1963. She studied the endangered gorillas of the Rwandan mountain forest for two decades before her unsolved murder occurred in 1985, at Volcanoes National Park in Rwanda. Fossey told her story in the book *Gorillas in the Mist* (1983), which was later adapted for a film starring Sigourney Weaver.

Early Life - Primatologist and naturalist Dian Fossey…grew up with her mother and stepfather. Developing an affinity for animals at a young age, throughout her youth, Fossey was an avid horseback rider and an aspiring veterinarian. However, after enrolling in pre-veterinary studies…, she…changed her major to occupational therapy. After graduating from San Jose in 1954, Fossey spent several months working as a hospital intern in California, and then moved to…a farm on the outskirts of Louisville, Fossey spent many off-hours happily tending to the livestock…She soon became restless, longing to see other parts of the world and setting her sights on Africa.

'Gorillas in the Mist' - In September 1963, Fossey embarked on her first trip to Africa—which cost Fossey her entire life savings at the time, as well as a bank loan—visiting Kenya, Tanzania, Zimbabwe and the Congo, among other areas. She soon met paleoanthropologist Mary Leakey and her husband, archaeologist Louis Leakey, one of the best-known husband-wife teams in the history of science.

Fossey then met Joan and Alan Root, native wildlife photographers who were working on a documentary of African gorillas at the time...in her 1983 autobiographical work, *Gorillas in the Mist*, (she explained):

"It was their individuality combined with the shyness of their behavior that remained the most captivating impression of this first encounter with the greatest of the great apes…I left Kabara with reluctance, but with never a doubt that I would, somehow, return to learn more about the gorillas of the misted mountains."

Back in Kentucky, Louis Leakey…invited her to take on a long-term study of the endangered gorillas of the Rwandan mountain forest (Leakey believed that researching primates would greatly benefit the study of human evolution). Fossey accepted the offer, and subsequently lived among the mountain gorillas in the Democratic Republic of Congo until civil war forced her to escape to Rwanda.

In 1967, Fossey established the Karisoke Research Foundation in Rwanda's Volcanoes National Park to facilitate the study of mountain gorillas, alternating her time between her fieldwork there and obtaining a Ph.D. based on her research at Cambridge University. She earned her degree in 1976…

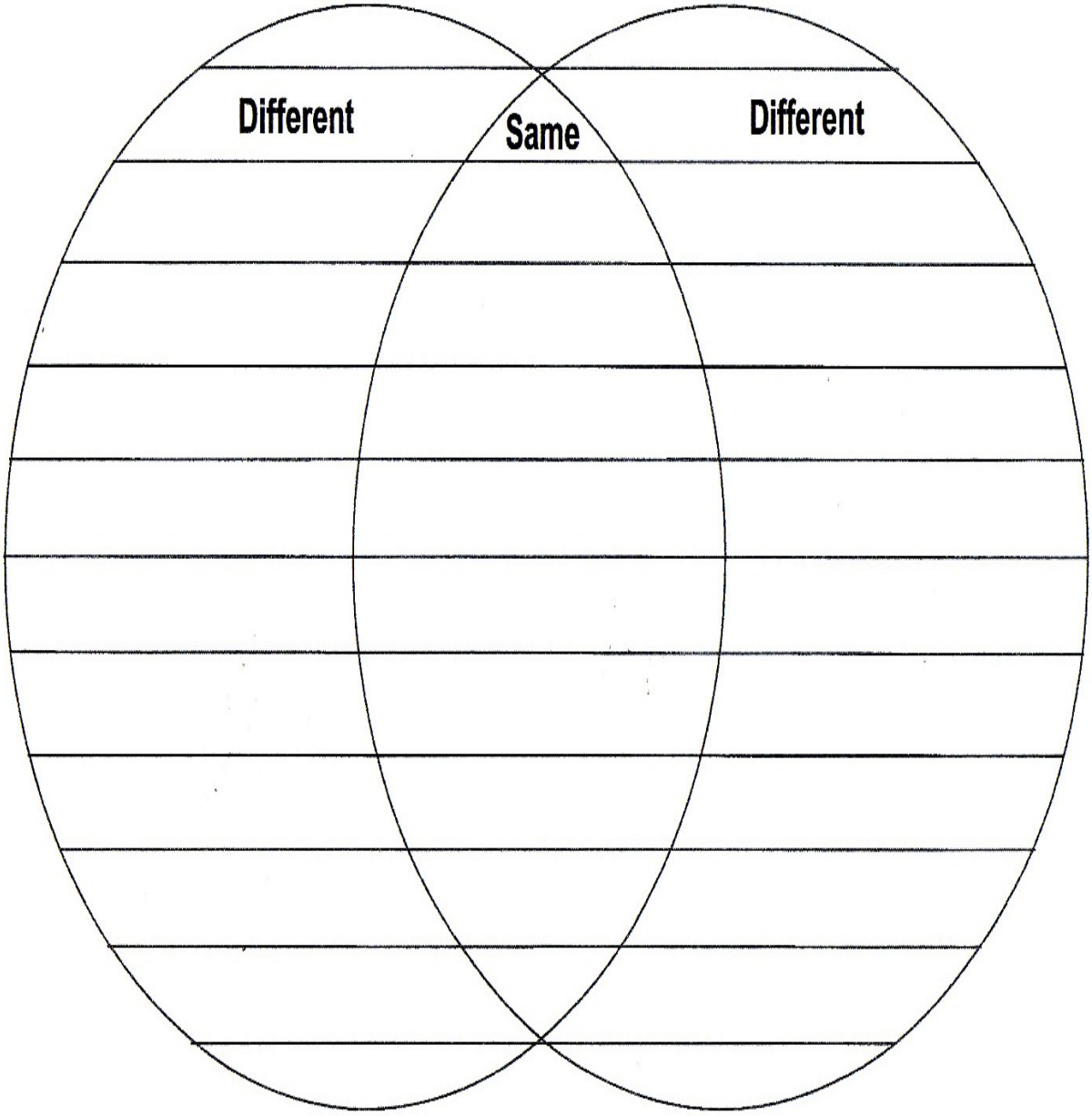
Published in 1983, Fossey's *Gorillas in the Mist* went on to become a best-seller. A film with the same name was also released in 1988, starring Sigourney Weaver as Fossey.

Death and Legacy - Considered the world's leading authority on the physiology and behavior of mountain gorillas, Dian Fossey fought hard to protect these "gentle giants" from environmental and human hazards. She saw these animals as dignified, highly social creatures with individual personalities and strong family relationships. Her active conservationist stand to save these animals from game wardens, zoo poachers, and government officials, who wanted to convert gorilla habitats to farmland, caused her to fight for the gorillas, not only via the media, but also by destroying poachers' dogs and traps. Tragically, on December 26, 1985, Fossey was found dead death, presumably by poachers, at her Rwandan forest camp. No assailant has ever been found or prosecuted in her murder.

Today, Dian Fossey's work continues through the Dian Fossey Gorilla Fund International… http://www.biography.com/people/dian-fossey-9299545#death-and-legacy (with video clips)

"It was their individuality combined with the shyness of their behavior that remained the most captivating impression of this first encounter with the greatest of the great apes."
—Dian Fossey

- Using a Venn Diagram, compare Jane and Dian's stories:



How well did you read & write biographical articles?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Eco-Writing

ET – Write single paragraphs & use commas effectively.

13. Writing a Review

- View the following video about writing a book review for fiction.

https://www.youtube.com/watch?v=zDsdUQK2xLA

A book review for a non-fiction book is more than a summary of something you read. To write a great review, you first have summarize the main idea and the supporting details that are shared in the text. In a non-fiction text, it is a good idea to simply list the points made from each sentence. To write a great review you also need to:

1. Read between-the-lines to figure out what you think the author wants you to believe or learn.
2. Make some notes about how the message relates, or does not relate, to your experiences.
3. Compare the text with something else you have read or viewed.
4. Decide what you like or do not like about the book.
5. Check out the background of the author – to try and understand his or her perspective.
6. Keep track of the setting – where the information is coming from.
7. Support your claims with quotes from the original text.
8. Draft and revise your 'review'.
9. Submit your 'review' on-line so others can comment on how your review helped them understand the text from your perspective.

TECH CHECK:

- http://www.spaghettibookclub.org/
- http://www.readwritethink.org/parent-afterschool-resources/tips-howtos/help-child-write-book-30292.html
- http://www.mensaforkids.org/teach/lesson-plans/book-review-guide/
- http://www.thebookchook.com/2010/07/how-do-kids-write-book-review.html

Read the following reviews.

- Which one(s) makes you want to read that book?
- Circle the number bedside the books that interest you, or if they do not interest you, explain why.

1. *Jacques Cousteau: Saving One Seas Hopping*, Lorraine Jean "Jacques-Yves Cousteau: an Extraordinary Man", by Kirsten on March 18 2001 (Paperback)

I think Jacques Cousteau was a wonderful man. He helped us out more than we know. This book was vey informative and interesting. I aplaude the author for having the will to write about an accomplished individual like Jacques Cousteau and doing an excellent job at it. Thank you Jacques Cousteau for doing so very much for our country and others. You have my sincerest graditude. I enjoyed learning about this topic and I liked the organization of interesting facts that I found in this particular book. I am a 13 year old Freshman attending Harvard, and I was very inmpressed with this book.

2. *Girls Who Looked Under Rocks: The Lives of Six Pioneering Naturalists* ★★★★★ "A gem for the young ladies in our lives, but great stories for the boys too", April 4, 2014 (Paperback)

The 1st copy we bought of this book was at a national park for our science and nature loving 6 year old daughter. She loved being read the stories of women and girls who enjoyed catching critters, studying all sorts of creatures, and having amazing adventures across the world. It's not a book with an obvious or heavy handed agenda in the writing. It's just a collection of stories about trailblazing women over the past few hundred years who loved science and lead interesting lives. I say that as there is no reason why a young boy wouldn't enjoy these stories as well. A mom and her kids catching mice in a movie theater to feed their pet raptors? C'mon, who doesn't love that?!

3. *Jeff Corwin: A Wild Life: The Authorized Biography* ★★★★★ "A Wild Life with Wildlife!" May 2, 2011, by Heidi (Paperback)

With so many biographies written to be used for reports, it's very refreshing to find one that provides a fun and entertaining look at its subject. This book is very readable and the photographs included provide a glimpse of some of the adventures Jeff has been on (my favorite is the picture of him 'sleeping' next to a rhino.) Highly recommended, especially for students who think biographies have to be boring and about dead people.

4. *Who was Rachel Carson?* ★★★★★ "Was happy to order two copies of these so my sister", June 10, 2017 by Julie (Paperback)

My sister and I went to the Rachel Carson Preserve in North Carolina and the local bookshops did not carry any of her books! Was happy to order two copies of these so my sister could have one. It was well written for many levels of readers.

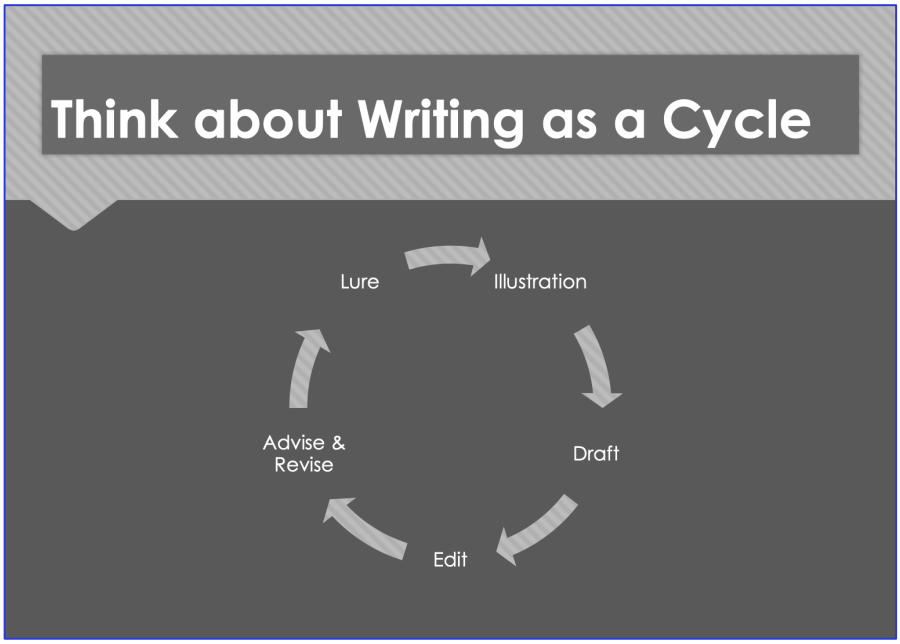
5. *2 of Tents, Tortoises, and Tailgates: My Life as a Wildlife Biologist*

Lillie, Scott ★★★★★ "I can honestly say that this book does an excellent job of describing what the lifestyle is really like", Dec 30, 2014 by Dirk.

As a wildlife biologist who has done his fair share of traveling for work, I can honestly say that this book does an excellent job of describing what the lifestyle is really like. Living out of your truck or a field house for weeks on end can be difficult, but can also lead to rewarding experiences that few people get to have. I've also worked in very remote areas myself, and the animal and random weirdo encounters that the author describes are hilarious and spot on. This book is a great read for any former, current, or future wildlife biologists, but I think a lot of the author's stories and feelings will resonate with just about anyone.

Overall, this book was very fun to read. The author has had a lot of amazing, hilarious, and difficult experiences as a wildlife biologist, which are all documented in the book. He is also honest with his feelings about the job and lifestyle, which was very refreshing. I highly recommend it to anyone working in the wildlife field, and also anyone who might enjoy an adventurous, funny, and honest account of a way of life that most people know little about.

- Time to write your review using the phases of the IDEAL Writing Cycle (Illustrate and outline, Draft sentences, Edit image and sentences, advise and revise, and, Lure the polished text)



Phase 1 – ILLUSTRATE and OUTLINE

- Draw several images that will help you think about what to include …. in your review of your book.
- Make sure your picture gives clues about:
    - what you think the author wants you to believe/learn
    - how the message relates or does not relate to your experiences
    - something else you have read or viewed
    - what you liked and/or did not like about the book
    - the background of the author
    - the setting for the book
    - claims supported by quotes from the original text

- Label your drawing with as many details as possible.
- View the following example of an illustrated outline for a review about an environment book:

- Now edit your drawing by adding more images and details.
- Label these images.
- Use the images and labels to organize an outline for your review.
- Show your teacher your poster so s/he can fill in the following …. feedback form:

Criteria	Points (up to 10)
detailed images were creative	
images labeled with accurate details	
image was edited well	
labelling was edited well	
completed task with care in a timely manner	

- When you have reached at least 8 points, you can begin to write your outline using sentences

Phase 2 – Draft Sentences

- Write your first draft of your review on every other line.
- Your review should have at least 5 sentences, but you may add more.

- How well do you think you did on your first set of sentences? (Circle whether you think you did them like a trailblazer, a paddler or a rookie.)

How well did I do on this task?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Phase 3 – Edit Sentences and image

Time to make some changes to improve your writing.

Word Alert – Look at the word choices and use a thesaurus to make changes so you can score some more points on the Word Alert Chart.

WORD ALERT CHART	
List 3 Powerful Nouns	3 Powerful Adjectives
List 4 Powerful Verbs	
Teacher Score:	

*When you have at least 8 points you can move on to the "Advise & Revise" task for editing your draft!

Phase 4 – Advise and Revise

Speak and Listen Task – You and a classmate will take turns reading your review. The goal is to find ways to make changes to most sentences in your draft.

- First read your draft out loud (slowly), so you or your partner can edit as you read.
- Then your partner will read your draft out loud so you can find more places to edit.

Self-Score Your Draft! - The edited draft is the phase that can score the most points. Look at your draft and the criteria to make sure your draft can score at least 48 out of a possible 60 points!

Self Score	Criteria (2 points – mastered; 1 point almost; NY – not yet)	Teacher Score
SUBSTANCE: This draft review includes…		
	what you think the author wants you to believe/learn	
	how the message relates or does not relate to your experiences.	
	something else you have read or viewed.	
	what you liked and/or did not like about the book.	
	the background of the author	
	the setting for the book	
	claims supported by quotes from the original text	
	what you think the author wants you to believe/learn	
ORGANIZATION: This draft review…		
	demonstrates how ideas flow in a smooth sequence	
	includes word choices listed in WORD ALERT Chart	
	has clear and captivating introductory sentence	
	has clear and captivating concluding sentence	
REVISE, REVISE, REVISE: This draft review…		
	has at least one change made to each sentence	
	uses accurate punctuation (capitals, commas, periods, question marks…)	
	completed the 'Speak and Listen' part of revision	
	TOTAL = out of 60 points	

How well did you write single paragraphs & use commas effectively?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Phase 5 – Lure Readers to the Writing

- You can lure readers to your writing when it is ready to be published. Record your polished copy on every line and submit it to the teacher for up to 20 more points!

Writing Checklist - FINAL COPY

(2 = Trailblazer (strong writing skill); 1 = Pathfinder (developing skill)
NY = Rookie (not yet = did not see this evidence yet)

GREAT POLISH –This review…	
included a captivating title (with proper use of capitals)	
used accurate punctuation (commas, periods, question marks…)	
did not use run-on sentences, repeated words or contractions	
used words properly (grammar; homonyms; no slang…)	
used accurate spelling and included the use of capitals	
TASK COMPLETION – The writer…	
stayed on task and completed work in a timely manner	
helped others stay on task	
read writing aloud to partner and made changes to draft	
made changes when writing was read aloud	
included a final copy on EVERY LINE (is ready for publishing!)	
TOTAL	/20

- If you score at least 16 points, your teacher will help you submit your 'review' on-line, so others can comment on how your review helped them understand the text from your perspective
- Share your review with your classmates.

14. Business Letter Writing

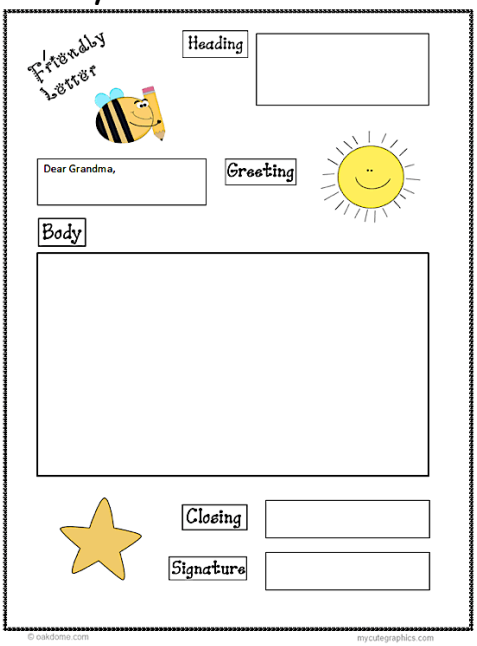
- Write a business letter to support a service learning project: "Bees Matters"
- Research what's good for bees and what's not so good for bees, - so we can recommend good action!

- Listen to:

http://globalnews.ca/news/3322024/cheerios-free-wildflower-seeds-bees-invasive-species/

Talk about what you think about this video.

- Is it common for companies to admit they were wrong about something?
- Do you think they had good intentions for bees?
- Do you think when they distributed seeds that they had another purpose in mind than helping bees?
- Who might you write a letter to about planting seeds of native species of seeds?
- You could write a friendly letter.



http://oakdome.com/k5/lesson-plans/word/images/friendly-letter-graphic-organizer.gif

If you are writing about bees to a friend, you would use a friendly letter, but when you write to a business or the government, you need to use a business letter format.

- Look at the sample business letter and then fill in the Venn diagram outlining how different it is from a friendly letter.

BRITISH COLUMBIA HONEY PRODUCERS ASSOCIATION
Promoting and encouraging beekeeping in British Columbia since 1920
PO Box 1650 Comox BC V9M 8A2

November 12, 2013
Animal Health Risk Assessment
Animal Health Science Directorate
Animal Health Directorate
Canadian Food Inspection Agency
1400 Merivale Road
Ottawa, ON
K1A 0Y9

Risk Assessment for USA Honey Bees

The British Columbia Honey Producers' Association (BCHPA) has received and considered the updated report (October 2013) of Animal Health Risk Assessment (AHRA) unit of the Canadian Food Inspection Agency (CFIA) assessing the likelihood of biological hazards spreading and/or becoming established in Canada as a result of the importation of honey bee packages from the United States of America (U.S.), and the likely consequences.

BCHPA agrees with the report's conclusion that importation of honey bee packages from the continental United States would result in a positive probability of introducing new diseases and pests into Canada.

BCHPA, therefore supports the maintenance of the current import control measures allowing only the importation of honey bee queens under existing inspection protocols from the United States.

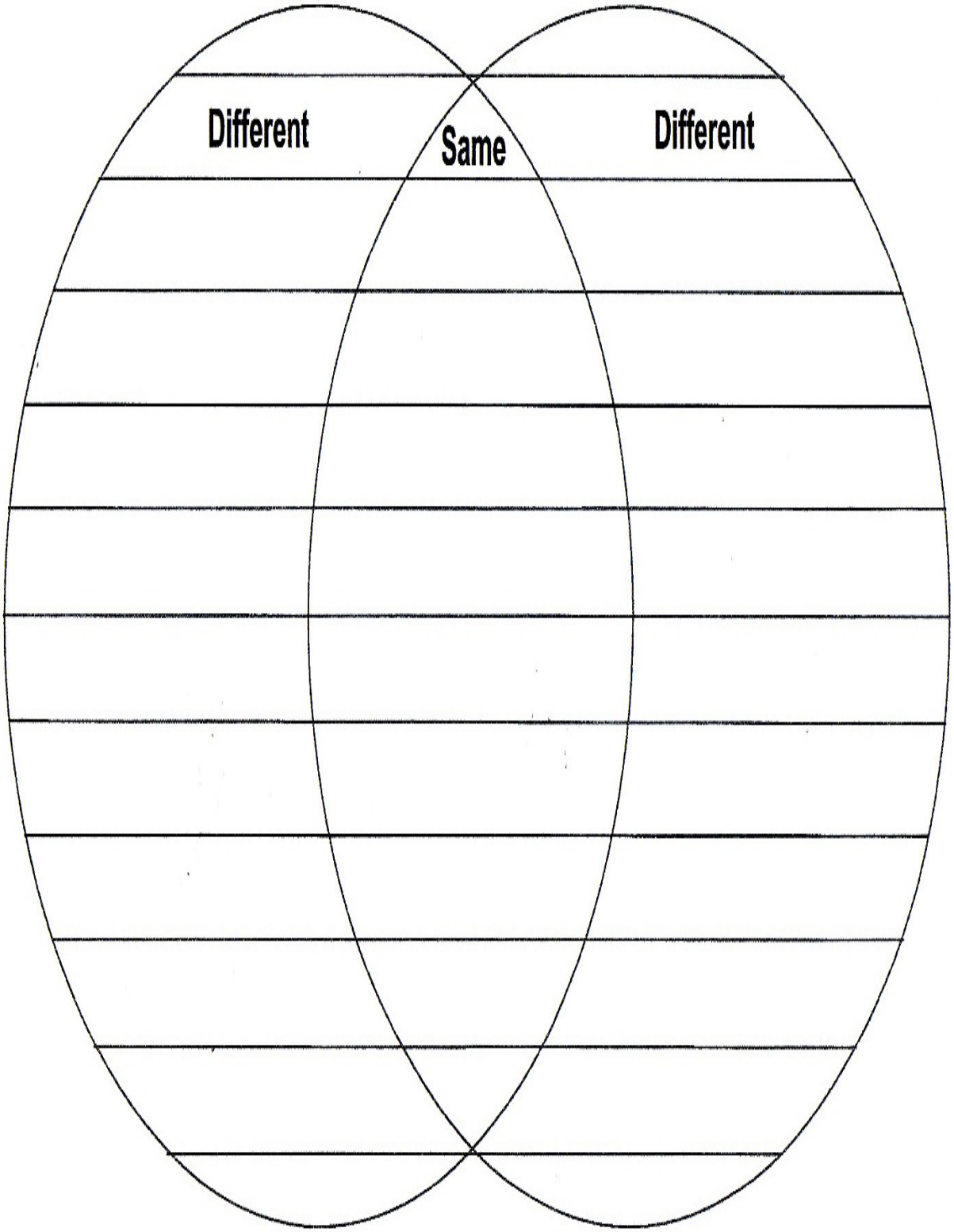
Sincerely,

Wayne Neidig
President BCHPA

Cc Mr. Paul van Westendorp
Dr. Jane Prichard

http://www.honeybeezen.com/wp-content/uploads/2013/11/BCHPA-CFIA-letter.jpg

- Complete the Venn Diagram to vompare friendly and business letters.


Different
Same
Different

- Draft a letter to an expert with questions about bees.
- Your teacher will guide you about the length of your letter. If your work on your review met the Pathfinder/Trailblazer level, you can write 3 or 5 paragraphs.
    - Rookies will write a one paragraph letter.
    - Pathfinders will write a three-paragraph letter.
    - Trailblazers will write a five-paragraph letter.

- Use the phases in the IDEAL cycle to write this business letter.

Phase 1: Illustrate it!

- Start by drawing an image and labelling it.

<u>Phase 2 – Draft first Sentences</u>

- Write your first draft of your paragraph for the letter on every other line.
- Each paragraph should have at least 5 sentences, but you may add more.

*You may use lined paper for the draft, especially if writing 3 and 5 paragraph letters. Don't forget the draft must be on every other line.

Phase 3 – Edit the Sentences and the Image

Time to make some changes to improve your writing.

Word Alert – Look at the word choices and use a thesaurus to make changes so you can score some more points on the Word Alert Chart.

WORD ALERT CHART	
List 3 Powerful Nouns	3 Powerful Adjectives
List 4 Powerful Verbs	

Teacher Score:

Phase 4 – Advise and Revise

Speak and Listen Task – You and a classmate will take turns reading your letter. The goal is to find ways to make changes to most sentences in your draft.

Then your partner will read your draft out loud so you can find more places to edit.

Self-Score Your Draft! - The edited draft is the phase that can score the most points. Look at your draft and the criteria to make guide your draft to score at least 32 out of a possible 40 points.

Self Score	Criteria (2 points – mastered; 1 point almost; NY – not yet)	Teacher Score
SUBSTANCE: This draft review includes…		
	some things you have learned about the topic from books or web article	
	what questions you have for the expert	
	why you chose your topic	
	something about your background and school	
ORGANIZATION: This draft review…		
	demonstrates how ideas flow in a smooth sequence	
	includes word choices listed in WORD ALERT Chart	
	has clear and captivating introductory sentence (or introductory paragraph)	
	has clear and captivating concluding sentence (or concluding paragraph)	
REVISE, REVISE, REVISE: This draft review…		
	has at least one change made to each sentence	
	uses accurate punctuation (capitals, commas, periods, question marks…)	
	TOTAL = out of 40 points	

How well did you read & write business letters?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Phase 5 – Lure the Reader to Your Writing

- Record your polished copy on every line and submit it to the teacher for up to 20 more points!

DO NOT MAIL anything to experts. Your teacher will forward your work to experts for you.

Place the draft below (or on paper provided for longer letters.)

(school address)
Date

Dear : (include email address)

Sincerely,
(Just sign with your first name), Inspiration Academy

Writing Checklist - FINAL COPY

(2 = Trailblazer (strong writing skill); 1 = Pathfinder (developing skill)
NY = Rookie (not yet = did not see this evidence yet)

GREAT POLISH –This review…	
included a captivating title (with proper use of capitals)	
used accurate punctuation (commas, periods, question marks…)	
did not use run-on sentences, repeated words or contractions	
used words properly (grammar; homonyms; no slang…)	
used accurate spelling and included the use of capitals	

- Copy and paste your letter and send it as an attachment to your teacher, who will forward the letter to your expert.
- If the expert responds using e-mail, it can be cut and posted on a SAVE the BEES Bulletin Board
- Share your letter and responses from your expert with your classmates. Then draft a thank you note to forward to your teacher, who will forward it to your expert.

ET - Speak persuasively using technology.

ET - Read & write about auto-biographies.

16. Biome Documentary and Media Presentation

- Read the following web article about documentary writing, from the New York Film Academy (adapted from https://www.nyfa.edu/student-resources/how-to-write-a-documentary-script/)

…You must work backwards. It is the only way to write a documentary script. Once you have collected your research…only then can you write the script.

Compel Your Viewer
Viewers want to connect with your project. Find compelling personal stories that will enthrall viewers…

Declare Your Point Of View
Presenting the facts and reality isn't always clean cut and unbiased. That isn't to say that directors and producers spin a project a certain way but there is information that stays in a documentary and information that is cut.

So, what is it that you want your documentary to transmit?

You will find that when you have this message, putting the entire script and production together is much easier and it is clearer to the audience regardless of whether or not they agree…At the very least, the audience is given something to think about moving forward. As a director/writer/ producer, you can be flexible and allow your story to unfold even if it's not in the precise direction that you thought it would go.

Finesse Your Project
Be thorough…Writing and rewriting parts of the script is part of the process as you continue to define your message and refine the story…Sometimes while you are fact checking, there may be some discrepancies so you want to make there that everything that you are presenting to the viewer is accurate and this is reflected in the rewriting process…

Documentaries are real, with real people and dealing with real issues that are powerful and hit us at our core. Let your writing reflect those deep, moving messages and capture your audience emotionally.

- Your Biome Documentary will be a personal narrative about your path to becoming an eco-expert about a biome you researched.
- Writing a documentary is for pathfinders or trailblazers, folks who are ready to write 3 or 5 paragraphs.

Why do you think it is important to share your story about becoming an eco-expert about a biome?

*I think it is important to share this story because…*_____

_____

- Use the phases of the IDEAL Writing Cycle, illustrate, draft, edit, advise & revise, revise and lure readers to your work so other can learn and talk about your experience.

Phase 1 – ILLUSTRATE and OUTLINE

- Illustrate and label your starter images on a large sheet of poster paper.
- Pair and share your ideas with another student.
- Edit illustration to add more detail to image and labels.
- Show your teacher who will fill in the following feedback form.

Criteria	**Points (up to 10)**
detailed images were creative	
images labeled with accurate details	
image was edited well	
labelling was edited well	
completed task with care in a timely manner	

*When you have reached at least 8 points, you can begin to write your outline using sentences.

Phase 2 – Draft Sentences

- Write your first draft of your response to the question "Tell me about a typical day in your life as an _____ (fill in your biome) ecologist"
- Use the starter paragraph…and then add your detailed paragraph next
- Look at the introductory paragraph to start your documentary.

Introductory Paragraph:

As a ecologist, I am committed to finding ways to help my biome thrive. I spend much of my day recording data and comparing data. I also look for ways to solve problems that threaten my biome.

- Before you write your middle, detailed paragraph(s), review your research (The more details the better).
- When you write the sentences for the next paragraph, make sure you include:

✓ more details about your biome
✓ problems you have to solve on a regular basis
✓ information about plants and animals that live in your biome
✓ information about what threatens living things in your biome

Next Paragraph (#2):

- Then write a brief concluding paragraph.

- Your final paragraph in your documentary should speak to "what if…" questions. As you worked on becoming an ecologist, things happened in a certain order. Your documentary should end with a series of "what if" questions that will reveal to the audience, what you could have done differently or explored in more depth.

- Your final paragraph should reflect if you were satisfied with the data or sources you used to support your biome. Do you think you needed to find more?

The "What if…?" question is the hook that keeps people wanting to know more. When a television series ends, the writers sometime leave the ending open just in case the viewers demand more!

Concluding Paragraph:

Phase 3 – Edit your Sentences and Image

Time to make some changes to improve your writing.

Word Alert – Look at the word choices and use a thesaurus to make changes so you can score some more points on the Word Alert Chart.

WORD ALERT CHART	
List 3 Powerful Nouns	3 Powerful Adjectives
List 4 Powerful Verbs	
Teacher Score:	

Phase 4 – Advise and Revise

Speak and Listen Task:

- First read your draft out loud (slowly), so you or your partner can edit as you read.
- Then your partner will read your draft out loud so you can find more places to edit.

http://stocki.typepad.com/.a/6a00e0097df5fe883301b8d192a766970c-pi

Self-Score Your Draft! - The edited draft is the phase that can score the most points. Look at your draft and the criteria to make sure your draft can score at least 32 out of a possible 40 points!

Self Score	Criteria (2 points – mastered; 1 point almost; NY – not yet).	Teacher Score
SUBSTANCE: This documentary includes…		
	at least 3 problems encountered at work	
	at least 3 solutions	
	at least 3 interesting biome details	
ORGANIZATION: This documentary…		
	demonstrates how ideas flow in a smooth sequence	
	includes word choices listed in WORD ALERT Chart	
	has clear and captivating introductory sentences in each paragraph	
	uses words that indicate time and sequence to link sentences	
	language is inclusive and non-discriminatory	
	Has clear and captivating concluding sentences in each paragraph	
REVISE, REVISE, REVISE: This documentary…		
	has at least one change made to each sentence	
	uses accurate punctuation (capitals, commas, periods, question marks…)	
	completed the 'Speak and Listen' part of revision	
	TOTAL = out of 40 points	

How well did you read & write about auto-biographies?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

Phase 5 – LURE Your Readers to your Writing

- Record your polished copy on every line and submit it to the teacher for up to 20 more points!

Writing Checklist - FINAL COPY

2 = Trailblazer (strong writing skill)
1 = Pathfinder (developing skill)
NY = Rookie (not yet = did not see evidence)

GREAT POLISH – This documentary…	
included a captivating title (with proper use of capitals)	
used accurate punctuation (commas, periods, question marks…)	
did not use run-on sentences, repeated words or contractions	
used words properly (grammar; homonyms; no slang…)	
used accurate spelling and included the use of capitals	
TASK COMPLETION – The writer…	
stayed on task and completing work in a timely manner	
helped others stay on task	
read writing aloud to partner and made changes to draft	
made changes when writing was read aloud	
included a final copy on EVERY LINE (Is ready for publishing)	
TOTAL	/20

- What are the different purposes for speaking?
- Which ones are the easiest for you?
  (a) Speaking with family
  (b) Speaking with friends
  (c) Speaking in pairs
  (d) Speaking in small groups
  (e) Speaking in the classroom
  (f) Speaking in other settings (activities outside school)
  (g) Speaking into a microphone
  (h) Speaking during a speech
  (i) Speaking on the telephone.
- Practice reading your documentary out loud.
- Speak persuasively!
- Talk about being a good speaker and a good audience member.

It takes courage to present created work. Be brave and be kind.

- Tape record your documentary.
- Create a pantomime with action (to be acted out while playing back the recording of the documentary)
- Pantomimes should help teach your audience about what happens in your biome.
- Present your pantomimes (with the audio documentary) to your classmates (or other audiences)

How well did you speak persuasively using technology?	Trailblazer (Expert)	Pathfinder (Apprentice)	Rookie (Not Yet)

http://i2.wp.com/dancingthroughthestorms.files.wordpress.com/2013/09/writing-blogging-clipart1.gif

Teacher Telegram

Dear_____,

_____

_____

_____,

_____

Student Telegram (response)

Student -- Please add a note back. (what you liked, any ideas for improving the activities…)

Dear _____

_____

_____

Sincerely,

_____

Final Thoughts - What I Know About…

Expert: _____

_____

What I Know About **business letters**_____

_____

_____

What I Know About **biographies**_____

_____

_____

What I Know About **documentaries**_____

_____

_____

Select two pieces of writing from your writing portfolio (1 poem and 1 prose) and explain below how they show you are becoming a good writer:

_____

_____

_____

_____

_____

_____

_____

Learning Log	Points
kept in neat condition	
easy to read responses	
thought and care put into responses	
diagrams were neatly prepared	
self-assessments were completed for required tasks	
TOTAL (up to 10 points)	

Classroom Work	Points
worked well on task with other students during paired or group activity	
worked on own without disruption	
helped others when needed	
contributed well to classroom discussions	
opted to do optional activities	
TOTAL (up to 10 points)	

Appendix A: Ontario Ministry of Education and Training ELA Expectations

Grade 3 ENGLISH LANGUAGE ARTS

3A. GRADE 3 ORAL COMMUNICATION

ELA3A.1.4 demonstrate an understanding of the information and ideas in a variety of oral texts by identifying important information or ideas and some supporting details

ELA3A.1.5 distinguish between stated and implied ideas in oral texts

ELA3A.2.2 demonstrate an understanding of appropriate speaking behavior in a variety of situations, including small-and large-group discussions

ELA3A.2.4 choose a variety of appropriate words and phrases, including descriptive words and some technical vocabulary, and a few elements of style, to communicate their meaning accurately and engage the interest of their audience

3B. READING

ELA3B.1.1 read a variety of literary texts

ELA3B.1.4 demonstrate understanding of a variety of texts by identifying important ideas and some supporting details

ELA3B.1.5 make inferences about texts using stated and implied ideas from the texts as evidence

ELA3B.1.6 extend understanding of texts by connecting the ideas in them to their own knowledge and experience, to other familiar texts, and to the world around them

ELA3B.1.8 express personal opinions about ideas presented in texts

ELA3B.2.2 recognize a few organizational patterns in texts of different types, and explain how the patterns help readers understand the texts

ELA3B.3.1 automatically read and understand most high-frequency words, many regularly used words, and words of personal interest or significance, in a variety of reading contexts

ELA3B.3.2 predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:

- semantic (meaning) cues;
- syntactic (language structure) cues;
- graphophonic (phonological and graphic) cues

ELA3B.3.3 read appropriate texts at a sufficient rate and with sufficient expression to convey the sense of the text readily to the reader and an audience

3C. GRADE 3 WRITING

ELA3C.1.1 identify the topic, purpose, audience, and form for writing

ELA3C.1.4 sort ideas and information for their writing in a variety of ways

ELA 3C.1.5 identify and order main ideas and supporting details into units that could be used to develop a short, simple paragraph, using graphic organizers…and organizational patterns

ELA3C.1.6 determine whether the ideas and information they have gathered are relevant and adequate for the purpose, and gather new material if necessary

ELA3C.2.1 write short texts using a variety of forms

ELA3C.2.2 establish a personal voice in their writing, with a focus on using concrete words and images to convey their attitude or feeling towards the subject or audience

ELA3C.2.3 use words and phrases that will help convey their meaning as specifically as possible

ELA3C.2.4 vary sentence structures and maintain continuity by using words that indicate time and sequence to link sentences

ELA3C.2.5 identify their point of view and other possible points of view on the topic, and determine if their information supports their own view

ELA3C.2.6 identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features

ELA3C.2.7 make revisions to improve the content, clarity, and interest of their written work, using several types of strategies

ELA3C.2.8 produce revised, draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions

ELA3C.3.1 spell familiar words correctly

ELA3C.3.2 spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling

ELA3C.3.3 confirm spellings and word meanings or word choice using several different types of resources

ELA3C.3.4 use punctuation to help communicate their intended meaning, with a focus on the use of: commas to mark grammatical boundaries within sentences; capital letters and final punctuation to mark the beginning and end of sentences

ELA3C.3.5 use parts of speech appropriately to communicate their meaning clearly, with a focus on the use of: proper nouns for titles

ELA3C.3.6 proofread and correct their writing using guidelines developed with peers and the teacher

ELA3C.3.8 produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies

ELA3C.4.3 select pieces of writing that they think show their best work and explain the reasons for their selection

GRADE 4 ELA EXPECTATIONS

ELA4A.1.4 demonstrate an understanding of the information and ideas in a variety of oral texts by summarizing important ideas and citing important details

ELA4A.1.8 identify the point of view presented in oral texts and ask questions about possible bias

ELA4B.1.6 extend understanding of texts by connecting the ideas in them to their own knowledge, experience, and insights, to other familiar texts, and to the world around them

ELA4B.1.7 analyse texts and explain how specific elements in them contribute to meaning

ELA4B.1.8 express opinions about the ideas and information in texts and cite evidence from the text to support their opinions

ELA4B.3.1 automatically read and understand high-frequency words, most regularly used words, and words of personal interest or significance in a variety of reading contexts

ELA4B.3.2 predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:

- semantic (meaning) cues
- syntactic (language structure) cues

ELA4B.3.3 read appropriate texts at a sufficient rate and with sufficient expression to convey the sense of the text readily to the reader and an audience

ELA4C.1.1 identify the topic, purpose, and audience for a variety of writing forms (e.g., a cinquain)

ELA4C.1.3 gather information to support ideas for writing using a variety of strategies and oral, print, and electronic sources

ELA4C.1.4 sort and classify ideas and information for their writing in a variety of ways

ELA4C.1.5 identify and order main ideas and supporting details and group them into units that could be used to develop a summary, using a variety of graphic organizers (e.g., a Venn diagram…)

ELA4C.1.6 determine whether the ideas and information they have gathered are relevant and adequate for the purpose, and do more research if necessary

ELA4C.2.2 establish a personal voice in their writing, with a focus on using words and stylistic elements that convey a specific mood such as amusement

ELA4C.2.3 use specific words and phrases to create an intended impression (e.g., comparative adjectives such as faster…)

ELA4C.2.6 identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features

ELA4C.2.7 make revisions to improve the content, clarity, and interest of their written work, using several types of strategies

ELA4C.2.8 produce revised, draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions

ELA4C.3.2 spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling

ELA4C.3.5 use parts of speech appropriately to communicate their meaning clearly, with a focus on the use of: common and proper nouns; verbs in the simple present, past, and future tenses; adjectives…

ELA4C.3.6 proofread and correct their writing using guidelines developed with peers and the teacher (e.g., an editing checklist specific to the writing task; a posted class writing guideline)

ELA4C.3.8 produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies

ELA4C4.3 select pieces of writing that they think reflect their growth and competence as writers and explain the reasons for their choice

Grade 5 ENGLISH LANGUAGE ARTS

ELA5A.1.4 demonstrate an understanding of the information and ideas in oral texts by summarizing important ideas and citing a variety of supporting details

ELA5A.2.1 identify a variety of purposes for speaking

ELA5B.1.3 identify a variety of reading comprehension strategies and use them appropriately before, during, and after reading to understand texts

ELA5B.1.4 demonstrate understanding of a variety of texts by summarizing important ideas and citing supporting details

ELA5B.1.5 use stated and implied ideas in texts to make inferences and construct meaning

ELA5B.1.6 extend understanding of texts by connecting the ideas in them to their own knowledge, experience, and insights, to other familiar texts, and to the world around them

ELA5B.1.7 analyse texts and explain how various elements in them contribute to meaning

ELA5B.1.8 make judgments and draw conclusions about the ideas and information in texts and cite stated or implied evidence from the text to support their views

ELA5B.3.2 predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:

- semantic (meaning) cues;
- syntactic (language structure) cues;
- graphophonic (phonological and graphic) cues

ELA5B.3.3 read appropriate texts with expression and confidence, adjusting reading strategies and reading rate to match the form and purpose

ELAA5C.1.2 generate ideas about a potential topic and identify those most appropriate for the purpose

ELA5C. 1.4 sort and classify ideas and information for their writing in a variety of ways

ELA5C.1.5 identify and order main ideas and supporting details and group them into units that could be used to develop several linked paragraphs, using a variety of strategies and organizational patterns

ELA5C.1.6 determine whether the ideas and information they have gathered are relevant, appropriate, and adequate for the purpose, and do more research if necessary

ELA5C.2.6 identify elements of their writing that need improvement, using feedback from the teacher and peers, with a focus on specific features

ELA5C.2.7 make revisions to improve the content, clarity, and interest of their written work, using a variety of strategies

ELA5C.2.8 produce revised, draft pieces of writing to meet identified criteria based on the expectations related to content, organization, style, and use of conventions

ELA5C.3.2 spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling

ELA5C.3.4 use punctuation appropriately to help communicate their intended meaning, with a focus on the use of: a comma before and or but in compound sentences to join principal clauses…

ELA5C.3.5 use parts of speech correctly to communicate their intended meaning clearly, with a focus on the use of: common, proper, and abstract nouns

ELA5C.3.6 proofread and correct their writing using guidelines developed with peers and the teacher

ELA5C.3.8 produce pieces of published work to meet identified criteria based on the expectations related to content, organization, style, use of conventions, and use of presentation strategies

ELA5C.4.3 select pieces of writing that they think reflect their growth and competence as writers and explain the reasons for their choices

Grade 6 ENGLISH LANGUAGE ARTS (Extensions)

ELA6A.1.4 demonstrate an understanding of the information and ideas in increasingly complex oral texts in a variety of ways

ELA6A.2.3 communicate orally in a clear, coherent manner, using appropriate organizing strategies and formats to link and sequence ideas and information

ELA6A.2.4 use appropriate words and phrases from the full range of their vocabulary including inclusive and non-discriminatory language, and stylistic devices appropriate to the purpose and context, to communicate their meaning accurately and engage the interest of their intended audience (e.g., use similes, and comparative adjectives to achieve a desired effect)

ELA6B.1.3 identify a variety of reading comprehension strategies and use them appropriately before, during, and after reading to understand increasingly complex texts

ELA6B.1.4 demonstrate understanding of increasingly complex texts by summarizing and explaining important ideas and citing relevant supporting details; main theme and important details in poems…

ELA6B.1.5 develop interpretations about texts using stated and implied ideas to support their interpretations

ELA6B.1.7 analyse increasingly complex texts and explain how the different elements in them contribute to meaning

ELA6B.3.2 predict the meaning of and rapidly solve unfamiliar words using different types of cues, including:

- semantic (meaning) cues;
- syntactic (language structure) cues;
- graphophonic (phonological and graphic) cues

ELA6B.3.3 read appropriate texts with expression and confidence, adjusting reading strategies and reading rate to match the form and purpose

ELA6C.1.1 identify the topic, purpose, and audience for a variety of writing forms

ELA6C.1.3 gather information to support ideas for writing, using a variety of strategies and a range of print and electronic resources

ELA6C.1.5 identify and order main ideas and supporting details and group them into units that could be used to develop a structured, multi-paragraph piece of writing, using a variety of strategies

ELA6C.1.6 determine whether the ideas and information they have gathered are relevant, appropriate, and adequate for the purpose, and do more research if necessary

ELA6C.2.3 use some vivid and/or figurative language and innovative expressions to enhance interest (e.g., strong verbs; concrete, specific nouns; unusual adjectives; unexpected word order)

ELA6C.2.6 identify elements in their writing that need improvement, selectively using feedback from the teacher and peers, with a focus on supporting details and precise language

ELA6C.2.7 make revisions to improve the content, clarity, and interest of their written work, using a variety of strategies

ELA6C.2.8 produce revised draft pieces of writing to meet identified criteria based on the expectations

ELA6C.3.2 spell unfamiliar words using a variety of strategies that involve understanding sound-symbol relationships, word structures, word meanings, and generalizations about spelling

ELA6C.3.3 confirm spellings and word meanings or word choice using a variety of resources appropriate for the purpose

ELA6C.3.4 use punctuation appropriately to communicate their intended meaning in longer and more complex sentences, with a focus on the use of: commas to separate words in a list or after an introductory word or phrase;

ELA6C.3.6 proofread and correct their writing using guidelines developed with peers and the teacher

ELA6C.3.8 produce pieces of published work to meet identified criteria based on the expectations

ELA6C.4.3 select pieces of writing that they think reflect their growth and competence as writers and explain the reasons for their choices.

Appendix B: Alberta English Language Arts Expectations

GRADE 3-6 ALBERTA EXPECTATIONS

GRADE 3

AELA3.1.2 Clarify and Extend

- ask for the ideas and observations of others to explore and clarify personal understanding
- experiment with arranging and recording ideas and information in a variety of ways
- ask questions to clarify information and ensure understanding

AELA3.2.1 Use Strategies and Cues

- share ideas developed through interests, experiences and discussion that are related to new ideas and information
- identify the different ways in which oral, print and other media texts, such as stories, textbooks, letters, pictionaries and junior dictionaries, are organized, and use them to construct and confirm meaning
- apply a variety of strategies, such as setting a purpose, confirming predictions, making inferences and drawing conclusions
- identify the main idea or topic and supporting details in simple…passages
- read silently with increasing confidence and accuracy
- monitor and confirm meaning by rereading when necessary, and by applying knowledge of pragmatic, semantic, syntactic and graphophonic cueing systems
- attend to and use knowledge of capitalization, commas in a series, question marks, exclamation marks…to read accurately, fluently and with comprehension during oral and silent reading
- apply phonic rules and generalizations competently and confidently to read unfamiliar words in context
- apply word analysis strategies to segment words into parts or syllables, when reading unfamiliar words in context
- associate sounds with an increasing number of vowel combinations, consonant blends and digraphs, and letter clusters to read unfamiliar words in context
- use junior dictionaries and spell-check functions to confirm the spellings or locate the meanings of unfamiliar words in oral, print and other media texts

AELA3.2.3 Understand Forms, Elements and Techniques

- identify distinguishing features of a variety of… texts
- discuss ways that visual images convey meaning in…texts
- identify ways that messages are enhanced in oral, print and other media texts by the use of specific techniques

AELA3.2.4 Create Original Text

- experiment with ways of generating and organizing ideas prior to creating oral, print and other media texts
- use sentence variety to link ideas and create impressions on familiar audiences
- add sufficient detail to oral, print and other media texts to tell about setting

AELA3.5.1 Respect Others and Strengthen Community

- describe similarities between experiences and traditions encountered in daily life and those portrayed in texts
- retell, paraphrase or explain ideas in oral, print and other media texts
- identify and discuss similar ideas or topics within stories from oral, print and other media texts from various communities
- use appropriate language to acknowledge and celebrate individual and class accomplishments
- demonstrate respect for the ideas, abilities and language use of others

GRADE 4

AELA4.2.2 Respond to Texts

- identify and discuss topics and kinds of oral, print and other media texts
- retell events of stories in another form or medium
- make general evaluative statements about oral, print and other media texts
- compare similar oral, print and other media texts and express preferences, using evidence from personal experiences and the texts
- develop own opinions based on ideas encountered in oral, print and other media texts
- explain how alliteration (is> used to create mental images
- explain how language and visuals work together to communicate meaning and enhance effect

AELA4.4.1 Enhance and Improve

- identify the general impression and main idea communicated by own and peers' oral, print and other media texts
- use pre-established criteria to provide support and feedback to peers on their oral, print and other media texts
- revise to ensure an understandable progression of ideas…
- write legibly, using a style that demonstrates awareness of alignment, shape and slant
- use special features of software when composing, formatting and revising texts

AELA4.4.2 Attend to Conventions

- identify correct noun-pronoun agreement, and use in own writing
- use phonic knowledge and skills and visual memory, systematically, to spell multisyllable words in own writing
- identify and apply common spelling generalizations in own writing
- apply strategies for identifying and learning to spell problem words in own writing
- use commas after introductory words in sentences and when citing addresses in own writing

GRADE 5

AELA5.2.2 Respond to Texts

- express points of view about oral, print and other media texts
- write or represent the meaning of texts in different forms
- support own interpretations of oral, print and other media texts, using evidence from personal experiences and the texts
- alter sentences and word choices to enhance meaning and to create mood and special effects

AELA5.2.3 Understand Forms, Elements and Techniques

- identify and discuss similarities and differences among a variety of forms of oral, print and other media texts
- identify the main problem or conflict in oral, print and other media texts, and explain how it is resolved
- identify examples of apt word choice and imagery that create particular effects
- experiment with words and sentence patterns to create word pictures

AELA5.2.4 Create Original Text

- use texts from listening, reading and viewing experiences as models for producing own oral, print and other media texts
- experiment with modeled forms of oral, print and other media texts to suit particular audiences and purposes
- use structures encountered in texts to organize and present ideas in own oral, print and other media texts

AELA5.4.1 Enhance and Improve

- develop criteria for evaluating the effectiveness of oral, print and other media texts
- use developed criteria to provide feedback to others and to revise own work
- revise to add and organize details that support and clarify intended meaning
- edit for appropriate use of statements, questions and exclamations
- write legibly, using a style that is consistent in alignment, shape and slant
- apply word processing skills, and use publishing programs to organize information
- distinguish different meanings for the same word, depending on the context in which it is used
- experiment with words, phrases, sentences and multimedia effects to enhance meaning and emphasis

GRADE 6

AELA6.2.2 Respond to Texts

- explain own point of view about oral, print and other media texts
- discuss common topics or themes in a variety of oral, print and other media texts
- summarize oral, print or other media texts, indicating the connections among events…and settings
- discuss how detail is used to enhance…setting, action and mood in oral, print and other media texts

AELA6.2.4 Create Original Text

- determine purpose and audience needs to choose forms, and organize ideas and details in oral, print and other media texts

AELA6.4.3 Present and Share

- use various styles and forms of presentations, depending on content, audience and purpose
- emphasize key ideas and information to enhance audience understanding and enjoyment
- demonstrate control of voice, pacing, gestures and facial expressions; arrange props and presentation space to enhance communication
- identify the tone, mood and emotion conveyed in oral and visual presentations

respond to the emotional aspects of presentations by providing nonverbal encouragement and appreciative comments

Appendix C – Common Core State Standards (US) ELA

Grade 3 Common Core State Standards

W.3.2d Provide a concluding statement or section.
RL.3.5 Refer to parts of stories, dramas, and poems when writing or speaking about a text, using terms such as chapter, scene, and stanza; describe how each successive part builds on earlier sections.
L.3.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
L.3.2a Capitalize appropriate words in titles.
L.3.2e Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
L.3.2f Use spelling patterns and generalizations (e.g., *word families, position-based spellings, syllable patterns, ending rules, meaningful word parts*) in writing words.
L.3.2g Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.
W.3.4 With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.
W.3.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of
W.3.6 With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.
SL.3.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
SL.3.6 Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Grade 4 Common Core State Standards

W.4.3d Use concrete words and phrases and sensory details to convey experiences and events precisely.
RL.4.1 Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
W.4.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience
L.4.2e Use conventional spelling for high-frequency and other studied words and for adding suffixes to base words (e.g., *sitting, smiled, cries, happiness*).
L.4.2f Use spelling patterns and generalizations (e.g., *word families, position-based spellings, syllable patterns, ending rules, meaningful word parts*) in writing words.
L.4.2g Consult reference materials, including beginning dictionaries, as needed to check and correct spellings.

Grade 5 Common Core State Standards

RL.5.4 Determine the meaning of words and phrases as they are used in a text…
L.5.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
L.5.2a Use punctuation to separate items in a series.
L.5.2b Use a comma to separate an introductory element from the rest of the sentence.
L.5.2c Use a comma to set off the words *yes* and *no* (e.g., *Yes, thank you*), to set off a tag question from the rest of the sentence (e.g., *It's true, isn't it?*), and to indicate direct address (e.g., *Is that you, Steve?*).
L.5.2e Spell grade-appropriate words correctly, consulting references as needed.
L.5.3 Use knowledge of language and its conventions when writing, speaking, reading, or listening.
L.5.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.
L.5.4a Use context (e.g., comparisons in text) as a clue to the meaning of a word.
L.5.4b Use common, grade-appropriate Greek and Latin affixes and roots as clues to the meaning of a word (e.g., *photograph, photosynthesis*).
L.5.4c Consult reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation and determine or clarify the precise meaning of key words and phrases.