

Annotating /Coding Non-Fiction Text

R - Reminds me of.....

BK - Background knowledge

L – New Learning

? – Question

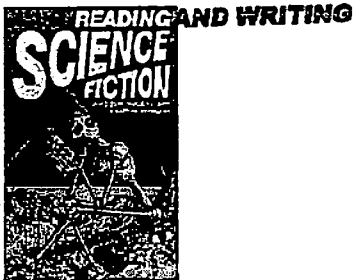
A – Answer to a question

W – I wonder

F – Fact

! – Important information, Wow!

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Why Reading and Writing in science?

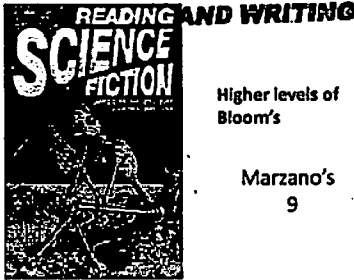
MSNS objective

Common Core/National standards

Constructed Response
TCAP

EXPLORE/ACT

PARCC




Higher levels of Bloom's

Marzano's 9


Reading Non-fiction

1st

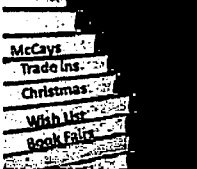
Get them reading!



Extra credit



Your weekend with the hamster... I mean book ☺



Build a classroom library if you don't have one

NSTA recommends
NATIONAL SCIENCE TEACHERS ASSOCIATION

"supported by significant facts"

"free of bias"

"substantial science content"

"accurate and up-to-date"

"They fascinate and captivate with both their content and style."

"Graphics are often so detailed that they not only support the text but provide opportunities for students to hone their observation skills and to make connections and apply concepts."


"They have text at a variety of levels."

"They represent a new, creative path to inquiry."

Adrian Danks
2008-2009 NSTA Recommendations

Use trade books an alternative or supplement to the text book

How to use a text book



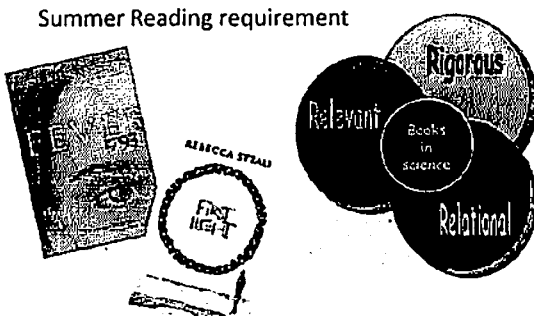
How to read a text book

Or to enhance a unit

Climate Change
Infectious Diseases
Inventors
Weather Disasters
Recycling

Integrate topics with other subject areas
cross curricular units

Summer Reading requirement




Relevant
Rigorous
Books in Science
Relational

2nd Incorporate Strategies

BK 1. Annotating !
W

2. Written Conversation

Dear Sam,



Dear.....
From

In written conversation, write to your elbow partner, for 1 minute. Tell them in one or 2 sentences how you feel about climate change.

Trade papers and read what your partner has written. Talk with them about it for 1 min. Keep this paper.

Now read and annotate paragraphs 1-4 of "The Big Thaw".

Now write for 1 minute to your partner, some of the most important facts you learned in these paragraphs and if you had any questions.

Trade papers and read what your partner has written. Talk with them about it for 1 min. Keep this paper.

Now read and annotate paragraphs 5-10 of "The Big Thaw".

Now write for 2 minutes to your partner. Tell them something you read that was background knowledge and something new you learned.

Trade papers and read what your partner has written. Talk with them about it for 1 min. Keep this paper.

Finally, write for 1 minute on how you feel about climate change and the effects it is having on our lives.

Trade papers and read what your partner has written. Talk with them about it for 1 min. Keep this paper. It should be yours.

3rd Get them writing..
..WELL!

Give them a purpose



Types of Writing:

- cause/effect essay
- comparison/contrast essay
- definition essay
- description essay
- narration essay
- persuasive essay
- process analysis essay

<http://ksd.kkba.edu/writingresource/typeswriting.html>

Give them a topic

Compare/contrast-sexual and asexual reproduction

Cause/effect -photosynthesis/cellular respiration
burning fossil fuels/climate change

Describe-parts of a cell/parts of a school

Process analysis-mitosis
Lab procedures

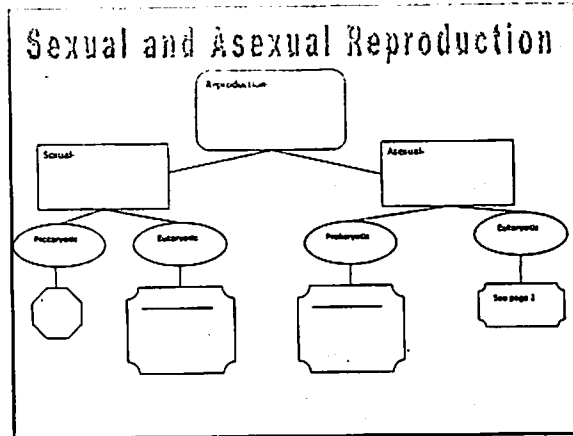


Give them a framework

Graphic organizers

Charts

Foldables



Compare and Contrast Essay-Sexual and Asexual Reproduction in Prokaryotic and Eukaryotic Organisms

In this essay you will get experience writing a compare and contrast essay by writing about the similarities and differences between sexual and asexual reproduction AS WELL AS the similarities and differences between prokaryotic and eukaryotic organisms. You may follow the outline below to write your paragraphs AND you must include specific examples of the similarities and differences as mentioned above. Describe your examples and explain why they demonstrate your point. Use key compare/contrast words listed below. Make your introduction attention getting and interesting, encouraging the reader to continue reading. Support your facts with examples. Summarize and add your own opinions to the conclusion.

Key words you can use:

Compare	Contrast
is similar to	on the other hand
both	however
also	but
too	in contrast
as well	differs from
	while
	unlike

typed or handwritten clearly
3-5 sentences/paragraph minimum
No personal pronouns
Bibliography if needed

Outline

¶1-Introduction-introduce, define reproduction and state types
¶2-Sexual Reproduction-compare and contrast prokaryotic vs eukaryotic Organisms
¶3-Advantages and disadvantages of sexual repro.
¶4-Asexual Reproduction-compare and contrast prokaryotic vs eukaryotic organisms
¶5-Advantages and disadvantages of asexual repro.
¶6-conclusion

Cause and Effect Worksheet-Photosynthesis, Cellular Respiration and Climate Change

There are many ways we can look at photosynthesis and respiration AND the greenhouse effect and climate change as a cause and effect relationship. We are going to write a cause and effect essay explaining these relationships.

Cause	Effect	Proof/Examples	Source

Transition/connector words:

Vocabulary:

Cause and Effect Worksheet-Photosynthesis, Cellular Respiration and Climate Change

There are many ways we can look at photosynthesis and respiration AND the greenhouse effect and climate change as a cause and effect relationship. We are going to write a cause and effect essay explaining these relationships.

- Complete the cause and effect chart.
- photosynthesis and respiration
- Greenhouse effect
- Causes of climate change-use specific examples and facts and sources you got the facts from.
- Effects of climate change-use specific examples and facts obtained on your own from web sites suggested or other sources and list the sources as well in the table.
- What are some transition words you could use in your writing to go from a cause to an effect? List them below the table.
- What are some transition words you could use in your writing to explain your statements with examples and proof? List them below the table.
- Complete the outline below and have teacher approve it before writing your essay. -

Outline for Cause and Effect Essay

Thesis statement:

Paragraph 1-Introduction (interesting, attention getting, state what's coming, summarize but don't explain)

Paragraph 2-Photosynthesis and Respiration-natural balance

Paragraph 3-Causes of Climate change

Paragraph 4-Effects of Climate Change

Paragraph 5-Conclusion (restate in memorable way)

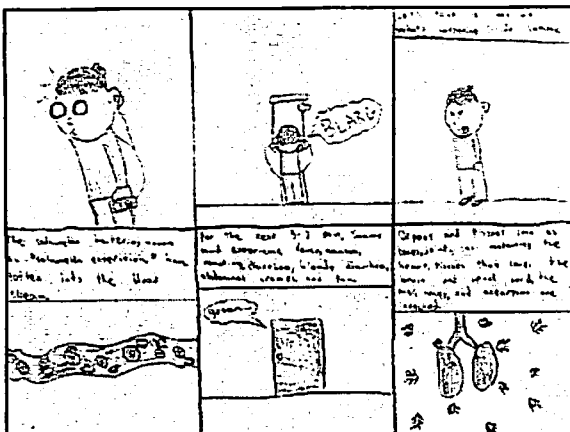
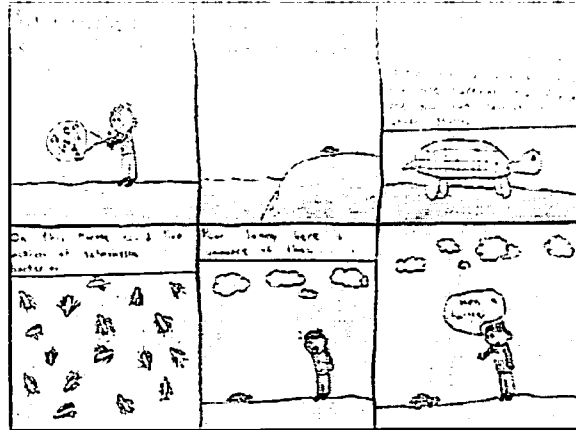
Sources used: list below. Don't forget Sources cited on a separate page!

Nontraditional Writing

Comic strips

Songs
or
poetry

Commercials



Marzano's 9

★ Identifying Similarities and Differences	★ Nonlinguistic Representations
★ Summarizing and Note Taking	★ Setting Objectives and Providing Feedback
★ Reinforcing Effort and Providing Recognition	★ Generating and Testing Hypotheses
★ Homework and Practice	★ Cues, Questions, and Advanced Organizers
★ Cooperative Learning	

Other tips....

Cell words

Rubrics

Modeling

Showing student work

<http://www.nsta.org/publications/osth/>

<http://www.superteacherworksheets.com/mc-comprehension.html>

http://www.thauidc.ccsd.k12.co.us/instructional_tools/Strategies/Strategies.html

<http://mx.hw.com>



NATIONAL
GEOGRAPHIC
.COM



By Daniel Glick

"If we don't have it, we don't need it," pronounces Daniel Fagre as we throw on our backpacks. We're armed with crampons, ice axes, rope, GPS receivers, and bear spray to ward off grizzlies, and we're trudging toward Sperry Glacier in Glacier National Park, Montana. I fall in step with Fagre and two other research scientists from the U.S. Geological Survey Global Change Research Program. They're doing what they've been doing for more than a decade: measuring how the park's glaciers are melting.

So far, the results have been positively chilling. When President Taft created Glacier National Park in 1910, it was home to an estimated 150 glaciers. Since then the number has decreased to fewer than 30, and most of those remaining have shrunk in area by two-thirds. Fagre predicts that within 30 years most if not all of the park's namesake glaciers will disappear.

"Things that normally happen in geologic time are happening during the span of a human lifetime," says Fagre. "It's like watching the Statue of Liberty melt."

Scientists who assess the planet's health see indisputable evidence that Earth has been getting warmer, in some cases rapidly. Most believe that human activity, in particular the burning of fossil fuels and the resulting buildup of greenhouse gases in the atmosphere, have influenced this warming trend. In the past decade scientists have documented record-high average annual surface

temperatures and have been observing other signs of change all over the planet: in the distribution of ice, and in the salinity (salt concentrations), levels, and temperatures of the oceans.

When temperatures rise and ice melts, more water flows to the seas from glaciers and ice caps, and ocean water warms and expands in volume. This combination of effects has played the major role in raising average global sea level between four and eight inches (10 and 20 centimeters) in the past hundred years, according to the Intergovernmental Panel on Climate Change (IPCC).

Scientists point out that sea levels have risen and fallen substantially over Earth's 4.6-billion-year history. But the recent rate of global sea level rise has departed from the average rate of the past two to three thousand years and is rising more rapidly—about one-tenth of an inch (about one-fourth of a centimeter) a year. A continuation or acceleration of that trend has the potential to cause striking changes in the world's coastlines.

In the late 1950s a researcher named Charles Keeling began measuring CO₂ in the atmosphere above Hawaii's 13,679-foot (4,169 meter) Mauna Loa. The first thing that caught Keeling's eye was how CO₂ level rose and fell seasonally. That made sense since, during spring and summer, plants take in CO₂ during photosynthesis and produce oxygen in the atmosphere. In the fall and winter, when plants decay, they release greater quantities of CO₂ through respiration and decay. Keeling's cycling seasonal changes in CO₂ became famous as a visual representation of the Earth "breathing."

Something else about the way the Earth was breathing attracted Keeling's attention. He watched as the CO₂ level not only fluctuated seasonally, but also rose year after year. The carbon dioxide level has climbed from about 315 parts per million (ppm) from Keeling's first readings in 1958 to more than 375 ppm today. A primary source for this rise is indisputable: humans' excessive burning of carbon-laden fossil fuels for their factories, homes, and cars.

Exactly how large that effect might be on the planet's health and respiratory system will continue to be a subject of great scientific and political debate—especially if the lines on the graph continue their upward trend.

There are no words, though, to describe how much, and how fast, the ice is changing. Researchers long ago predicted that the most visible impacts from a globally warmer world would occur first at high latitudes: rising air and sea temperatures, earlier snowmelt, later ice freeze-up, reductions in sea ice, thawing permafrost, more erosion, and increases in storm intensity. Now all those impacts have been documented in Alaska.

Before leaving the Arctic, I drive to Point Barrow alone. There, at the tip of Alaska, roughly made hunting shacks dot the land. Next to one shack someone has planted three eight-foot (two-meter) sticks of white driftwood in the sand, then crisscrossed their tops with whale baleen, a horny substance that whales of the same name use to filter life-sustaining plankton out of seawater. The baleen, curiously, looks like palm fronds.

So there, on the North Slope of Alaska, stand three makeshift palm trees. Perhaps they are no more than an elaborate Eskimo joke, but these Arctic palms seem a clear metaphor for the Earth's future.