

## Integrating Common Core to Science

IPhone apps make it easy – Common Core app and NGSS app.

Common Core – Science and Technical Subjects

- **Reading Science and Technical Subjects Writing (RST)**
- For example:
  - Cite specific textual evidence
  - Determine central idea or conclusions of text
  - Follow a complex multistep procedure
  - There's more.....
- **Writing History and Science (WHST)**
- For Example:
  - Write arguments focused on discipline-specific content
  - Write informative / explanatory text
    - Scientific procedures experiments of technical processes
  - Produce clear and coherent writing
    - Development
    - Organization
    - Style
  - There's more...

How I do it with my 9<sup>th</sup> graders:

### Text marking

- I pass out copies of the articles or text to read
- They can circle, highlight or underline key words or phrases
- You must model at first and train the students until they get a hang of it.
- I teach them in small steps (single paragraphs) at a time
- I repeat this at least once per each unit at least

### Article summary

- Pass out a class set of the article – I front load this at the beginning of each unit
- You can do sections in the text book as well
- The article does not tell about the topic learning for example “volcanoes” it is about something specific “using X-rays to map and monitor super volcano magma chambers”
- There are usually 5-6 paragraphs on the article (sometimes I cut out unimportant information)
- For each paragraph student read and pick out 2-4 key terms (you must model this)
- Then for each paragraph they write a one sentence statement that summarizes what is discussed in that paragraph. (again you must model this a few times)
  - Hint: I encourage student to use a key term or two in their sentence.

### Article Review

- This can be combined with the article summary after they get the hang of the procedure or can be done separately
- Students write a paragraph to answer each theses question – COMPLETE SENTENCES!
  - What was the article about?
  - What was something new you learned?
  - Did you like the article or not and why?

- Would you recommend this article to another person?

### **Writing a proper scientific response**

There are three stages that I thought this to my students

Stage #1 – “Claim”

- A one sentence response
- Answering in a complete sentence couching the answer and capital letter in beginning, period at the end.

Stage #2 “Claim and Concrete Evidence”

- A two sentence response
- Claim is your statement of what the answer is
- Concrete evidence is chose from the text, or experiment that will support your claim you made.

Stage #3 “Claim, Concrete Evince and Comminatory (reasoning)

- A three sentence response
- Claim is your statement of what the answer is
- Concrete evidence is chose from the text, or experiment that will support your claim you made.
- A commentary or reasoning of why the concrete evidence that you stated backs up your claim – what is the significance of your evidence in regards to the claim?

Stage #4 Proper Scientific Paragraph responses

- Up to 6 sentences
1. Intro to topic – can be the form of a question and must intro duce what the topic is that you are addressing in your answer.
  2. Claim
  3. Concrete Evidence #1
  4. Concrete Evidence #2
  5. Commentary
  6. Conclusion – wraps up your thoughts and draws a conclusion to your claim and answer.

### **Labs and Activities**

- I give them a task and the tools but have them work in groups to come up with their own specific procedures. These procedures must be checked off by the teacher (pre-lab).

### **Assessments**

- All quizzes are approximately 10-15 m/c and 2-3 short answers which they must use stage #3 response.
- All chapter tests are 30 m/c and 1 or 2 stage #4 paragraph responses (a lot of times I may allow use of the textbook for them to find evidence (paragraph only). The m/c shows me they understand the content, the paragraph answer shows me they know the Common Core component.

## Scientific Article Summary Instructions

1. For each paragraph write 2-4 key terms from the reading.
2. For Each Paragraph write a one-sentence summary.
3. For the full Article Review write a short paragraph including the following
  - What did you personally think about the article?
  - What is something new that you learned?
  - Would you recommend this article to a friend?
  - Did this article change your mind; influence your practices or thoughts about the topic it covers?  
How?

FORMAT:

Name, Per
Article Title
P1 - Key Terms:
Summary:
P2 - Key Terms:
Summary:
P3 - Key Terms:
Summary:
Etc.... for each paragraph
Full Article Review:

# Writing a Scientific Paragraph

**Introduction** -State and define the topic of your paper.

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**Claim** - State your claim or argument (answer to the question).

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**Concrete Evidence #1**- State evidence which supports your claim.

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**Concrete Evidence #2**- State evidence which supports your claim.

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**Commentary** - How does this evidence support your claim or what is the significance of the evidence you stated above? \_\_\_\_\_

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**Conclusion** - This should wrap up your thoughts. Restate your argument and conclude your recommendation.

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### **Writing a Scientific Paragraph**

**Introduction sentence:** Must state clearly what the topic is about, can be started in the form of a question.

**State your claim or argument :** should advance your argument of claim clearly and logically.

**Concrete detail:** evidence #1 to support your claim cite specific evidence from the scientific text supplied that support or backs up your claim you stated above.

**Concrete Detail:** evidence #2 to support your claim cite specific evidence from the scientific text supplied that support or backs up your claim you stated above.

**Comintary :** Explains why the evidence is significant or important in supporting your claim.

**Conclusion sentence to wrap up your thoughts:** A statement to wrap up your thoughts, could be a restatement of argument or claim and include your recommendations.

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# Scientific Writing Rubric

## **Stage #1**

### **One Sentence Claim**

	Present	Not Present
Starts with a capital	1	0
Ends with punctuation	1	0
Complete sentence	1	0
Answers the question	1	0

Total

## **Stage #2**

### **Two Sentences**

	Present	Not Present
Starts with a capital	1	0
Ends with punctuation	1	0
Complete sentences	1	0
Claim answers the question	1	0
Evidence supports claim	1	0

Total

## **Stage #3**

### **Three Sentences**

	Present	Not Present
Starts with a capital	1	0
Ends with punctuation	1	0
Complete sentences	1	0
Claim answers the question	1	0
Evidence supports claim	1	0
Commentary explains evidence significance	1	0

Total

## **Stage #4**

### **Six Sentences**

	Present	Not Present
Starts with a capital	1	0
Ends with punctuation	1	0
Complete sentences	1	0
Introduction sentence shows topic	1	0
Claim answers the question	1	0
Evidence #1 supports claim	1	0
Evidence #2 supports claim	1	0
Commentary explains evidence significance	1	0
Conclusion sums up findings	1	0
Answer has good flow and makes sense	1	0

Total