

CONSIDERATIONS FOR TEACHING AND LEARNING IN SCIENCE

Developing an Understanding of Scientific Concepts

- Teaching the idea of major concepts allows students to connect scientific facts to larger ideas, scientific principles, and other disciplines.
- The National Science and Education Standards includes these concept:(a) systems , order, and organization; (b)evidence, models, and explanations; (c) constancy, change, and explanation; (d) evolution and equilibrium, and (e) form and function.

Developing Scientific Inquiry Skills in Collaborative Setting

- Students must:
- think like a scientist
- engage in scientific processes of questioning, experimentation, problem solving, solution finding, reflection, retesting, and documentation
- be able to work collaboratively in a research team

Developing a Knowledge Base in Science Area

- Students must:
- have the opportunity to learn significant content in science areas
- get equal exposure to content in biological, physical, and geological sciences
- have good teachers with a good science background to provide in depth content knowledge

Developing Investigations of Real Problems

- Use a problem-based curriculum to engage learners in real problems solving in school that will parallel life long learning for adulthood
- Problem-based curriculum can be easily incorporated with government and economics
- Students are given are given a problem to solve where they assume the role of a scientist. Distractions are given throughout the process and they must react.
- Complete a "Need to Know Board" to analyze the situation outline what is known, what needs to be known, and how they will find solutions.

Developing Scientific Habits of Mind

- Teachers must cultivate a strong curiosity, creativity, objectivity, openness to new ideas, skepticism, and tolerance for ambiguity in students
- High ability learners require access to a more sophisticated curriculum at earlier stages of learning.

SCAMPER

Increase ideas for creative thinking

- S Substitute** To have one act or serve in place of another. Who else? What else? Other place or time?
- C Combine** To bring together. Combine what? Bring who together? Combine purposes? Ideas? Materials?
- A Adapt** To adjust for the purpose of suiting a condition. Re-shape? Tune-up? Tone down? Accomadate? Agree?
- M Modify** To alter, change form or quality. Other color? Sound? Motion? Form? Size? Shape? Taste? Odor?
- Magnify** To enlarge, make greater in form or quality. Add what to make higher? Stronger? Thicker? Longer?
- Minify** To make less or minimize. Make what smaller? Lighter? Slower? Less frequent? Shrink? Reduce?
- P Put to Other Uses** Use for purpose other than originally intended. New uses as is? Other places to use? Use when? How?
- E Eliminate** To remove, omit, or get rid of a quality. What to cut out? Remove? Simplify?
- R Reverse** To place opposite or contrary. Turn what around? Upside down? Inside out? 180° flip?
- Rearrange** Change order or sequence. Other pattern? Layout? Plan? Scheme? Re-group? Re-distribute?

Adapted from Applied Imagination, Alex F. Osborne, Scribner's Sons, 1953.

SCAMPER- BRAINTEASER
NUMBERS

Generalization
Discovery follows problem solving.

CH0#3

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

- S** – Substitute
What other cultures use numbers to express ideas?
In what ways are these numbers used?
- C** – Combine
How could you combine the concept of numbers
with something else to make it different or use it in
a different way?
- A** – Adapt
What else is like a number? How are numbers
adjusted for different purposes or conditions?
- M**- Modify
Magnify
Minify
Why is the quality of expression necessary in a
number?
- P**- Put to other uses
What other uses would the number have such as in
music or language? How would these uses change
its expression or image?
- E** – Eliminate
What characteristics or traits can you remove from a
number to make it only concrete in meaning?
- R** – Rearrange or Reverse
How can a number be changed to reflect different
values?

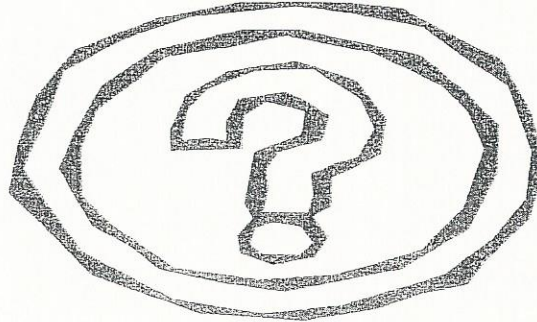
SCAMPER- BRAINTEASER

SIGNS

Generalization

Discovery happens to prepared minds.

(Ho #4)



- S - Substitute What other things are signs used for?
- C- Combine How could you combine a sign with something else to make it different or use it in a different way?
- A- Adapt What else is like a sign? How are signs adjusted for different purposes or conditions?
- M- Modify, Minify, Magnify What other uses would a sign have if it has words? How might words limit its meaning?
- P- Put to other uses How might color or image change the sign into different roles?
- E- Eliminate What could you take away from a sign to make it simpler to understand in other cultures?
- R- Rearrange or reverse How could a sign change in meaning if words or images were rearranged or reversed?

Structure of the Hilda Taba Teaching Strategies

Strategy

STEPS IN THE PROCESS

Concept Development

Interpretation of Data

Behavioral Objectives	a. Enumerate data relevant to the given focus.	a. Group items by common attributes or other relationships. b. Identify commonality or relationship on which grouping is based.	a. Suggest appropriate labels for grouped items. b. State reasons for thinking suggested labels are or are not appropriate.	a. Subsume items under other labels, labels under more inclusive labels b. State reasons for thinking items and labels belong under other labels.	a. Suggest different ways of grouping, labeling, or subsuming items based on other relationships. b. State reasons for other grouping, subsuming, labeling
Eliciting Questions (general)	a. What did you see? hear? Read? What do you notice about ___?	a. Which of these do you think belong together? b. Why do you think ___ and ___ go together?	a. What would be a good name for this group? b. Why do you think ___ would be an appropriate label?	a. Which of these items now under one label would also belong under one of these other labels? Which of these labels belongs under one of the other labels? b. Why do you think ___ belongs under ___?	a. Which of these items belong together based on entirely different reasons? b. Why do you think ___ and ___ belong together?
Behavioral Objectives	a. Enumerate data relevant to a given focus.	a. State inferred causes and effects of the data. b. Explain or cite evidence to support inferences.	a. State inferred prior causes or subsequent effects of previously made and supported inferences. b. Explain or cite evidence to support inferences.	a. State conclusions based on supported inferences. b. Explain or cite support for conclusions.	a. State generalizations about similar data from situations based on conclusions about sample data or situations b. Explain or cite support generalizations.
Eliciting Questions (general)	a. What did you read? What do you recall about ___? b. What differences do you notice?	a. What do you think are some causes of ___? What do you think have been some effects of ___? b. Why do you think ___ caused ___?	a. What do you think have been some causes of ___? What do you think have been some results of ___? b. Why do you think ___ has happened as a result of ___?	a. From what we've said, what would you conclude about ___? b. What from our discussion made you decide that?	a. From what you've read about ___, what could you say generally also applies to situations like ___? b. Why would you say that?

<p>Application of Generalizations</p>	<p>Behavioral Objectives</p>	<p>a. State predictions about possible consequences of a proposed situation. b. State reasons for thinking predictions might come about.</p>	<p>a. State prior and attendant conditions necessary for predictions to come about. b. State reasons for thinking conditions given would not be necessary.</p>	<p>a. State possible consequences of supported predictions. b. State reasons for possible consequences (Recycle Step 2 conditions and reasons)</p>	<p>a. State conclusions as to the long range consequences of the proposed situation. b. Explain or cite support for conclusions.</p>	<p>a. Reaffirm, modify, reject generalizations based on conditions about the proposed situation. b. Explain or cite support for ideas</p>
<p>Interpretation of Feelings, Attitudes, and Values</p>	<p>Behavioral Objectives</p>	<p>a. Enumerate specific data related to a sample conflict situation.</p>	<p>a. State inferences concerning the reasons for actions of the people involved in situation. b. State inferences concerning the feelings of people involved in the situation. c. Give reasons for inferences about actions and feelings.</p>	<p>a. State alternative solutions for dealing with the situation. b. Suggest possible reactions of other people to each solution. c. Cite reasons for inferences about reactions of people.</p>	<p>a. State what should be done in dealing with the situation. b. Give reasons for concluding that solution is best. c. Suggest long range consequences of selected solution. d. Provide reasons for consequences suggested.</p>	<p>a. In the light of what you have concluded about _____, what changes, if any, would you make in this statement? b. What led you to say that?</p>
<p>Eliciting Questions (General)</p>	<p>a. What did you read?, see?, hear?</p>	<p>a. Why do you think _____ acted the way he did? b. How do you think _____ was feeling in this situation? c. What are some reasons you think _____ was feeling that way?</p>	<p>a. What are some things that _____ could do? b. How do you think (2),(3) would react if (1) did that? c. Why do you think (2),(3) would react in that way?</p>	<p>a. What do you think (1) should do? b. Why do you think _____ is the best solution? c. What do you think would be the consequences of _____? d. What reasons do you have for predicting that would result?</p>		

Interpretation
of
feelings,
attitudes,
and
values

Behavioral Objectives	<p>a. Describe a situation similar to that discussed in the sample conflict situation.</p> <p>b. Describe action taken.</p>	<p>a. State feelings of people involved in similar situation.</p> <p>b. Give reasons for statements about feelings.</p>	<p>a. State reasons for action taken.</p> <p>b. State judgment as to effectiveness of action taken.</p> <p>c. Cite reasons for judgment of this action.</p>	<p>a. Suggest alternative actions that could have been taken.</p> <p>b. Suggest consequences of alternative actions.</p> <p>c. Provide reasons for inferred consequences.</p>	<p>a. Make general statements about the ways people deal with type of situation discussed.</p> <p>b. Cite evidence of reasons to support statements.</p>
Eliciting Questions (general)	<p>a. What other situations like this do you know about in which (describe key elements in sample conflict situation?)</p> <p>b. What did you do about it?</p>	<p>a. How did you feel? How do you think (2) (3) feel?</p> <p>b. Why do you think you, (2) (3) feel that way?</p>	<p>a. What were your reasons for doing ____?</p> <p>b. How effective do you think your action was?</p> <p>c. Why do you think your action was ____?</p>	<p>a. How could you have handled the situation differently?</p> <p>b. What do you think would have been the consequences of your ____?</p> <p>c. Why do you think ____ would have happened?</p>	<p>a. From all that we have discussed, what could you say generally about ____?</p> <p>b. What influenced you to make that statement?</p>

Focus Panel Discussion Questions Alternative Energy Sources

Situation: You are part of the Committee on the use of energy sources. The problem is that the United States is facing the issues about the dependence of fossil fuels or oil.

You will state predictions about possible consequences of a proposed situation.

- What do you think would happen if this dependence continues?
- Why do you think this would happen?

You will state reasons for thinking conditions given can be avoided or changed.

- What else would have to be true in order for effects to happen?
- Why do you think providing different choices for energy sources would be necessary?

You will state possible consequences of proposed predictions.

- If all you suggested were true and ___ did happen, what do you think would happen as a result of that?

You will state conclusions/generalizations to the long- range solutions to the proposed situation.

- From what we've been saying, what have you decided will probably eventually happen if ____? Why?

Grade Level: 9th

Time: 1- 90 minute block

Subject Area: Biology

Theme: Discovery

Topic: Development of Geologic Timeline

TEKS: 1A-B;2A-D;3A-F;12A-E

Generalization: Discovery unlocks possibilities.

Objectives:

1. Students will investigate the effects of geologic change on life diversity.
2. Students will debate the validity of fossils as a measurement of geologic time.
3. Students will generalize how continent drift could be used to explain the concept of geologic time.

Students will develop a T-chart in which the possible causes, effects, and evidence of life diversity are explored and generalized using the geologic timeline.

Focus Question:

Based on what we have learned, in what ways can upheavals affect the diversity of life in the geologic timeline?

1. Students will list what they know or have read about the geologic timeline.
 - A. Looking at your timeline, make a list of the most important geologic events.
 - B. Each geologic event has affected the Earth, in what ways was life changed?
 - C. How are the changes evidenced in the geologic record?
2. Students will state inferences about the changes to life as well as give supporting evidences for inferences.
 - D. What are some factors contributing to these changes?
 - E. How did these factors affect life diversity in North America?
 - F. In what ways are the changes similar and different in other parts of the world?
 - G. What have been some of the consequences of geologic upheavals on the earth?
3. Students will state inferences about prior causes of selected causes in Step Two as well as cite examples to support inferences.
 - H. Why do you think natural selection, adaptation, and evolution became necessary for survival of a species?
 - I. Give examples in which this development is evidenced in the timeline.
4. Students will state conclusions about the causes for changes in life with supporting evidence.
 - J. Thinking back to our focus question, what would you say about the need of diversity meeting the basic need for survival?
 - K. Why do you think extinction is an important result in the diversity of life?

LESSONS

- L. How could the evolution of a trait within one species affect the evolution of a trait within another species? (Ho #5)
- M. Is natural selection a cause or effect of organic evolution?

5. Students will generalize about the causes for the ways in which organisms adapt for survival.

- N. What would you say generally about the causes that affect an organism's survival?
- O. Why do you think the characteristics of organisms and their environment determine the ways in which evolution meets this basic need?

Closure: (Krathwohl- Responding)

Considering the dramatic changes man is making to the environment, can man make the necessary adaptation for survival? How does this opinion make you feel? Is the value of life lessened in our society by his actions?

You use this as a guide for answering and evaluating the concept of life. Please place your response in your notebook.

1. List the data

List five things that are important to maintaining your quality of life. Combine these items with your group to produce a list. Place your list on the board for the class.

2. Group and categorize data

1. Which items could you put together that are living or non-living?
2. What are some completely different ways these items can be put together?

Place items into a t-chart for living or non-living.

3. Label and identify relationships

Using the t-chart, you will produce a criteria for classification. List your responses on the board.

1. What are some factor that contribute to the grouping of these items?
2. Why do you think that these items go together?

4. Infer, generalize, synthesize

Using the responses given, you will develop main headings or divisions for the responses. These headings will be compared to the headings in the biology textbook on pages _____. Based on these findings, you will produce a generalization about life in your groups.

1. Looking at the criteria found in text, in what ways it is similar as well as different from the developed class criteria? How can both criteria be improved?
2. How would you conclude your findings or data in one general statement?

5. State the concept/generalization

Defend your reasoning as to whether a virus is living or non-living. Scientists have classified viruses as non-living.

1. Looking at the cycle of a virus, is this opinion or inference justified based on your findings or does the scientific viewpoint of life missing some details?
2. Does the criteria for life justifies as a definition or definition? State at least three reasons for your position.

You will analyze and evaluate the movement of molecules in a cell.

LIST THE DATA

- List five things that move in nature and our society.
- Combine these items with your group to produce a list.
- Place your list on the board for the class.
- Reduce all group lists to a class list.

GROUP AND CATEGORIZE DATA

- Using the textbook and dictionary, we as a class will define the words, active and passive.
- Using these responses, you classify your objects' movements as active or passive.

LABEL AND IDENTIFY RELATIONSHIPS

- What are some factors that contribute to the grouping of these items?

INFER, GENERALIZE, SYNTHESIZE

- Looking at the definitions for active and passive transport, in what ways does it relate to your grouping of items?

STATE THE CONCEPT/GENERALIZATION

SCIENTISTS HAVE CLASSIFIED THE PLASMA MEMBRANE AS USING ACTIVE TRANSPORT. LOOKING AT ITS FUNCTION, IS THIS A VALID PERCEPTION? STATE AT LEAST THREE REASONS FOR YOUR POSITION.

Name _____ Date _____

The Impact of Science Through Literature Timeline

This project involves the influence of science fiction on society. You will create a book report and display on a science fiction novel.

Part One: Choose a science fiction novel and find at least 3 resources about the author in question. Due on _____

Brown, L. (1984). Name of the chapter or article. Name of the magazine or book. pgs. 1-10 3rd ed.

Part Two: Read your sources and make index cards on the author's life.

Total: 15 index cards Find the following information:

- A. Family History: Where they were born, during what years did they live, what was happening in their world during the time period they lived, and educational background
- B. Events that influenced his or her literacy career
- C. Important achievements
- D. Name at least one other major work

Due on _____

Part Three: Read at least the first half of the book. Create an event sequence web. Due on _____

Part Four: Read the last half of your novel. Finish your event sequence web.

Write a rough summary of the book with proofreading checklist attached.

This summary must be double-spaced, neatly written, and at least 5-6 pages long. Discuss briefly the following parts.

1. introduction
2. rising action
3. climax
4. falling action
5. ending or resolution

Due on _____

Part Five: Write your second rough draft of your summary with proofreading checklist attached. This rough draft must be double-spaced, neatly written, and at least 5-6 pages long. Due on _____

Part Six: State your honest opinion of the book, giving four reasons for liking or disliking it. Please do not use the pronoun, I. Discuss briefly at least three of the following points: Characterization, setting, tone and

atmosphere, plot, conflict, and author's style and purpose. This opinion must be double-spaced, neatly written, and at least 3-4 pages long with proofreading checklist. Due on _____

Part Seven: Looking at the book as a whole, state topic or topics involved that the author used to write the science fiction novel. Give at least four reasons why the events in the book could or could not happen in the future. This opinion must be double-spaced, neatly written, and at least 3-4 pages long with proofreading checklist. Due on _____

Part Eight: Type your final draft with scorecard attached. This draft will include your novel summary, opinion, and science topic. This draft must be in font 12, Times New Roman, double-spaced, and at least 5-8 pages long. Due on _____

Part Nine: Design a display board for your novel. This display must show neatness, accuracy, detail, and creativity. Also, the display must include author history, plot summary, personal opinion, and topics in science. Due on _____

Part Ten: Prepare 5-minute oral presentation of your information to be presented in class on _____.

Checklist for Proofreading

Directions: Check your paper carefully against each of the following points. When you have checked through your entire paper for that item, place a check mark in the blank before it.

- ___ 1. The paper is neat.
- ___ 2. Each sentence begins with a capital letter.
- ___ 3. Each sentence ends with a period, question mark, or exclamation point.
- ___ 4. Each sentence is complete. Each has a subject and a predicate and expresses a complete thought.
- ___ 5. Complete sentences are separated by an end mark of punctuation or by a comma and a conjunction.
- ___ 6. A singular verb is used with each singular subject and a plural verb with each plural subject.
- ___ 7. Nominative case of pronouns is used for subject; objective case of pronouns is used for objects.
- ___ 8. Singular pronouns are used to refer to singular nouns, and plural pronouns are used to refer to plural nouns.
- ___ 9. Each word is spelled correctly.
- ___ 10. Frequently confused verbs, such as *lie/lay*, *sit/sat* and *rise/raise* are used correctly.
- ___ 11. Frequently confused words, such as *all ready/already*, *farther/further*, and *fewer/less* are used correctly.
- ___ 12. Double negatives are avoided.
- ___ 13. All proper nouns and proper adjectives are capitalized.
- ___ 14. Word endings such as *-s*, *-ing*, and *-ed* are included where they should be.
- ___ 15. No words have accidentally been left out.
- ___ 16. No words have accidentally been written twice.
- ___ 17. Each paragraph is indented.
- ___ 18. Apostrophes are used correctly on contractions and possessive nouns.
- ___ 19. Dialogue is punctuated and capitalized correctly.
- ___ 20. Any correction that could not be rewritten or retyped is crossed out with a single line.

(Ho #6)

Composition Evaluation Form

Objectives	Level of Mastery		
	High	Average	Low
1. The topic is limited enough for development in an essay.			
2. The composition is well-developed. Interesting or informative details are used. Tone is consistent.			
3. The purpose of the paper is clearly stated in the thesis.			
4. The introduction identifies the composition topic and arouses the reader's interest.			
5. Each paragraph in the body of the composition develops the topic of the composition.			
6. The writing is well organized; the paragraphs in the body follow a logical order.			
7. Each paragraph has a clear topic sentence or topic and restriction sentences.			
8. All the illustration sentences in each paragraph relate to the paragraph's central idea.			
9. The writer uses transition words or repeated phrases to make the composition coherent.			
10. The conclusion of the composition brings the paper to a close, restates the paper's central idea, and keeps the reader's interest.			
Comments:			

Ho #7

The Entire List

- | | | |
|---|---|--|
| 1. The Lord of the Rings | 35. A Canticle for Leibowitz | 69. The Farseer trilogy |
| 2. The Hitchhiker's Guide to the Galaxy | 36. The Time Machine | 70. The Time Traveler's Wife |
| 3. Ender's Game | 37. Twenty Thousand Leagues Under the Sea | 71. The Way of Kings |
| 4. Dune | 38. Flowers for Algernon | 72. A Journey To The Center Of The Earth |
| 5. A Game of Thrones | 39. The War of the Worlds | 73. The Legend of Drizzt series |
| 6. 1984 | 40. Amber Chronicles | 74. Old Man's War series |
| 7. Fahrenheit 451 | 41. The Belgariad | 75. The Diamond Age |
| 8. Foundation trilogy | 42. The Mists of Avalon | 76. Rendezvous With Rama |
| 9. Brave New World | 43. Mistborn trilogy | 77. Kushiel's Dart trilogy |
| 10. American Gods | 44. Ringworld | 78. The Dispossessed |
| 11. The Princess Bride | 45. The Left Hand of Darkness | 79. Something Wicked This Way Comes |
| 12. The Wheel of Time | 46. The Silmarillion | 80. Wicked: The Life and Times of the Wicked Witch of the West |
| 13. Animal Farm | 47. The Once and Future King | 81. The Malazan Book Of The Fallen series |

HO #7

- | | | |
|--|---|-----------------------------|
| 14. Neuromancer | 48. Nowhere | 82. The Eyre Affair |
| 15. Watchmen | 49. Childhood's End | 83. The Culture series |
| 16. I, Robot | 50. Contact | 84. The Crystal Cave |
| 17. Stranger in a Strange Land | 51. Hyperion | 85. Anathem |
| 18. The Name of the Wind (Kingkiller Chronicles) | 52. Stardust | 86. The Codex Alera |
| 19. Slaughterhouse-Five | 53. Cryptonomicon | 87. The Book of the New Sun |
| 20. Frankenstein | 54. World War Z: An Oral History of the Zombie War | 88. The Thrawn trilogy |
| 21. Do Androids Dream of Electric Sheep? | 55. The Last Unicorn | 89. Outlander series |
| 22. The Handmaid's Tale | 56. The Forever War | 90. The Elric saga |
| 23. The Dark Tower | 57. Small Gods | 91. The Illustrated Man |
| 24. 2001: A Space Odyssey | 58. The Chronicles of Thomas Covenant, the Unbeliever | 92. Sunshine |
| 25. The Stand | 59. The Vorkosigan Saga | 93. A Fire Upon the Deep |
| 26. Snow Crash | 60. Going Postal | 94. The Caves of Steel |
| 27. The Martian Chronicles | 61. The Mote in God's Eye | 95. The Mars trilogy |
| 28. Cat's Cradle | 62. The Sword of Truth | 96. Lucifer's Hammer |
| 29. The Sandman series | 63. The Road | 97. Doomsday Book |

(Ho #7)

30. A Clockwork Orange

64. Jonathan Strange and Mr Norrell

98. Perdido Street Station

31. Starship Troopers

65. I Am Legend

99. The Xanth series

32. Watership Down

66. The Riftwar Saga

100. The Space trilogy

33. Dragonflight (Pern)

67. The Sword of Shannara Trilogy

34. The Moon is a Harsh Mistress

68. Conan the Barbarian



Text Complexity: Qualitative Measures Rubric LITERARY TEXT

Text Title _____

Text Author _____

QUALITATIVE **Very Complex** ← **Slightly Complex**

MEANING	Very Complex	Slightly Complex
<input type="radio"/> Meaning: Several levels/layers and competing elements of meaning that are difficult to identify, separate, and interpret; theme is implicit or subtle, often ambiguous and revealed over the entirety of the text	<input type="radio"/> Meaning: Several levels/layers of meaning that may be difficult to identify or separate; theme is implicit or subtle and may be revealed over the entirety of the text	<input type="radio"/> Meaning: More than one level/layer of meaning with levels clearly distinguished from each other; theme is clear but may be conveyed with some subtlety
<input type="radio"/> Meaning: Several level/layer of meaning; theme is obvious and revealed early in the text.		

TEXT STRUCTURE	Very Complex	Slightly Complex
<input type="radio"/> Narration: Complex and/or unconventional; many shifts in point of view and/or perspective	<input type="radio"/> Narration: Some complexities and/or unconventional; occasional shifts in point of view and/or perspective	<input type="radio"/> Narration: Largely simple and/or conventional; few, if any, shifts in point of view and/or perspective
<input type="radio"/> Narration: Simple and conventional; no shifts in point of view or perspective		
<input type="radio"/> Order of Events: Not in chronological order; heavy use of flashback	<input type="radio"/> Order of Events: Several major shifts in time; use of flashback	<input type="radio"/> Order of Events: Occasional use of flashback; no major shifts in time
<input type="radio"/> Order of Events: Strictly chronological		
<input type="radio"/> Use of Graphics: If used, minimal illustrations that support the text	<input type="radio"/> Use of Graphics: If used, a few illustrations that support the text	<input type="radio"/> Use of Graphics: If used, extensive illustrations that directly support and assist in interpreting the written text

LANGUAGE FEATURES	Very Complex	Slightly Complex
<input type="radio"/> Conventionality: Dense and complex; contains abstract, ironic, and/or figurative language	<input type="radio"/> Conventionality: Complex; contains some abstract, ironic, and/or figurative language	<input type="radio"/> Conventionality: Largely explicit and easy to understand with some occasions for more complex meaning
<input type="radio"/> Conventionality: Explicit, literal, straightforward, easy to understand		
<input type="radio"/> Vocabulary: Generally unfamiliar, archaic, subject-specific, or overly academic language; may be ambiguous or purposefully misleading	<input type="radio"/> Vocabulary: Some use of unfamiliar, archaic, subject-specific, or overly academic language	<input type="radio"/> Vocabulary: Mostly contemporary, familiar, conversational language; rarely unfamiliar or overly academic language
<input type="radio"/> Vocabulary: Contemporary, familiar, conversational language		
<input type="radio"/> Sentence Structure: Mainly complex sentences often containing multiple concepts	<input type="radio"/> Sentence Structure: Many complex sentences with several subordinate phrases or clauses and transition words	<input type="radio"/> Sentence Structure: Simple and compound sentences, with some more complex constructions
<input type="radio"/> Sentence Structure: Mainly simple sentences		

KNOWLEDGE DEMANDS	Very Complex	Slightly Complex
<input type="radio"/> Life Experiences: Explores many complex and sophisticated themes; experiences are distinctly different from the common reader	<input type="radio"/> Life Experiences: Explores many themes of varying layers of complexity; experiences portrayed are uncommon to most readers	<input type="radio"/> Life Experiences: Explores a single theme; experiences portrayed are everyday and common to most readers
<input type="radio"/> Life Experiences: Explores a single theme; experiences portrayed are everyday and common to most readers		
<input type="radio"/> Intertextuality and Cultural Knowledge: Many references or allusions to other texts or cultural elements	<input type="radio"/> Intertextuality and Cultural Knowledge: Some references or allusions to other texts or cultural elements	<input type="radio"/> Intertextuality and Cultural Knowledge: Few references or allusions to other texts or cultural elements
<input type="radio"/> Intertextuality and Cultural Knowledge: No references or allusions to other texts or cultural elements		
<input type="radio"/> Subject Matter Knowledge: requires extensive, perhaps specialized prior content knowledge	<input type="radio"/> Subject Matter Knowledge: requires moderate amount of prior content knowledge	<input type="radio"/> Subject Matter Knowledge: requires only everyday content knowledge

(Ho #8)

Questions to Consider in Planning for Instructional Scaffolding of Literary Text:

Meaning:

- Would spending time helping students to understand the multiple layers/levels of meaning present in the text be appropriate?
- Will students know in advance what they are expected to do with the information they gain from reading this text (i.e., summarize, gather and apply details, analyze, synthesize, create)?

Text Structure:

- Would graphic organizers or other aids be appropriate in making the structure of the text visible to students?
- Would a partial plotline, cast of characters, or some other text-based aid be appropriate in deciphering the structure of the text?
- Would previewing and discussing the graphics included with the text prior to reading be appropriate?

Language Features:

- Would a review of figurative, abstract, or ironic language and a modeling of how that type of language might be interpreted be appropriate?
- Would glossing certain vocabulary (particularly multiple meaning words that extend across other subject matter content areas, i.e. Tier 2 words) prior to reading be appropriate?

Knowledge Demands:

- What background knowledge needs to be introduced (or re-introduced) to facilitate reading success that will not supplant the actual information gained from the reading experience?
- What explicit references and/or allusions to other texts might require additional resources/opportunities for students to explore?

General:

- In what ways might collaborative groupings of students during the reading process be appropriate?



Questions for Professional Reflection on Reader and Task Considerations

- Might the reader **develop an interest in this content** because of this text?
- Will the reader be **interested and engaged with the style of writing and the presentation of ideas** within this specific text?
- Will the text **maintain the reader's motivation and engagement** throughout the reading experience?

Prior Knowledge and Experience

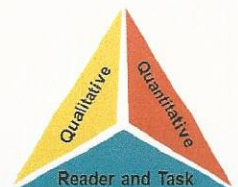
- Does the reader possess **adequate prior knowledge and/or experience regarding the topic** of this specific text to manage the material that is presented?
- Are there any **explicit connections** that can be made between what content the reader will encounter in this specific text and other learning that may occur in this or another class?
- Does the reader possess **adequate prior knowledge and/or experience regarding the vocabulary** used within this specific text to manage the material that is presented?
- Does the reader possess **adequate knowledge of and/or experience with the genre** of this specific text to manage the material that is presented?

Content and/or Theme Concerns

- Are there any **potentially concerning elements of content or theme** that might contribute to students, teachers, administrators, and/or parents feeling uncomfortable with reading this specific text?
- Does the reader possess the **maturity** to respond appropriately to any potentially concerning elements of content or theme?

Complexity of Associated Tasks

- Will the **complexity of any before-, during-, or after-reading tasks** associated with this specific text interfere with the reading experience?
- Will the **complexity of any questions asked or discussed** concerning this text interfere with the reading experience?



Questions for Professional Reflection on Reader and Task Considerations

Cognitive Capabilities

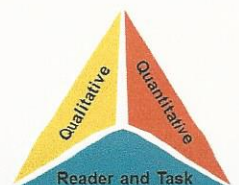
- Does the reader possess the necessary **attention** to read and comprehend this specific text?
- Will the reader be able to **remember and make connections** among the various details presented in this specific text?
- Does the reader possess the necessary **critical/analytic thinking skills** to understand the relationships between the main idea, purpose, and/or theme of the text and the various details used to support that main idea, purpose, and/or theme?
- Will this specific text help to develop the **attention, memory, and critical/analytic thinking skills** necessary for future reading endeavors?

Reading Skills

- Does the reader possess the necessary **inferencing skills** to “read between the lines” and make connections among elements that may not be explicit in this specific text?
- Does the reader possess the necessary **visualization skills** to imagine what is occurring or what is being described in this specific text?
- Does the reader possess the necessary **questioning skills** to challenge the ideas being presented in this text and consider those ideas from multiple points of view?
- Does the reader possess the necessary **comprehension strategies** to manage the material in this specific text?
- Will this specific text help to develop the **inferencing skills, visualization skills, questioning skills, and comprehension strategies** necessary for future reading endeavors?

Motivation and Engagement with Task and Text

- Will the reader **understand the purpose**—which might shift over the course of the reading experience—for reading this specific text (i.e., skimming, studying to retain content, close reading for analysis, etc.)?
- Will the reader be **interested in the content** of this specific text?



Reciprocal Teaching and Literature Circle Model- I DO

Predict

Preview the title, book cover, and a few illustrations or headings from inside the reading.

Sentence Stems

I think this is about ... because
I think ... will happen because ...

Question

- Ask a wonder question starting with "I wonder...?"
- Ask a quiz question: who, what, when, where, why, or how.
- Ask a thinking question that starts with "Why do you think...?"

They aren't important enough, somehow. I feel I could do something much more important. Yes, and more important, more violent. But what? What is there more important to say? And how can one be violent about the sort of things one's expected to write about? Words can be like X-rays, if you use them properly-they'll go through anything. You read and you're pierced. That's one of the things I try to teach my students- how to write piercingly

Taken from Brave New World

Clarify

- Identify a difficult word, sentence, or part.
- Use a fix-up strategy to find the meaning.
- Identify a place where you had to read twice to get a picture in your head.
- Is there a metaphor or figure of speech that you need to clarify?

Summarize

- Summarize this [paragraph, page, chapter].
 - What is this mainly about?
 - Is there a problem to be solved? If so, what?
 - Tell me the main idea. Use the topic sentence or heading to help you.

Reciprocal Teaching and Literature Circle Model- Group

Predict

Preview the title, book cover, and a few illustrations or headings from inside the reading.

Sentence Stems

I think this is about because
I think ... will happen because ...

Question

- Ask a wonder question starting with "I wonder...?"
- Ask a quiz question: who, what, when, where, why, or how.
- Ask a thinking question that starts with "Why do you think...?"

The new doctrines arose partly because of the accumulation of historical knowledge, and the growth of the historical knowledge, which had hardly existed before the nineteenth century. The cyclical movement of history was now intelligible, or appeared to be so; and if it was intelligible, then it was alterable.

Taken from 1984

Clarify

- Identify a difficult word, sentence, or part.
- Use a fix-up strategy to find the meaning.
- Identify a place where you had to read twice to get a picture in your head.
- Is there a metaphor or figure of speech that you need to clarify?

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