Using Fiction and Non-fiction Reading to Enhance Science Literacy

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Why present on this topic?

• Required last year to incorporate novels that correlate with my curriculum
• Required to focus more on ELA Core Curriculum Standards within my class
• Asked to turn in list of potential novels
• FREAKED OUT!!!!!
Science Literacy

• Scientific literacy is the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity.

• It also includes specific types of abilities.

• The content standards aim to define scientific literacy.
Focusing more on the ELA Core Curriculum, allows us to increase science literacy through the reading.

Within the ELA Core Curriculum, there is focus on Claim, Evidence, and Reasoning.

Students will see more of a correlation between the classes.
Integration of ELA within the Science Classroom to Enhance Science Literacy

• Talking to the Text

• News articles

• Novels/Books

• Writing essays
Talking to the Text
Talking to the Text – What is it?

• Similar to “Close Reading”
• Students put their thoughts on the paper, make notes, etc. while reading
• Symbols are to label thoughts, ideas, examples throughout the reading
• Students write as they read (on the text when possible)
Talking to the Text - Advantages

- Students are taking a more active role in their reading
- Helps to improve comprehension
- Improves the ability to think about the content and purpose of the text
- Forces the student to actually read the material, not just glance over in search of the easy answer
- **Underline** major points
- Circle key words or phrases that are **confusing** to you
- Use a **?** when you have questions during your reading
- Use an **!** when things surprise you or catch your attention
- Draw an **⇒** when you make a connection (briefly note)
- Write **EX** when the author provides an example
- Numerate arguments, important ideas, or key details (#) and restate them
- Be alert to the author’s purpose and character motives
Talking to the Text - Adaptations

• Can be adapted to fit your grade level needs:
  • For lower grades or poor readers, use the laminated half sheets with smiley faces
  • For higher grades, add symbols for additional notes and/or work in pairs to define unknown vocabulary and questions at completion

• Can be adapted when the students cannot write on the text:
  • Transparencies
  • Post-It’s
  • Journals
  • Create your own resource
Talking to the Text
Adaptation for lower grades or poor readers
Incorporating News Articles into your Science Curriculum
News Articles – Incorporation

• When I incorporate them?
  • Current Events
  • Link to any hands-on activity or lab activity
    • Incorporate part or all of the news articles into the lab packet
    • Assess the article, the lab data, and how they compare/are related within the conclusions section of lab
News Articles - Sources

- Newspapers
- Magazines
- Readworks — www.readworks.org
- Newsela — www.newsela.com
- Time online resources
  - Elementary school— www.timeforkids.com
  - Middle school— www.timeedge.com
  - High school — www.time.com
Readworks – www.readworks.org

• FREE subscription
• Reading passages, Paired reading passages, Question sets
• All grade/reading levels
• Print-only, not an online resource for students
• Best blend of content with the ELA core curriculum
Newsela – www.newsla.com

• FREE subscription
• News articles, adapted by the Newsela staff
• Text sets
• All grade/reading levels
• Resources available for printing or for online viewing with student login
• More ELA-centered
Time Edge – www.timeedge.com

• Free trial, then a subscription
• Time articles with discussion questions
• Time vault – archives of past Time magazines
• Can be printed, but not effectively
• Better use as online viewing
• Great “Printables” for use with most reading and/or writing assignments for any subject area
Incorporating Books and Novels into your Science Curriculum
Incorporating Novels/Books into the curriculum

• Design/Set-up Options
  • Paired with a Reading or ELA Class
  • Warrior Period
  • Reading as homework with in-class assessments
  • Enrichment activities
  • Summer reading project
  • Weekly session
Incorporating Novels/Books into the curriculum

- Assessments
  - Journal entries
  - Student presentations
  - Lab activities
  - Letter to the author
  - Debate
  - Test questions
Examples of books for
Elementary School Students
Novels/Books for Elementary School with an Earth and Space Science Theme

- Zane and the Hurricane: A story of Katrina by Rodman Philbrick (5)
- Lost in the Blizzard: The Towner Bus Tragedy by Alyce Mitchem Jenkins (4)
- Storms by Seymour Simon (3-5)
- Sharks by Seymour Simon (3-5)
- Extreme Weather by H. Michael Mogil and Barbara G.
  Levine (3-5)
- Volcano: The Eruption and Healing of Mount St. Helens by Patricia Lauber (4.5)
Examples of books for Middle School Students
Novels for Middle School with an Earth and Space Science Theme

- Fever 1793 by Laurie Halse Anderson (7.6) - Epidemics
- Hoot by Carl Hiaasen (5.8) – Habitat Destruction
- The Same Stuff as Stars by Katherine Paterson (6.4) – Space Technology/Stars
- Flush by Carl Hiaasen (5.8) – Ocean pollution
- Avalanche by Arthur Roth (5.6)
- Night of the Twisters by Ivy Ruckman (5.9) - Tornadoes
- Mission Control, This is Apollo by Andrew Chaikin and Alan Bean (5-7)
- The Wave by Susan Casey (7)
Examples of books for High School Students
Novels for High School with an Earth and Space Science Theme

- Into Thin Air by Jon Krakauer (10)
- The Storm of the Century by Al Roker (12.9) - Hurricanes
- Charles and Emma by Deborah Heiligman (8.6)
- Almost Astronauts: 13 Women who Dared to Dream by Tanya Lee Stone (8.3)
Questions???

• If you have any additional questions or comments, please email me at khunter@bbsd.org

• A copy of my PowerPoint will be available on the PAESTA website, www.paesta.org