Discussion of texts for the Process of Science

Underlying question – how much will students actually read?

* Need to make it relevant if you want them to read it
* Get feedback from students along the way for how much they can absorb
* Students don’t know how to read a science book and don’t necessarily know how to read a figure 🡪 need to TEACH them to read the textbook/expository text

What are you looking for in a text?

Text within a discipline

* **Modeling the process** Asking the reader a series of questions rather than telling them 🡪 a heuristic text that guides them through a questioning process
  + e.g. series of images with different levels of interpretation (Steve Marshak’s textbook in geology)
* **Scaffolding the process** Texts that support “inquiry-based learning” by going through the process is the right order (have to ask students to read backwards)
  + **Constructing Ideas in Physical Science** (middle school)
* A text that goes through the process aligned to state content standards
* Includes ideas for modifying for different formats/timelines
* **Personal narratives**: capture storytelling while going through experiential process
  + Bill Bryson A Short History of Nearly Everything
  + Stan Williams Surviving Galeras
  + Claudia Dreyfus
  + Can ask them to link to philosophy of science topics
* Texts with data presented as uninterpreted images that requires students to do the interpretation themselves or carry it to the next level
* **Resources that support texts**: need more practice worksheets with realistic data
* **No mistakes** Texts that DON’T have major misconceptions in them! Often are perpetuated over many editions of the same textbook.
* More multimedia, video clip narratives of real scientists (2-3 minutes)
* Text that has nature of science as a theme throughout embedded within content
* **History of science approach** Collection of excerpts of original research 🡪 Great Books
* Texts need to be at the appropriate reading level with reading guides
* Texts that are quantitatively-based, especially at the introductory level
* Texts with regional context and examples
* Jigsaw activity using different parts of the text