

## **Readings for a program of FRINQ faculty development on the topic of science literacy**

### ***An account of day-to-day scientific practice***

Angier, Natalie. *Natural Obsessions: Striving to Unlock the Deepest Secrets of the Cancer Cell* (Mariner Books, 1999; originally 1988).

### ***Statement of inquiry- as compared to content-oriented National Benchmarks for graduating high school seniors***

AAAS. 1993. "On the nature of science." Benchmarks for Science Literacy.

### ***Critique of National Benchmarks on the topic of scientific literacy***

Eisenhart, Margaret, Finkel, Elizabeth, and Marion, Scott. 1996. Creating the conditions for scientific literacy: a re-examination. *American Educational Research Journal* 33(2): 261-295.

### ***Other characterizations of science literacy***

Norris, Stephen and Phillips, Linda. 2003. How literacy in its fundamental sense is central to scientific literacy. *Science Education* 87: 224-240.

Lee, Stuart and Roth, Wolff-Michael. 2003. Science and the "good citizen": community-based scientific literacy. *Science, Technology, & Human Values* 28(3): 403-424.

Flower, Michael. 2000. Unsettling science literacy. *Liberal Education* 86(3): 36-45.

Weinstein, Matthew. 1998. Playing the paramecium: science education from the stance of the cultural studies of science. *Educational Policy* 12(5): 484-506. [Shares somewhat in the Eisenhart et al critique of the *Benchmarks*]

### ***A glimpse of the "nature-of-science" debate amongst science education reformers***

Turner, Stephen and Sullenger, Karen. 1999. Kuhn in the classroom, Lakatos in the lab: science educators confront the nature-of-science debate. *Science, Technology, & Human Values* 24(1): 5-30.

### ***The changing context of knowledge production, especially scientific knowledge***

Gibbons, Michael et al. "Introduction" from *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies* (Sage, 1994), pp. 1-16.

Nowotny, Helga, Scott, Peter, and Gibbons, Michael. "The transformation of society" from *Rethinking Science: Knowledge and the Public in an Age of Uncertainty* (Polity Press, 2001), pp. 50-65.

### ***Some theoretical "science studies" perspectives on how to understand science as practice in a way that helps reconceive science literacy***

Latour, Bruno. Chapter I ("Crisis") of *We Have Never Been Modern* (Harvard University Press, 2001), pp. 1-12.

Demeritt, David. Science, social constructivism and nature. In N. Castre (ed.), *Social Nature: Theory, Practice, and Politics* (Blackwell, 2001), pp. 173-193.

Latour, Bruno. The promises of constructivism. In Don Ihde and Evan Selinger (eds.). *Chasing Technoscience: Matrix for Materiality* (Indiana University Press, 2003), pp. 27-46.

Barad, Karen. Scientific literacy→agential literacy = (learning + doing) science responsibly. In Maralee Mayberry, Banu Subramaniam, and Lisa Weasel (eds.). *Feminist Science Studies: A New Generation* (Routledge, 2001), pp. 226-246.

Latour, Bruno. "Circulating reference: sampling the soil in the Amazon forest" from *Pandora's Hope: Essays on the Reality of Science Studies* (Harvard University Press, 1999), pp. 24-79.