Why concept mapping?
Students can get caught up in learning compartmentalized pieces of information without considering how to link the ideas and concepts. Concept mapping is a technique that allows teachers and students to organize and present their knowledge and understanding in a manner that illustrates and integrates information (i.e., isolated facts) into a logical pattern for learning. Note: the choice of concepts and the links that are emphasized depend on the teaching/learning environment.

Concept mapping can be used for several purposes, such as:
- Generating ideas (brainstorming, etc.)
- Communicating complex ideas
- Aiding learning by explicitly integrating new and old knowledge
- Assessing understanding or diagnose misunderstanding

Today you are going to be creating and exploring concept maps. While you are participating in today’s activities, I would like you to think about how you might use concept mapping and multimedia in the future as a tool for aiding teaching and learning in a classroom and/or informal educational environment.

Part I (Making concept maps):
- In groups, you will be using three concepts that we have covered in class so far this semester (food web, temperature, and pressure) to make a concept map that tells a story in an environmental (preferably ocean) context. What other concepts do you need to add to help link these concepts and tell a cohesive story? Be sure your concept map includes links and linking phrases.
- You can create your concept map using a variety of materials (e.g., paper, Post-its, colored pencils, markers).

Suggested strategy:
1) Brainstorm in your groups and decide on a focus question/statement or “big idea”, then make a list of major concepts to include on your map.
2) Under each major concept, list more specific concepts to form a cluster of related ideas.
3) Draw links connecting the major ideas to one another.
4) Write labels on the lines that describe how one concept links to another.
5) Draw cross-links that relate concepts in one part of the map to concepts in another part.
6) Label these lines to describe the connections.
**Part II (Using concept maps as a resource/research tool):**

- You have been provided with a concept map created by Dr. Collin Roesler, which illustrates her ‘working hypothesis’ about climate change and how it may be influencing the North Atlantic Oscillation, nutrient availability, and the dynamics of phytoplankton blooms in the Gulf of Maine.

- This map is incomplete since it does not include arrows or linking phrases. However, it does include 2 of the 3 concepts from step 1 (temperature and food web). Your task is to
  1) determine how and where to integrate the 3rd concept (i.e., pressure) into the map and;
  2) explore Dr. Roesler’s concept map on the COSEE-OS web interface (using the linked images, videos, news items, and resources as sources of information) so you can determine the direction of the arrows and supply linking phrases (relationships) between the concepts.

- To access the COSEE-OS web interface use the URL http://cosee.umaine.edu/cfuser/index.html and sign in using the username “roesler”.

- Feel free to add more concepts to the map if it helps improve your understanding or ability to tell the ‘story’.