

Generate-Sort-Connect-Elaborate

A routine for organizing one's understanding of a topic through concept mapping.

Select a topic, concept, or issue for which you want to map your understanding.

- **Generate** a list of ideas and initial thoughts that come to mind when you think about this particular topic/issue.
- **Sort** your ideas according to how central or tangential they are. Place central ideas near the center and more tangential ideas toward the outside of the page.
- **Connect** your ideas by drawing connecting lines between ideas that have something in common. Explain and write in a short sentence how the ideas are connected.
- **Elaborate** on any of the ideas/thoughts you have written so far by adding new ideas that expand, extend, or add to your initial ideas.

Continue generating, connecting, and elaborating new ideas until you feel you have a good representation of your understanding.

PURPOSE

What kind of thinking does this routine encourage?

This routine activates prior knowledge and helps to generate ideas about a topic. It also facilitates making connections among ideas. Concept maps help to uncover students' mental models of a topic in a non-linear way.

APPLICATION

When and where can I use it?

This routine can be useful as a pre-assessment before the beginning of a unit of study if students already have a lot of background information about the topic. Conversely, it can also be useful as a post or ongoing assessment to see what students are remembering and how they are connecting ideas. Individual maps can be used as the basis for construction of a whole classroom map. Maps can also be done progressively, with students adding to their maps each week of the unit.

LAUNCH

What are some tips for starting and using this routine?

Depending on how much familiarity students have with concept maps, you may need to demonstrate making a concept map using this routine with the whole class. However, if students are relatively familiar with the idea of concept maps, you can launch right into the routine explaining that students will be making concept maps but in a structured way. Give time for students to complete each step of the routine before moving on to the next step. It isn't necessary that students generate an exhaustive list of all their ideas initially, but make sure they have time to generate a rich and varied list before moving on. Tell students that at any point they can add new ideas to their list and incorporate them into their map. If you are adding to a map over time, you might want to have students use a different color pencil each time they make additions. Explaining and discussing maps with partners helps students to consolidate their thinking and gain other perspectives.

This thinking routine was developed as part of the Cultures of Thinking project at Project Zero at the Harvard Graduate School of Education. Explore the full PZ Thinking Routine Toolbox at pz.harvard.edu/thinking-routines.

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