

Progression from Small to the Big Ideas of Science Map

In our methodology for supporting interdisciplinary learning, we use a 3-level organization of concepts:

1. The Big Ideas of Science
2. The Intermediate Ideas of Science (not so small ideas of science)
3. The Small Ideas of Science (super-curriculum)

You can use the ["Progression from the Small to the Big Ideas of Science"](#) map to view the 3 different levels and the elements they include. These 3 levels of organization are presented to you through a concept map. In every title you can click on the Note "=" icon to view the content of the idea. To view lower levels (intermediate and small ideas of science) click on the "+" icon. Use the concept map to browse through the different elements in the different levels of the map.

The 3D Interdisciplinary Map of Science Ideas

Once you are familiarized with the element in every level, you can access the Small Ideas of Science. The list of elements you will find there is comprised of 86 ["Small Ideas of Science"](#). This map is 3-dimensional:

- 1D. The Big Idea of Science the element belongs to and to which other Big Ideas of Science it is related to and how.
- 2D. The science disciplines in which this element is taught.
- 3D. The age ranges (grade levels) in which this element is taught.

Dimensions 1 and 2 are presented in the thumbnail of each element. When clicking on the thumbnail of each element you can have access to all three dimensions and additional information.

Using the Map on the spot

You can use the 3D map at any given time in your class. It is always good to make a reference to related ideas and the bigger picture every time you wrap-up a subject. To do that we propose you follow the steps below:

1. Think about which Big Idea the subject you are teaching belongs to.
2. Visit the Small Ideas of Science map in the PLATON e-Agora.
3. In the search engine, select the Big Idea you chose in the respective field.

4. Browse through the elements that will appear and select the ones you believe are related to the subject you are teaching.
5. Read the content of the selected elements to make a connection of the subject at hand with other Big Ideas and the concepts they encompass.

Collaborating with your colleagues

Interdisciplinary learning requires the collaboration of teachers who teach in the same school unit. In order to start working collaboratively you need to do 3 things:

- Familiarize yourselves with each other's teaching subjects.
- Identify common ground (science concepts) between what you teach.
- Discuss about how you can make use of that common ground to promote interdisciplinary learning.

You can follow the steps below to promote interdisciplinary learning in your school.

STEP 1: Start by using the 3D map individually and identify which of its elements appear in your teaching program and make a list. Use the map to check in which other disciplines these elements appear or are needed as background knowledge.

STEP 2: Organize a meeting with all the involved teachers from your school and compare your lists. Using the 3D map, identify which elements you have in common, or if elements from other teachers' lists are prerequisites or could support you as background knowledge when teaching another element or concept. Feel free to discuss with your colleagues any elements from your lists that you may not feel very comfortable with or confident about their content.

STEP 3: Discuss how common elements or connected elements can be used in your classes in order to make them more interdisciplinary. Discuss in which cases and under which teaching subjects you can make references to each other's classes and concepts other teachers teach in their classes.

STEP 4: Keep coordinated throughout the year. Every now and then, whenever you as a team fill it's necessary, arrange a short meeting to discuss about which references you have already made or which ones you plan to make in the near future.

Showing your students the Bigger Picture

The Big Ideas of Science aim to serve as a reference system. A backbone structure to which all students can refer to every time they learn something new and make connections to Big

Ideas and through them, to other smaller ones. Every time you wrap up the teaching of any given subject, use the respective element from the 3D map, check under which Big Idea it is, and to which others it is connected to, and spend 5 to 10 minutes with your students to put what they've learned in a bigger perspective. Present and discuss with them briefly, the Big Idea and the Intermediate Idea of Science each small idea is under.