

1. Welcome to the Integrated Concept Mapping session. This presentation will focus on integrating content area with literacy through the concept mapping strategy. Although this presentation is using elementary science as the content, other content areas (including social studies, history, health, physical education, math, gifted and arts) from Kindergarten through 12 grade can use this strategy to integrate reading and writing into the content areas.

2. The purpose of this webinar is to provide quality services and resources in collaboration with our partners in education to serve the State of Florida's Literacy Through the Content Areas Program.

3. Our objectives are to integrate the Florida language arts standards with a content area using the concept mapping strategy. Another objective is to find the benefits of integration. The final objective will be to implement the concept mapping strategy into the classroom.

4. The agenda for this webinar is to first, show the Florida standards (LAFS) that will be integrated through the concept mapping strategy. Second, discuss the concept mapping strategy and purposes then show some examples and a non-example. Third, share a reading strategy to use whole group with the science text. Fourth, share a video of an integrated lesson featuring LAFS, science and the concept mapping strategy. Then create a map from each section of the reading passage. Finally, a combined map will be shared to use as an informational writing planner.

5. Specific Florida Language Arts standards that work well with the Concept Mapping strategy to integrate with Science have been chosen.

6. Here are 4 elementary Florida language arts standards (LAFS) (two reading and two writing standards) that will be integrated with science standards and the concept mapping strategy.

7. We are working with elementary science for this presentation, but any content area Kindergarten through 12<sup>th</sup> grade could be used.

8. These are the 4<sup>th</sup> grade NGSSS standards for the concept mapping strategy and science text that will be used for this presentation. These standards were chosen because this Big Idea is not taught in 5<sup>th</sup> grade when the science assessment is taken.

9. Concept Mapping

10. Concept maps are a visual organizer that link conceptual ideas together in a meaningful way that makes sense to the organizer. They can be changed as learning takes place. They can be linked across curriculum and grade levels to show the big picture of the overall topic.

11. Concept maps are powerful visual organizers. They expose prior knowledge, misconceptions, learning growth and learning mastery. They can be used for formative and summative assessments. They will expose learning gaps and learning gains.

12. Here is an example of a concept map explaining concept mapping written by Nancy Romance for the Science IDEAS project. If you read the map, you will see it creates sentences that are organized into categories.

13. Concept mapping can be used to organize any curriculum to make it easier to see what needs to be accomplished. It can be used by administrators, teachers and students. The maps help prioritize concepts and identify gaps in current curriculum plans. They can be used to plan a whole year, a semester, a unit, a week or a day. Students can use concept mapping to take notes, use as a study guide and as a guide for writing. iCPALMS has an interactive planning app called My Planner. ICPALMS is found on the top bar of the CPALMS splash page. The CPALMS web address is [www.cpalms.org](http://www.cpalms.org). Sign in with your single sign-on provided by your district. Once you have signed in, click on ICPALMS Tools found in the thin purple bar. There you will find many useful apps including My Planner. The curriculum maps that you create can be shared, worked on collectively, and used from year to year.

14. Here are some examples in various content areas and grade levels using the strategy.

15. Here is a map example describing the 3 branches of government.

16. This is an example of a kindergarten map on Seasons. Vocabulary cards link the smaller ideas back to the main topic. STEM activities and extra ELA could be integrated during the build of this map.

17. This map could be used for an entire unit on water and phase change. It could easily be adapted as an add-on map for a more comprehensive map on Physical and Chemical Changes. It could also be used as a pre-map for fifth grade Big Idea 7 Earth Systems and Patterns which includes Weather.

18. This is a middle school example showing how to use a map as an assessment. This could also be a good scaffolding strategy.

19. This map describes visual literacy training for a framework of professional development.

20. This geometry map sample contains many other related maps that are linked on the page. A concept map can be used to build and link curriculum, units, courses, and lessons.

21. Non-example

22. This is a non-example. Notice the list of vocabulary on the left contains verbs, adjectives and nouns. When constructing a map from a text, choose nouns and connect them with verbs if possible. A concept map generally starts with an overarching concept that is broken down into categories and then into smaller detailed ideas.

23. If you are interested in learning how the 5 Es Model can easily be implemented using concept mapping, please visit the webinar linked here.

24. Use the reading strategies your district uses. I will model a reading comprehension strategy using 4<sup>th</sup> grade elementary McGraw Hill science textbook, pages 146-147.

25. Teacher planning:

Pre-read text, decide what paragraphs and sentences to use and what to leave out depending on alignment to the standard

Create questions for each paragraph that link the written concepts together

Create discourse questions

Know which vocabulary to pull from the passage and how to link them

Teaching:

Read the text out loud for the first time

    Ask leading questions during first pass

Reread text passage sentence by sentence

    Use questioning to make science connections

    Find ELA concepts such as main idea with supporting details, and cause and effect through content

Summarize each paragraph in the passage whole group

Reread text while pulling out key vocabulary(nouns)

Organize ideas/examples in a hierarchical structure arranging big ideas on top, sub-ideas below, and examples on bottom

Connect concepts that are related so each is in the form of a simple sentence (i.e., noun-verb-noun)

Work through the remaining passage/ sticky notes

Review/revise the concept map as necessary

Read sentences using the concept map

Organize the sentences to make a logical paragraph for each main idea

Read the paragraphs out loud

Use the concept map to write an informational essay

Add diagrams with captions if applicable.

26. The last slide covered the entire process. Now let's break it down into sessions. The first session will introduce the reading strategy and concept mapping.

27. Disclaimer: This strategy is not implied to replace a Reading Plan at a school or in a district. It is an integration strategy that works well for content area teachers such as in science and social studies.

Before working with the students, pre-read the text, omitting text that doesn't pertain to the specific standard being taught. Mark important sentences; write critical questions.

Depending on the length of the passage and the depth of the content, decide whether to read it in its entirety or break it down by paragraph or section. For the modeling video only the introduction and page 146-147 were demonstrated. The Mohs' Hardness scale was not covered in the first session.

To begin the strategy, read aloud with students. Check students for understanding through guided questioning. Standards aligned vocabulary will be located as well as important words that aren't highlighted in the text.

Reading Strategies: 1<sup>st</sup> Reading of Text

Use pre-reading strategies (title, blurb, pictures, captions, predictions, etc.)

Read the passage from a text or other source to the group

Ask leading text dependent questions from the content (how and why, main idea and supporting details)

Directly relate questions to content standard

Use student misconceptions to lead argumentative discourse Explicitly teach polite discourse

2<sup>nd</sup> and 3<sup>rd</sup> Reading of Text

Re-read the paragraph sentence-by-sentence and discuss each sentence relating it to other concepts

cause and effect, inference, main idea, supporting details. A close read strategy would work well.

Use questioning strategies for clarity and proof of understanding

Summarize the first paragraph (turn and talk, whole group, small group, share out)

Re-read while writing key ideas on sticky notes and placing them on the board

28. This is the continuation of the topic minerals. It provides more categories for mineral classification. Some of the ideas are not part of Florida standards. They could be used as an enrichment piece.

29. This you tube link is a video of a 4<sup>th</sup> grade concept mapping lesson that integrates a science text on Big Idea 6 with Florida Language Arts standards. (LAFS). The video is the initial lesson for Big Idea 6 that will combine with a separate integrated lesson about rocks and then another integrated lesson on the Rock Cycle. All lessons use the concept mapping strategy.

30. Here is an example of vocabulary for the concept map from the first reading section on minerals.

31. The vocabulary has been linked with verbs.

*32. After the first concept mapping session, it could be a good time to engage students by exploring rocks and minerals using a hands-on investigation to firm up prior and accumulated knowledge from the first lesson.*

For session two, repeat the reading strategy from Day One using the next section, in this case, Rocks.

33. The first sentence states that rocks are nonliving materials made of one or more minerals. If you wanted to bring in a previously taught standard from first grade on living and nonliving SC.1.L.14.3, or a second grade standard on how soil is formed SC.2.E.6.2, there would be another connection of how science is interrelated and a review at the same time explained through the concept map.

With students, read through the introduction and map it out. Next, work through the igneous rock section and map it out idea by idea. Continue working paragraph by paragraph until all three rock types have been covered.

Once the second map is completed, concepts that connect the two maps will be found. This where the linking of the previous minerals map will be made with the rock map. Since all rocks are either formed from one or more minerals, the link between the two maps will be made. All minerals are rocks, all rocks are not pure minerals. Most rocks are formed from many minerals.

34. Here is an example of a concept map on rocks without the verbs.

35. Here are the linked vocabulary words.

36. This lesson uses the reading strategies again to read through the rock cycle portion of the text (p. 153) .

37. Specific teacher questioning will help students link the three types of rocks through the earth change process while forming the concept map. The diagram is a concept map linking the types of rocks together.

38. The rock cycle map is the diagram in the book. Students will see how they correlate.

39. This map covers everything from the science standard that needs to be covered. So far, in three lessons, 2 reading standards and 2 science standards have been taught. By the end of the sessions 2 writing standards will have been taught.

40. The completed concept map for BI 6. The three maps have been combined to form one encompassing map.

41. Now that the content is organized on a map, Florida Language Arts writing standards will be integrated.

First the teacher will read the newly combined map orally to the whole group. Discussion with students on how the map is organized into sentences and paragraphs will occur. Students will practice reading their map with a partner.

The teacher will model how to write the essay about minerals, rocks and the rock cycle using the concept map. Students will write their first draft essay about rocks, minerals and the rock cycle.

42. Why not try using the mapping strategy on your own? Choose a reading passage from your subject area that has multiple concepts. Create a concept map using the reading passage(s).

Write an essay using the map created. Use your map to teach your class through the reading passage you chose. Concept maps are readily used as lesson plans. They are excellent for use in showing relationships between complicated topics.

43. Using a concept map strategy will strengthen content area comprehension and vocabulary. Using a concept map front loads the planning portion of writing. When concepts are organized and relationships are drawn, the sentences are there to write in paragraph form.

The concept mapping strategy supports Florida standards in reading and writing while integrating subject area content.

44. As a reflection piece, ask yourself how the concept mapping strategy supports the integration of Florida language arts standards and Next Generation Sunshine State Science standards.

Do you think this strategy would work in your classroom?

45. If you have questions about this presentation, please contact Alicia Foy at the Florida Department of Education.

46. To help improve our professional development, please complete this survey.