Title: CCC

Time: Two Class Periods

Description: Introduction to Cross-Cutting Concepts and Phenomena through Stations, Inquiry, and Review

Objective: Students will:

• become familiar with the titles of the seven Crosscutting Concepts of the NGSS (CCCs)

• begin to build definitions of the seven CCCs

• see examples of content related to the CCCs

Day 1:

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|  | **Student Does:** | **Teacher Does:** |
| **Gather** | 1. Students will listen to instructions:  • Each participant will have a worksheet and will be visiting stations 1-7.  • At each station, they will see 3-5 examples of mostly science content that is related to one CCC. Some stations also include examples of non-science content.  • Their task is observe the examples and make quality observations. Participants should record their observations on the worksheet.  • They will work individually.  • They can visit the stations in any order. Discuss their observations with their groups.  2. Students will listen to teacher’s introduction of the CCC’s. They will look at the poster as they review the CCC’s. | Preparation: Teacher will set-up stations with the station cards, have copies of CCC handout for each student, and prepare CCC poster for each group.  Teacher will explain what an observation is and the difference between qualitative and quantitative observations. Use 7th Grade Activity.  1. Give instructions:  • Each participant will have a worksheet and will be visiting stations 1-7.  • At each station, they will see 3-5 examples of mostly science content that is related to one CCC. Some stations also include examples of non-science content.  • Their task is observe the examples and make quality observations. Participants should record their observations on the worksheet.  • Explain that they will work individually.  • Explain that they can visit the stations in any order.  2. Have the students return to their groups and discuss their observations.  3. Teacher will introduce the CCC’s. You will instruct the students to refer to the poster on their table. |
| **Reason** | 3. Students will discuss with their group which CCC they think each station # fits with and fill that in on their worksheet.  4. Using their observations and their discussion, students will fill in what they think the definition of each CCC is on their group poster. | 3. Have students discuss with their group which CCC they think each station # fits with and fill that in on their worksheet.  4. Using their observations and their discussion, students will fill in what they think the definition of each CCC is on their group poster. |
| **Communicate** | 5. Students will share with the class which CCC they feel fit with each station and their definition. As a class, they will decide on a group definition for each CCC. | 5. Students will share with the class which CCC they feel fit with each station and their definition. As a class, they will decide on a group definition for each CCC. |

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|  | **Student Does:** | **Teacher Does:** |
| **Gather** | CCCs speed dating (10 minutes)  1. Students are instructed that the goal of the next activity is to give them another introduction to how the Crosscutting Concepts (CCCs) are defined.  2. Have each participant blindly draw a card. That card will have either the title of a CCC (e.g.; Patterns, Cause and Effect, etc.) or a CCC definition. | Preparation: Teacher will have enough copies of the speed dating cards to ensure that each student in the class has either a CCC or a definition.  CCCs speed dating (10 minutes)  1. Tell participants that the goal of the next activity is to give them another introduction to how the Crosscutting Concepts (CCCs) are defined.  2. Have each participant blindly draw a card. That card will have either the title of a CCC (e.g.; Patterns, Cause and Effect, etc.) or a CCC definition. |
| **Reason** | 3. Students mingle around the room looking for their CCC match. If they have the title of a CCC, they are searching for the person who has the definition; if they have the definition, they are searching for the person who has the matching title. NOTE: Clarify that there are multiple copies of each CCC title and definition, so they will end up in larger groups (for example, a group with 2 Patterns titles and 1 Patterns definition).  4. When they find their match, the pair or group should sit down together at any table to show they have completed the activity.  5. Student will watch the slideshow and see if their CCC matched up with the correct definition. | 3. Explain that their task is to mingle around the room looking for their CCC match. If they have the title of a CCC, they are searching for the person who has the definition; if they have the definition, they are searching for the person who has the matching title. • NOTE: clarify that there are multiple copies of each CCC title and definition, so they will end up in larger groups (for example, a group with 2 Patterns titles and 1 Patterns definition).  4. Explain that when they find their match, the pair or group should sit down together at any table to show they have completed the activity.  5. During the activity, walk around and help participants who are struggling to find their groups.  6. Show the CCC definition slides. |
| **Communicate** | Class will discuss how their definitions match with the NGSS definitions. | Lead class in discussion on how their definitions match with the NGSS definitions. |

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| **Formative Assessment:**  Students will make CCC cards for their folders.  Student Worksheet  Group CCC poster/definitions | **Materials, resources, handouts, etc:**   * [Station hand-outs](http://www.calacademy.org/sites/default/files/assets/docs/pdf/cccstations_reducefilesize.pdf) * [CCC worksheets](https://docs.google.com/document/d/1HnGF_2iA7bNV80_dCvH4MZ601GXYSnnyIZbuPxzblxI/edit) * CCC posters (Poster with all the CCC’s listed with space for definitions underneath) * [CCC slideshow](https://drive.google.com/file/d/0B5MCdB3zH82peG9ZaU5lLWotQm8/view) * CCC cards * [CCC Speeddating Cards](https://docs.google.com/document/d/1sSRmFFUcZaMi6ANcls-8Yw-fm_kWq-xTPsttkIEgMYs/edit) |