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| **Learning Set 6: What Can We Do to Reduce the Risk of Substance Use Disorders (SUD) for Ourselves and Our Community? (Community action projects)** |

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| **Driving Question**  **for the unit:**  How can looking for thrills make me miserable?  **Driving Question**  **for the lesson:**  What can we do to reduce the risk for substance use disorder (SUD) for **ourselves** and our **community**? | [**Materials**](https://drive.google.com/file/d/1glTL2v3dvcuQXquO-65WILy2ucTBIa50/view?usp=sharing)   * Computer - \*Other materials could be needed depending on the inquiry question and investigation.   **Resources**   * Community projects & Final Presentation guidelines   CAP SUD Outline 2023 (found in LS6 resource folder) | **Suggested lesson time**  2-3 weeks |

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| **Building Coherence** |

This unit guides students through a journey to figure out thrill seeking, and how thrill seeking evolved as a survival mechanism. However, because of environmental changes and modern lifestyle, thrill seeking can sometimes lead to SUD, misery and even death. Throughout the unit, students investigate several sub-driving questions to support them to gradually answer the bigdriving question, “How can looking for thrills make me miserable?” which encompasses these scientific ideas.

Guided by the sub-driving question, the journey unfolds as students figure out:

* In **LS1** - What gets us excited by examining the sub-driving question, “What do you do for thrills?”
* In **LS2** - The basic mechanism of the brain’s reward pathway which is responsible for the feeling of excitement through the sub-driving question, “Why do thrills make us feel excited and happy?”
* In **LS3** - The importance of thrill seeking to our survival and how the reward pathway evolved through the process of natural selection. Students investigate the sub-driving question, “Why do we all look for thrills?”
* In **LS4** - The risk for substance use disorders and behavioral addictions is caused, in part, by their environment. Students focus on both national and global trends related to SUD and behavioral addictions to understand the contribution of various environmental factors. and answer the sub-driving question, “What puts us at risk for substance use disorder (SUD) and behavioral addictions?”
* In **LS5** - Some genes might cause us to be at risk for substance use disorder (SUD), while others might protect us against. Alcohol flush is a genetic mutation that causes discomfort following alcohol consumption. Alcohol use disorder is caused by the interaction of an individual’s genes and the environment. Taken together, with Learning Set 5, this information helps students answer the sub-driving question, “What are the environmental and genetic factors that put us at risk or protect us from SUD?”
* In **LS6** - What they can do to reduce the risk of addiction by designing and conducting a community action project focused on making a change in their environment. Students address the sub-driving question, “Can we make a change? What can we do to reduce the risk of substance use disorder and behavioral addictions for ourselves and our community?”

To see more details, refer to the **Storyline**.

**In this learning set**, the students will continue considering how actions can reduce both our individual and collective risk for substance use disorders (SUD) by making a change in our environment..

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| **Framing the Lesson** |

**Purpose**

While there is a genetic component to substance use disorders (SUD), our environment can greatly affect our risk for substance use disorders (SUD). The purpose of this lesson is to support students’ figuring out that there are risks in their community that can increase their chances for substance use disorders (SUD), and that they have some power in reducing their risk and that of their community. In this lesson, students will conduct community action projects, discuss the data they have gathered, and develop ways to improve their school or neighborhood and reduce the risk for SUD.

**Learning Set Learning Goals (For instructional use)**

* Students plan and carry out an investigation about environmental issues that may increase their risk for substance use disorders (SUD).
* Students analyze data and communicate findings with peers to explain environmental factors in their neighborhoods that can be changed to reduce their risk for substance use disorders (SUD).

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| **Overview of the Learning Set** |

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| **Instructional sequence overview** | **What students figure out (DCI)** | ***Days*** |
| **Lesson 1 (Transition) : How do our models help us understand and explain substance use disorders (SUD)?**  The students review the models that they developed in each learning set to develop a consensus model answering the unit driving question. | Substance use disorders (SUD) are caused by the interaction of genes and the environment. | **1/2 day** |
| **Lesson 2: Part 1. How can we work together to reduce our individual and collective risk for substance use disorders (SUD)? Becoming a research team**  The students will (a) develop and choose their inquiry question, (b) design and develop their research tools, and (c) plan and carry out their investigations. | Students understand that they can make their community healthier and why those changes are important. | **1-2 weeks** |
| **Lesson 3: Part 2. How can we work together to reduce our individual and collective risk for substance use disorders (SUD)? Suggesting evidence-based solutions**  The students will continue their community projects. In this activity, the students will (a) analyze the data and draw conclusions from the various research tools, (b) share their findings with their peers and draw conclusions regarding their inquiry question while addressing ethical issues, and (c) suggest solutions and potential actions based on their findings. | **1 week** |

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| **NGSS Connection to Assessment** |

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| **Target Performance Expectations**  [**MS-LS1-5.**](http://www.nextgenscience.org/pe/ms-ls1-5-molecules-organisms-structures-and-processes) Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. |
| **Learning performance to be assessed**  Students plan and carry out investigations to identify that genetic factors and environmental factors affect the growth and health/development of organisms.  Students analyze and interpret data on how environmental and genetic factors influence the growth and health/development of organisms.   |  |  |  | | --- | --- | --- | | **Disciplinary core idea** | **Science and engineering practices** | **Crosscutting concepts** | | **LS1.B Growth and Development of Organisms**   * The growth of an animal is controlled by genetic factors, food intake, and interactions with other organisms, and each species has a typical adult size range (MS-LS-1 and Framework page 146. ). | **Planning and Carrying out Investigations**   * Plan an investigation individually and collaboratively   **Analyzing and Interpret Data**   * Analyze and interpret data to provide evidence for phenomena. | **Cause and effect**   * Cause and effect relationships may be used to predict phenomena in natural or designed systems. | |
| **How these elements are integrated and embedded in this lesson**  Students will conduct an investigation to explain an inquiry question about substance use disorders (SUD) issues in their community. They start with generating their own inquiry questions then plan and carry out their investigations. They also analyze the data to draw conclusions and share their findings with their peers to suggest solutions and potential actions based on their findings. |

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| **Connection to Students’ Lives** |

**Link to out-of-school activity and everyday life**

* Through their community projects, the students will be empowered to take steps in making changes to their school or neighborhood environment to reduce their personal and collective risk for substance use disorders (SUD).

**Link to career-awareness**

* Related careers include community organizer, urban planner, public health researcher
* Community activists, public health and urban planners, and researchers from local universities can be invited to class to inspire student researchers and potentially support and play a role in their community action projects. Through these relationships, student researchers may wish to continue and deepen their experience in their community through afterschool and summer programs that may be located at schools, museums, libraries, other community-based organizations, or universities.
* Show Motivation Coach videos (found in the LS6 Resource folder) as students are preparing for presenting their findings -
  + Mayor
  + Dr. Sofia
  + Anthony Basketball Player



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| **Instructional Sequence** |

**Introducing the Lesson**

1. **Keeping coherence using the DQB** - Remind students of their driving question of the unit, “How can looking for thrills make me miserable?” and the questions they added on the Driving Question Board (DQB). Tell students that we will investigate the driving question for the learning set, “What can we do to reduce the risk for substance use disorders (SUD) for **ourselves** and our **community**?”
2. **Keeping coherence -** Revisit the vaping video (from LS1) and emphasize the way the environment plays a crucial role in the risk for substance use disorders (SUD).
   1. Why/How did the teens from the video start vaping?
      1. Ex: all of my teammates did it.
   2. Based on what you’ve learned, what are the factors that affect people’s vaping behavior?
   3. What can we do to reduce the risk of vaping?
   4. What are the factors that can be changed and in what ways?

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| **Lesson 1 (Transition) - How do Our Models Help Us Understand and Explain SUD?** |

1. **Review each learning set** - Use the **Teacher’s version** to review previous learning sets.
   1. What are the sub-driving questions that we’ve explored?
   2. What did we figure out in each learning set?
2. **Using students’ models to answer the unit driving question.** 
   1. Select some students’ models from each learning set as examples.
   2. As a class, use the selected models to explain main ideas that help students understand ‘how looking for thrills can make me miserable.’
      1. Various thrill-seeking activities (Use models from LS1)
      2. Mechanism of the brain reward pathway (Use models from LS2)
      3. Natural selection and SUD (Use models from LS3)
      4. Effects (positive and/or negative) of different lifestyles (substances and activities) on our brain and body (Use models from LS4)
      5. Genetic and environmental factors that affect the risk for substance use disorders (SUD) (Use models from LS5)

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| **Lesson 2 - Part 1: How Can We Work Together to Make Our Community Healthier? - Becoming a Research Team** |

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| **Learning Goal** | Students plan and carry out an investigation about environmental issues that may increase their risk for substance use disorders (SUD). |
| **Connection to NGSS** | DCI: LS1.B Growth and Development of Organisms |
| Practice: Planning and Carrying out a Scientific Investigation |
| CCC: Cause and Effect |

In the community action project, the class will transform into a *research group* whose goal is to answer an inquiry question regarding substance use disorders (SUD) in the students’ environment. Each research group will be divided into several research teams and will collaboratively investigate the inquiry question that the class generates. Each research team will examine the question using a different research tool.

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| idea.png | **Community project rationale and relationship to the students’ models**  Models have explanatory and predictive power. Thus, models are helpful for problem solving by enabling informed decision-making based on an understanding of the underlying mechanisms of a phenomenon. In this curriculum, the students’ generated model of gene-environment interaction will enable the students to decide upon the kind of community projects and actions that can be taken to improve the SUD issues of their community.  The community projects in this curriculum serve several purposes:   1. They **express the role of models and modeling in science**. 2. They are the **action component** of the curriculum. Their major goal is to develop the students’ **Critical Science Agency** - how the students identify themselves within science in ways that advance their participation in their communities. The students view the world with a critical mindset and envision how to advance the world or change it into a more socially just and equitable place using science. 3. They are the **bond** between the schooland the community, both for the students’ personal capital, such as family, friends, peers, and neighbors, and for local resources such as museums, libraries, universities, and social organizations. These bonds between schools and out-of-school organizations will provide a framework and support the realization of the students’ action projects.   For more details about the community project, please refer to the Community Projects & Final Presentations Guidelines. |

1. **Introduce the role of models in science -** Lead a class discussion about the role of models and modeling in science. Use the following prompts to address these roles, and talk about the students’ personal experiences during the process in which these roles were expressed:
   1. When did you feel that your model helped you to **make sense** of what was learned in class?
   2. When did you feel that your model helped you**communicate your knowledge** to others?
   3. When did you feel that your model helped you **understand** something about substance use disorders (SUD) that you didn’t understand before?
2. **Connect models and action -** Lead a class discussion to connect the students’ models and the upcoming community action projects:
   1. Explain to the students that because scientific models can be used to **explain** and **predict**:
      1. They can be **used** **for problem solving**.
      2. They help us make informed decisions based on a scientific understanding of the phenomenon;
      3. We can make changes both as **individuals** and as a **community**.
   2. Project a student’s model to the class and ask them to describe the gene-environment interaction and its relationship to SUD based on that model.
   3. Prompt the students to think about the use of the model they have created:
      1. How can we use our models to make a change in our health?
      2. How can the model help us as **individuals** or as a **community** to make a change in our health?
   4. Prompt the students to discuss possible actions that can be undertaken to improve our health based on the model:
      1. What area of our model could be changed to affect the health of our community?
      2. From our models and experiences with the unit, what are we interested in researching to make our community healthier?
   5. Prompt the students to discuss who might be able to help them with their research:
      1. What kind of people work in the area we are interested in researching, or have that career?
      2. What career professionals can help us with our research?
      3. Who should we contact to help us? Or who could we interview to learn more about our research interest?
   6. Lead a general discussion about **risk factors and protective factors in SUD**.
      1. Prompt students to list the **environmental factors affecting substance use disorders (SUD)** that they may have talked about in previous learning sets that can affect substance use disorders (SUD).
      2. Ask them to think about some examples of conditions in their environment that can increase or decrease a person’s chance of substance use disorders (SUD).
      3. Introduce students about
         1. **Risk factors for SUD**: These can increase a person’s chance of SUD. The more risks a person is exposed to, the more likely the person will develop SUD.
         2. **Protective factors for SUD**: Risks that occur can be changed through prevention intervention. Protective factors reduce the risk of a person’s SUD.
         3. Ask them for examples of how SUD can be prevented in different settings where intervention can take place.
            1. What are some protective factors that an individual can control?
            2. What are some protective factors that a family can take in an action?
            3. What are some changes that can be made in school?
            4. What are some protective factors at community level?
      4. Review the Social Determinants of Health infographic (found in LS6 resource folder). Ask students to add more environmental factors that can either positively or negatively affect SUD or behavioral addictions.

* **Individual Actions**
  + What other actions would you recommend?
  + What environmental factors might negatively affect SUD or behavioral addictions?
* **Collective Actions**
  + What other actions could be taken, that could help someone with an SUD or behavioral addition?
  + Discuss the CARP Conclusion and Action Item slide (found in the LS6 resource folder) and brainstorm different actions that could be taken at each level

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| idea.png | It is important to acknowledge that it’s not *only* an individual choice. Many of our students’ choices are limited by their environment. This discussion can help students identify obstacles to investigate that cause health disparities in their environment and consider ways to address those obstacles. Here are some articles on risk and protective factors that can help teachers dive more deeply into.[.](https://thenationshealth.aphapublications.org/content/nations-health-series-social-determinants-health)  <https://www.drugabuse.gov/publications/preventing-drug-use-among-children-adolescents/chapter-1-risk-factors-protective-factors/what-are-risk-factors>  <https://archives.drugabuse.gov/news-events/nida-notes/2002/02/risk-protective-factors-in-drug-abuse-prevention> |

1. **Introduce the community action projects** - Tell the students that in this lesson they will conduct community action projects, which focus on the environmental aspect of SUD, to improve their own health as well as their community’s health. Then, explain to the students what they will be doing during the projects.

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| idea.png | In the *community action project,* the class is transformed into a *research group* whose goal is to examine an SUD issue in their environment that can be changed to reduce the community’s risk of SUD. Together, the students will: (a) develop their inquiry question; (b) design the investigation; (c) collect and analyze data; (d) draw conclusions and generate potential actions; and (e) report back to their community (for more information refer to the Community Projects & Final Presentations Guidelines.)  **NOTE: The above document includes a library of community action project outlines that teachers have used with their classes. These projects can provide inspiration and be adapted for your local environment.** |

1. **Develop an inquiry question** - The first step in the community projects is to generate an inquiry question to be investigated. For this purpose, *brainstorm* together with the entire class to think of as many potential questions as possible. Write the questions on the board, as it is important to keep a record of the generated questions. Try to connect the students’ questions with their model. Remember to discuss independent vs dependent variables and to hone questions to something like: **How does X affect Y?** 
   1. Remember:
      1. Dependent variable -In an investigation, it is the variable that changes in response to other variables being changed.
      2. Independent variable - In an investigation, it is the variable the researcher chooses to change, or manipulate, to determine an effect on other variables.
   2. For review on independent and dependent variables, take a look at the first few slides from the PPT: Review Independent and Dependent Variables

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| creativity.png | **Scaffolding students using learning strategies**   1. **What are learning strategies -** Remind the students what learning strategies are and emphasize the importance of learning strategies for effective learning. 2. **Remind students about Brainstorming and how it can be used** - Brainstorming is a strategy for generating ideas. It includes generating a list of spontaneous ideas which are associated with a specific topic. For effective brainstorming, (a) focus on quantity, (b) withhold criticism, (c) welcome unusual and wild ideas, and (d) combine and improve ideas. 3. **Scaffold *Brainstorming*** - Together with the entire class, use the *brainstorming* strategy to generate as many questions as possible regarding SUD issues in students’ environment. Topics may have arisen in class discussions such as peer pressure regarding vaping, access to drugs or alcohol in neighborhoods, or family history of SUD, etc.    1. **Generating “anchors:”** tell students to think about any issues related to SUD in their neighborhood. For example, their medical history, family, peers, school, access to drugs or alcohols or tobacco, clinics and hospitals to treat addictive behavior, etc. All these aspects will serve as “anchors” for the next step of generating the inquiry question. Write these anchors on the board and guide the students to use them to generate questions that connect these environmental factors to their risk of SUD.    2. **Generating questions\***:   ***Homes/Family*** (as an *anchor*)   * How does my family’s history of SUD affect my risk of SUD? * How does support and/or guidance from my family affect my risk of SUD? * How does exposure to violence at home affect my risk of SUD?   ***Friends***   * How does my friend’s addictive behavior affect my risk of SUD? * How does social pressure at school affect my risk of SUD?   ***Schools***   * How does the stress from school affect my SUD? * How does learning about mechanisms, causes, and effects of SUD at school affect my SUD?   ***Community***   * How do anti-drug policies affect SUD in my neighborhood? * How does being able to get to an educational program about SUD in the neighborhood affect children’s/youth’s/adults’ SUD issues? * How does the cost of SUD care affect children’s/youth’s/adults’ SUD issues? * How does access to addictive substances (buying drugs, alcohols, or tobaccos through online, drug stores, or markets) affect children’s/youth’s/adults’ SUD issues?   ***\* This is not an exhaustive list*** |

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| idea.png | **Connecting school and community together**  To promote the school-community partnership:   1. Ask the students to share the generated inquiry questions with their families and discuss with them the various choices. Encourage them to generate additional questions at home with their families, peers, and neighbors. 2. Contact local organizations and agencies and invite them to class to introduce their resources/exhibitions/facilities that may support the students’ community projects and influence the choice of the inquiry question. |

1. **Choose an inquiry question -** Discuss the variousinquiry questions and criteria for making a thoughtful choice with the class. Criteria could include:
   1. Interest
   2. Place-based issue of concern
   3. Resources and facilities to conduct the investigation
   4. Feasibility of making a change to the environment
2. **Generate the research tools** - Divide the class into research teams, each consisting of 4-6 students. Lead a class discussion about the content and behavioral perspectives of their work in the teams, and then let them develop their research tools:
   1. **Content perspective:**
      1. Instruct the students in each research team to collaboratively develop a research tool to investigate the class inquiry question. Research tools and technologies could include:

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| **Research tool** | **Useful technologies** |
| **1. Surveys** | Google forms |
| **2. Interviews** | Videotape or audiotape and editing software (e.g. movie maker) |
| **3. Mapping** | Google maps, GPS, Google Street view, aerial photos, Google earth |
| **4. Focus groups** | Videotape or audiotape and editing software (e.g. movie maker) |
| **5. Observations** | Videotape or photographs, checklists |
| **6.** [**Photo-voice**](https://en.wikipedia.org/wiki/Photovoice)**/**  **Video-voice** | Take pictures, videotape or audiotape and editing software (e.g.,movie maker) |

* + 1. Discuss the differences and advantages of the various research tools and the reasons why a researcher would use either one.
    2. Instruct the research teams to develop different research tools from each other. Emphasize the importance of *triangulation—*collecting data from different aspects and viewpoints to answer the same inquiry question.
    3. Encourage the students to use technology in the designs of their research tools.
    4. Present the students with the process they will use in their learning in the research teams*:*
       1. Work in the research teams and develop the research tools
       2. Provide constructive feedback to other research teams
       3. In the research teams, make changes according to feedback and personal insights
       4. Plan data collection and analysis.
  1. **Behavioral perspective:**
     1. Encourage *within*-teams and *between*-teams collaboration. Explain the importance of both types of collaborations:
        1. *Within-teams collaboration* - multiple perspectives enhance creativity
        2. *Between-teams collaboration* - insights from other teams
     2. Highlight the importance of c*onstructive feedback* - criticize ideas, not people.

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| idea.png | **Providing constructive feedback**  Have the students from the different research teams share their research tools with each other. Ask the students from the different research teamsto provide constructive feedback to each other based on the discussions that they had in their own research teams. The feedback should include the following aspects:  **Strengths** - What did you like about the other team’s research tool?  **Weaknesses** - How do you think the other team’s research tool could be improved?  **Insights** - How did looking at the other team’s research tool help you improve your own research tool? |

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| idea.png | **Connecting school and community learning**  To improve the school-community partnership:  Students (such as Public Health and Medical graduate students), AmeriCorps members, or other volunteers can be invited to classes to mentor the students as they conduct each phase of the research process including, (1) design their research and develop their research tools, (2) plan and conduct the data collection, (3) analyse and interpret data, etc. These mentors also can be role models and inform students about potential careers related to the curriculum. |

1. **Share -** Lead a class discussion and share **examples** of student research tools. Ask the students to provide *constructive feedback* to each other based on the discussions that they had in their own research teams. The feedback should include: **Strengths**, **Weaknesses**, and **Insights** as described above. Instruct the students to continue to provide constructive feedback to each other. Then, they should review and finalize their research tools according to the feedback.

1. **Plan and conduct data collection -** In their research teams, instruct the students to plan their data collection.

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| **Lesson 3 - Part 2: How Can We Work Together to Make Our Community Healthier? - Suggesting Evidence-Based Solutions** |

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| **Learning Goal** | Students analyze data and communicate findings with peers to explain environmental factors in their neighborhoods that can be changed to reduce their risk for SUD. |
| **Connection to NGSS** | DCI: LS1.B Growth and Development of Organisms |
| Practice: Analyzing and Interpreting Data |
| CCC: Cause and Effect |

In this lesson, the students will continue their community action projects.

1. **Analyze the data -** Lead a class discussion regarding ways to analyze the collected data. These could include:

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| **Research tool** | **Useful technologies** | **Data presentation** | **Data analysis** |
| **1. Surveys** | Google forms | Graphs | Draw a conclusion from the graphs |
| **2. Interviews** | Videotape or audiotape and editing software (e.g. movie maker) | Edited audiotape or videotape | Description of major themes, ideas, and conclusions |
| **3. Mapping** | Google maps, GPS, Google street view, aerial photos, Google earth | Screenshots or pictures | Add written explanations and conclusions |
| **4. Focus groups** | Videotape or audiotape and editing software (e.g. movie maker) | Edited audiotape or videotape | Description of major themes, ideas, and conclusions |
| **5. Observations** | Videotape or photographs, checklists | Edited audiotape or videotape, pictures,  charts | Description of major themes, ideas, and conclusions. Add written explanations and conclusions |
| **6. Photovoice/ Video-voice** | Videotape or audiotape and editing software (e.g. movie maker) | Photos with labels or video | Description of major themes, ideas, and conclusions using the SHOWED worksheet\*  \*in LS6 resource folder |

1. **Share the findings** - Instruct the students to prepare a short presentation of their findings and share it with the other research teams. The presentation should include:
   1. A description of their research tool and the rationale for using it
   2. A description of the data collection process
   3. A presentation of their data
   4. Evidence-based conclusions

Encourage the students to provide constructive feedback to each other based on the discussions that they had in their own research teams. Emphasize the importance of evidence-based conclusions and instruct the students to critically examine whether the team's conclusions are well-supported by their data.

1. **Revisit the data analysis and conclusions -** Instruct the students to revise their findings and conclusions according to their peers’ feedback and discussion in the class.
2. **Answer the inquiry question and design solutions and potential actions** - Summarize the research team’s main conclusions on the board. Then,
   1. Answer the class inquiry question through the integration of the team’s conclusions. Emphasize the importance of evidence-based conclusions in answering the inquiry question. This is an opportunity to ask them to consider ethical issues (such as equity and fairness, personal rights and responsibility vs. social good) regarding their conclusions to the inquiry question.
   2. Together, think of possible solutions and potential actions to address the inquiry question. Write them on the board. Ask the students to share their findings and conclusions with their family and think of more actions that can be done. What next steps can students take as a class to work to see their recommendations carried out? For example (based on actual follow up student suggestions and activities):
      1. A presentation to the school board, city council, a local organization board, at a local SUD-related conference, or letters, e.g. to the mayor or local newspaper.
      2. Organize their school and parents to carry out a recommendation, such as a school event to encourage changes for reducing risk of SUD.

An example of a table that can be used can be used for this purpose:

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| **Research Team** | **Main conclusions** |
| **Research Team 1 -** surveys |  |
| **Research Team 2 -** interview |  |
| **Research Team 3 -** mapping |  |
| **Research Team 4 -** Focus group |  |
| **Research Team 5 -** observations |  |
| **Research Team 6 -** Photovoice/Video-voice |  |
| **Answer to class inquiry question:** | |
| **Possible solutions and potential actions:** | |

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| idea.png | **Preparing for the final presentations and Health Summit**  In the final exhibition, the *research team’s* main conclusions and answer to the class inquiry question are presented. Therefore, save a copy of the table with the research team’s main conclusions, answer the inquiry question, and possible solutions and potential actions in order to present it later as a poster or in a presentation. |

1. **Prepare for the Final Presentations / Health Summit** - See the Community Projects & Final Presentations Guidelines Handbook. This document includes a draft schedule for the final presentations, guidelines for judges and awards, a list of awards and award criteria, guidelines for posters, a student reflection form, general guidelines for Community Action Projects, and a library of project outlines that teachers have used in the past that can be adapted for local environments.
   1. The first step is to identify any school, district, or community resources available in your community to partner with you in organizing the final presentation event. Set a date for your presentations and invite family members, school personnel and other community members to attend. See box below for suggestions. If the event is planned for an out-of-school location, send home field trip permission slips. Include a media release statement. Final presentations are a highly photographic event and can be used in social media to highlight science achievements at your school!
   2. Develop a schedule for your class(s) final presentation and review with your class(s) so they understand how their presentations will fit into the event.
   3. Use the table in #4 above to help students begin to develop and display their final presentation. The presentation can be displayed on posters or powerpoint presentations. See suggested guidelines for displays.
   4. Prepare the class for presenting their results: Tell students about the judges and awards. Show students the Motivation Coaches videos (Mayor, Dr. Sofia, Anthony Basketball Player) and lead a class discussion about the criteria for the awards and the rationale behind the criteria. Share the questions that judges will ask them but remind them that judges may also ask questions that they come up with.
   5. Provide time and opportunity for students to practice their presentation: this can include in-class to each other with peer-review and a “dress rehearsal” in school for other students and family members.
   6. Discuss student roles and responsibilities during the final presentation event. Students can rotate in teams through 1) presenting their project; and 2) reviewing other projects by listening to other groups' presentations. The [Scavenger Hunt worksheet](https://docs.google.com/document/d/1y0-DVDNWbMXBK-KrEBJDwJLkRdDSfxWMz_3w9GdETFc/edit?usp=sharing) V2020 (on pages 2 and 3) can be used to support students in peer-reviewing other class projects. ([Scavenger hunt instructions](https://docs.google.com/document/d/1y0-DVDNWbMXBK-KrEBJDwJLkRdDSfxWMz_3w9GdETFc/edit?usp=sharing).)

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| idea.png | **Preparing for the final presentations / Health Summit**  An important step in student learning is for students to communicate their results to their peers, family members and broader community. This focuses on the scientific practice, “Obtaining, evaluating, and communicating information.” Our research shows that this step leads to deeper cognitive and social emotional learning.  In the final presentations, each of the research teams will present their findings. The final presentation is similar to a research conference setting where students present in a poster session. Therefore, have the students design and develop posters or presentations which describe their findings and can be presented later at the final presentations/Health Summit. See p. 18, Community Projects & Final Presentations Guidelines Handbook.  The final presentations can be organized in the classroom, at school, or a community setting. A Health Summit is a final presentation event that includes more than one teacher’s class, or multiple schools or districts. Planning a final presentation in a simplest form entails setting a date and agenda, identifying judges, printing awards, and inviting family members, school personnel, and community members to attend.  **Judges** motivate students to be prepared to present, listen and provide feedback about their research, and celebrate their accomplishments. Judges can be other school personnel, family members, and invited guests, community-school partners or representatives from relevant community organizations (such as the health department, city government, community agencies or organizations, community-based organizations, after school program facilitators, etc.). Judges distribute award certificates to classes and stickers to individual students. It is helpful to schedule a short orientation for judges, so they understand their role and feel prepared to interact with the presenters. Orientation materials are provided in the Community Projects & Final Presentations Guidelines Handbook.  The Motivation Coaches videos (See links above) are designed to help students understand the rationale behind the judging and award criteria and encourage students while they practice demonstrating how they have met the criteria in their presentations. They introduce relevant careers and demonstrate how the subject of the awards (e.g. teamwork, creativity, evidence-based solutions) are used in real-life work settings.  Some school districts and some community agencies (such as health departments or youth-serving agencies) have personnel whose role it is to make community-school connections. Organizing HiOH final presentations / health summit events can be an excellent vehicle to engage community members and families in STEM and improve family and community health. One step for HiOH teachers is to identify district resources to organize or help organize the event. Here is one example of a county-wide partnership of community-education-health organizations who support Health in Our Hands in the classroom: <http://hioh.education/> |

1. **Debrief Health Summit and/or Final Presentations**
   1. Once students have presented their final community projects in class, and or attended the Health Summit, have students fill out the Thinking about my Community Project handout. The handout can also be found in the Health in Our Hands Community Projects Guidelines.
   2. After students have filled out the handout, use the handout questions to encourage a discussion around their responses to the questions.

**Revisit the Unit’s Driving Question -** Emphasize that the model the students have just created addresses the Driving Question of the entire curriculum, “How can looking for thrills make me miserable?” Discuss with the students how they might continue to use the model in their lives.