FUTURELAB+

AG/ENVIRONMENTAL

Community Science

PD 1: Analyzing Community Needs and Proposal Identification

Developed in partnership with:
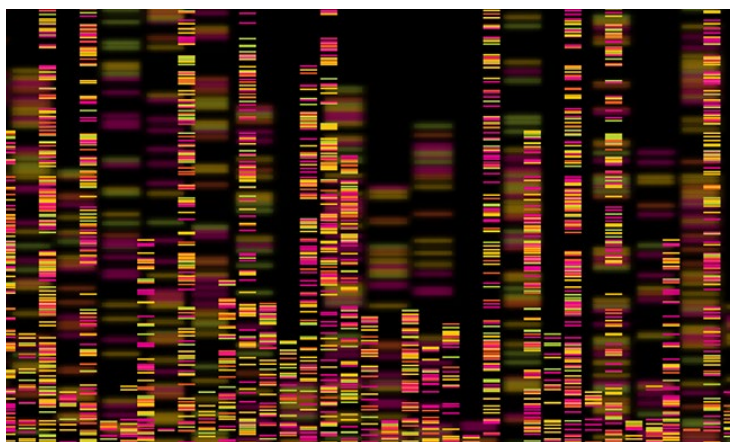**Discovery Education and Ignited**

In this Lesson Plan:

Print the **Teacher Section** → 🖨

Print the **Student Section** → 🖨

This document is separated into two sections, For Teachers [T] *and* Student Resources [S], *which can be printed independently.*

Select the appropriate printer icon above to print either section in its entirety.

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This is a visualization of big genomic data.
—
Cover Image
Bacteria in a water sample is a potential source of environmental DNA (eDNA).

AG/ENVIRONMENTAL / COMMUNITY SCIENCE

Proposal Development (PD) Lesson 1: Analyzing Community Needs and Proposal Identification

DRIVING QUESTION

What issues, problems, or challenges in our community could be addressed with DNA identification technology?

OVERVIEW

Social scientists have developed a number of scientifically validated tools to examine public perceptions and perspectives. These tools include survey development and administration and interview techniques to allow researchers to accurately capture the diversity of approaches to a topic. These tools are valuable in other settings as well, as they allow the identification of important values, issues, and concerns within communities. These data can drive decisions about community initiatives and be used to develop effective strategies for marketing ideas to a population. In addition to these tools, this lesson builds on the techniques of design thinking, which was introduced to students in previous units. Design thinking works to develop a deep understanding of the people and communities who will utilize a product or service.

In this lesson, students will employ a variety of methods to collect data about issues related to their selected topic area within their communities. Student groups will identify community organizations, leaders, and others who could offer insight into community issues and will develop and employ appropriate data collection techniques, including surveys, interviews, and assets and deficits mapping. Groups will determine how to appropriately analyze the data they collected and identify areas where DNA identification technology could be employed to address a concern or solve a problem. Each group will then select one of those areas as the topic for their funding proposal. Groups will present their ideas to the class and revise their plans to develop the main focus of the proposal they will work on throughout the unit.

ACTIVITY DURATION

Minimum of eight class sessions (45 minutes each; number of sessions will vary, depending on data collection method(s) selected)

ESSENTIAL QUESTIONS

How can you collect and analyze data to determine what issues, problems, or challenges people are facing in your community?

How can you use the tools of DNA identification to solve local problems?

OBJECTIVES

Students will be able to:

Identify important contacts and leaders in their communities.

Develop and employ a variety of techniques, including surveys and interviews, to collect data about community issues.

Analyze data from surveys and interviews to determine key issues in a community.

Define issues that can be addressed with DNA identification technology.

Create a proposal for how DNA identification technology could be used to solve a specific community issue.

Materials
Ideas for Community Action Teacher's Guide
Butcher Paper and Writing Utensils for Posters
Sticky Notes
Communities Journal, Part 2
Identifying Community Leaders Capture Sheet
Data Collection Plan Capture Sheet
Data Collection Resources
Project Management Tool
Project Proposal Capture Sheet
Project Proposal Peer Feedback Capture Sheet

Pedagogical Framing

Instructional materials are designed to meet national education and industry standards to focus on in-demand skills needed across the full product development life cycle—from molecule to medicine—which will also expose students and educators to the breadth of education and career pathways across biotechnology.

Through this collection, educators are equipped with strategies to engage students from diverse racial, ethnic, and cultural groups, providing them with quality, equitable, and liberating educational experiences that validate and affirm student identity.

Units are designed to be problem-based and focus on workforce skill development to empower students with the knowledge and tools to be the change in reducing health disparities in communities.

SOCIAL-EMOTIONAL LEARNING

Students must use self-discipline and self-motivation to stay on task. Students need to communicate clearly with their groups. This lesson also asks students to listen actively, cooperate, and work collaboratively. They will need to solve problems and negotiate conflict constructively, navigate settings with differing social and cultural demands and opportunities, provide leadership, and seek or offer help when needed. In the design process, students will need to feel compassion and empathy for others. Students will consider ethical standards and safety concerns when designing and when evaluating the benefits and consequences of their design decisions for the well-being of the community. Students will make a reasoned conclusion after analyzing the data collected.

CULTURALLY AND LINGUISTICALLY RESPONSIVE INSTRUCTION

Students will self-identify with the communities to which they belong and will identify both formal and informal leaders to collaborate with in their local community. Students will then collect information about issues that are important to members of those communities. This authentically identifies real-world issues and uses them to promote student learning. Students will use that information to develop a proposal to address an identified issue. Throughout this lesson, students will use their own understanding of their community to select methods of data collection about community values and perceptions, and to create a proposal that connects to community needs.

ADVANCING INCLUSIVE RESEARCH

In this lesson, students will begin to collect data about issues related to their selected topic from within their community. Students will directly connect with individuals from their wider communities, and will be asked to specifically include individuals and communities that may have traditionally been excluded from projects involving DNA identification technologies. Students will take time to understand local community values and use that information to develop a proposal for how DNA identification technology could be used by members of that local community to address an issue. In order to effectively design solutions that work for all, students must gather data on the needs and values of a diverse range of participants.

COMPUTATIONAL THINKING PRACTICES

Students collect data on community issues and identify relevant trends from the data. Students represent data graphically and in written and oral form and use that data to make decisions about their initial topic proposal.

CONNECTIONS TO THE PRODUCT LIFE CYCLE

In this lesson, students identify potential areas where DNA identification technology could be used to address issues in their own communities. This lesson connects to the **discover** stage of the product life cycle, as students are collecting information that will be used to guide the development of their proposals.

Have you ever wondered…

What issues addressed by DNA identification technology are important to people in your community?

DNA identification technology is not just a tool used by professional scientists and businesses. Individuals and communities can also use these tools to solve problems at the local level. We can use techniques developed for social research to identify issues that are important for a local community and analyze whether those issues could be informed by collecting DNA identification information.

MAKE CONNECTIONS!

| How does this connect to the larger unit storyline?	How does this connect to careers?	How does this connect to our world?
In this lesson, students apply data collection tools learned in earlier units (surveys, interviews) to identify important issues within their community that relate to the topic they selected in Lesson 1. Students will analyze this data and develop an initial funding proposal that they will continue to revise and develop throughout the unit.	*GIS developers* use Geographic Information Systems (GIS) maps to communicate large amounts of spatial data in mapping format. They work in various industries, from mapping consumer trends to emergency response efforts to government and city planning. GIS developers combine basic programming, data analysis, and geospatial skills to create maps and visual displays of information. *Public opinion researchers* use a variety of scientifically validated research tools to analyze how the general public perceives issues and to track how those opinions change over time. Public opinion researchers work in a variety of settings, including for-profit companies, non-profit entities, and government agencies. *Project managers* guide their teams through the entire process of completing a project, from the early stages of brainstorming and decision making, to the day-to-day execution of tasks, and to the closing of the project itself. They break the project down into manageable pieces, and are often responsible for overseeing a diverse group of people that come together for a common goal.	Students are collecting information from the wider community to inform the development of their funding proposal.
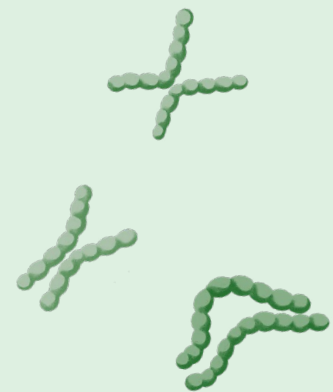
Day 1

LEARNING OUTCOMES

Students will be able to:

Identify the communities to which they belong.

Analyze the physical environment of a local community to identify community assets and deficits.
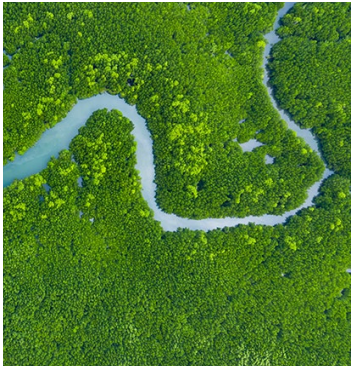
INDUSTRY AND CAREER CONNECTION

In this activity, students are playing the role of GIS developers, who communicate spatial data in the form of maps. They help to determine the best way to use a city's land and resources by envisioning a future that could solve social, economic, or environmental problems.

Procedure

Teacher Note > *This lesson can be interspersed with DNA Technology (Tech) Lessons to allow students time to collect data.*

Teacher Note > *Some student groups may need more scaffolding to help them form an initial project proposal or time constraints may not allow for the full completion of community needs analysis. Please refer to the Ideas for Community Action Teacher's Guide for a menu list of options that could be used to support students.*

Individual Work (5 minutes)

Have students read their Communities Journal, Part 1 entries from Lesson 1. Students should write a follow up entry in *Communities Journal, Part 2*, based on the prompt:

Think about the topic area you chose (environment, food and safety, human interest). How does this topic fit into one or more of the communities to which you belong? What concerns do people in those communities have related to that topic? What problems exist that need to be solved?

Teacher Note > *Remind students that may be "stuck" that a community can be any group of individuals with commonalities, or things in common.*

Small Group (30 minutes)

1   Give groups of three to five students a large piece of butcher paper and writing utensils. Instruct groups to think about a place in the community where they spend time. That place could be around the school, neighborhoods where they live, community gathering spaces, parks and natural areas, etc.

2   Ask students to draw a rough map of the area they have chosen. Students should include the following in the map:

- *Community assets (parks, community centers, playgrounds, schools, etc.)*
- *Community deficits (places that cause problems such as abandoned buildings, areas of concern, or areas to be avoided such as areas with high rates of violence)*
- *Photos or drawings that illustrate different areas or evoke how different areas make students feel*

Teacher Note > *Instead of generating their own maps, students may be given a printed map of a given area of the community. This mapping activity can also be done as a field study. Provide student groups with large pieces of paper and writing utensils. Take students to the location to be mapped in the community (nearby neighborhood, the school campus, inside of the school building, etc.). Students will construct their maps as they observe the location. This activity will help students develop skills in spatial design and reasoning.*

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Day 1
Continued

Procedure

Individual Work (10 minutes)

1   Hang student maps around the perimeter of the room.

2   Give each student a set of sticky notes and direct them to silently walk around the room and observe the maps made by other groups. Students should leave sticky notes on each map addressing one or more of the following:

- *What one thing stands out to you in this map?*
- *What one thing would you add to this map?*
- *Where do you see opportunities to grow or develop something in this area?*
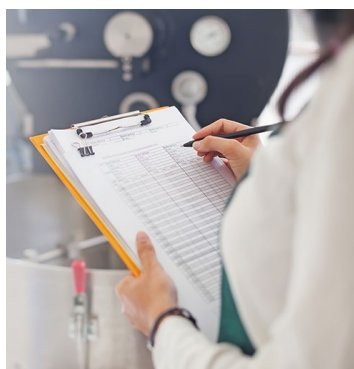- *Where do you see potential obstacles to improving this area?*

Day 2

Procedure

Students will be able to:

Identify important contacts and leaders in their communities.

Teacher Note > *If you did not use Lesson 9 from Solution Seeking Microbes on surveys and interviews, incorporate that lesson here, so students are familiar with design thinking, survey construction, and effective interview strategies.*

Whole Group (20 minutes)

1   Display the community maps around the room. Start the class with a Think-Pair-Share reflection on yesterday's mapping activity using the prompt below. Create a list of student ideas and post them by the maps to reference throughout the lesson. Ask students:

How do our maps relate to one or more of our three topic areas (environment, food and safety, and human interest)?

2   Provide some information about the role of a *Public Opinion Researcher* using this article from Career Research. Ask students what tools would be vital for a public opinion researcher to do their job. Make a list of ideas.

Possible ideas: surveys, interviews, polls, focus groups, etc.

3   To conduct public opinion research, key community contacts are frequently identified for inclusion in interviews or focus groups. Direct students to return to their *Communities Journal, Part 2*. Do a quick-write of who they see as key people or groups in those communities.

Small Group (20 minutes)

1   Based on student responses to the Final Topic Interest Survey from Lesson 1, place students into the project groups they will work with for developing their project proposals.

2   Pass out the *Identifying Community Leaders Capture Sheet*. Student groups should collaborate to identify key leaders in their communities, including elected officials, neighborhood associations, activist groups, and faith groups. The goal is not to fill out every section of this capture sheet, but to brainstorm a good-sized list of community leaders they could reach out to.

3   Exit ticket: Who are two to three important contacts that can help you learn about issues in the community?

Days 3–8

Procedure

Develop and employ a variety of techniques, including surveys and interviews, to collect data about community issues.

Analyze data from surveys and interviews to determine key issues in a community.

Define issues that can be addressed with DNA identification technology.

Create a proposal for how DNA identification technology could be used to solve a specific community issue.

Teacher Note > *As the number of sessions students need to complete this lesson may vary depending on the data collection method(s) selected, the remainder of this lesson will employ a flexible timeline to allow for the different student ideas. Instead of a daily set of tasks, student groups and teachers will use a Project Management Tool to progress through the tasks involved in developing tools for data collection, collecting data using those tools, analyzing the data, and creating an initial proposal.*

Before beginning, groups will complete the Data Collection Plan Capture Sheet to outline their overall strategy for collecting and analyzing data. This will be added to the Portfolio of Supporting Evidence they will make in the Final Artifact (Lesson 11). Students can also use the Data Collection Resources to guide the development of their data collection tools and see examples of how to analyze this form of data. Students will need to include their analyzed data in the Portfolio of Supporting Evidence in the Final Artifact (Lesson 11).

The components of this lesson can also be interspersed with DNA Technology (Tech) Lessons 1 to 4, allowing more time for students to collect adequate amounts of data and analyze it. The Project Management Tool or a variety of online project management platforms could be employed. The chart below and on the following pages offers an overview of group tasks, along with resources to assist groups in those steps. At the end of the data collection period, groups will complete the Project Proposal Capture Sheet to identify the project they will focus on for the remainder of the unit. If time allows, use the Project Proposal Peer Feedback Capture Sheet to allow students to give feedback to other groups on their initial proposals.

INDUSTRY AND CAREER CONNECTION

Project managers guide their teams through the entire process of completing a project, from the early stages of brainstorming and decision making, to the day-to-day execution of tasks, and to the closing of the project itself. They break the project down into manageable pieces and are often responsible for overseeing a diverse group of people that come together for a common goal.

Group Task	Suggested Timeframe for Completion	Group Goals for Task	Resources
Interview Preparation	One to two class periods plus scheduled interview times	Develop questions to use in interviews with key community members. Schedule interview times with community members.	Refer to Lesson 9 of the Solution Seeking Microbes Unit for more information on developing, administering, and analyzing interview data. *Data Collection Resources*—Interview structure and etiquette *Data Collection Resources*—Interview preparation

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Days 3–8
Continued

Procedure

Group Task	Suggested Timeframe for Completion	Group Goals for Task	Resources
Survey Development	One to two class periods	Complete survey(s) targeted for appropriate community groups.	Refer to Lesson 7 of the Alternative Proteins Unit for more information on creating and administering surveys. *Data Collection Resources*—Sample survey questions
Data Collection	One class period	Create a data collection plan. Complete community interviews. Administer survey to identified groups and individuals.	*Data Collection Plan Capture Sheet*
Data Analysis	Two to three class periods	Interviews: • Code community interviews. • List key ideas from interviews. Surveys: • Create graphs of any quantitative data. • Code long-form survey responses. • List key ideas from surveys.	*Data Collection Resources*—Example data analysis *Data Collection Resources*—Tips for coding interviews

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Days 3–8
Continued

Procedure

Group Task	Suggested Timeframe for Completion	Group Goals for Task	Resources
Initial Proposal	One class period for proposal development One class period for sharing and feedback (optional)	Select a community issue from a list of key ideas. Complete initial proposal form. Share a one-minute informal proposal overview with the class. Revise proposal based on peer feedback.	*Project Proposal Capture Sheet* *Project Proposal Peer Feedback Capture Sheet*

National Standards

Next Generation Science Standards	**ETS1-2 Engineering Design** Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering. **Science and Engineering Practices** Analyzing and interpreting data Analyze data using tools, technologies, and/or models (e.g., computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.
Career and Technical Education (CTE)	**A1.1** Use data to explain how biotechnology fields such as pharmaceuticals, agriculture, diagnostics, industrial products, instrumentation, and research and development are impacting human life. **A1.6** Explore and outline the various science and non-science fields and careers associated with biotechnology. **A5.2** Use a variety of methods, including literature searches in libraries, computer databases, and online for gathering background information, making observations, and collecting and organizing data. **A6.1** Apply knowledge of symbols, algebra, and statistics to graphical data presentation. **A6.4** Create data tables and graphs for the purpose of collecting and analyzing data. **2.4** Demonstrate elements of written and electronic communication such as accurate spelling, grammar, and format. **2.5** Communicate information and ideas effectively to multiple audiences using a variety of media and formats.

Educator Resources

Ideas for Community Action

Directions

While every community has its own unique needs that could be addressed with DNA identification technology, the following resource provides some direction to help you and your students identify possible project proposal ideas.

As a starting point, students could be provided with the ideas listed under "Locating Potential Community Areas" while they are thinking about local communities.

Groups in need of more scaffolding might be provided with the questions listed under "Example Topic and Questions" to use as prompts or sentence frames for developing a topic.

Locating Potential Community Areas
— Local, regional, state, or national parks and natural areas; start with your state Department of Natural Resources.
— Nearby streams, ponds, lakes, rivers, reservoirs, harbors, or bays
— Superfund sites; the US EPA provides the ability to *Search for Superfund Sites Where You Live*.
— Current and former industrial sites
— Schools
— Water or wastewater treatment facilities

Example Topic and Questions	Fully Developed Proposal
Invasive Species: Is a particular invasive species present in a given area? Is a particular initiative to stop the spread of an invasive species working?	Use environmental DNA to detect contamination with invasive Asian carp in local bait supply stores.
Disease monitoring: Is a certain pathogenic organism present in a given location? Are numbers of a pathogenic organism increasing or decreasing in a given location?	Detect future COVID outbreaks by screening sewage for viral DNA.
Tracking species: Is a rare or elusive species active in a particular area? Is the population of a given species increasing, decreasing, or staying stable in an area? How biodiverse is a given location?	Confirm local accounts of urban cougar sightings using environmental DNA sampling.
Monitoring pollution: Is a given biological pollutant found in a particular location? Is a pollution control program or initiative working?	Test a local stream for the presence of DNA from fecal coliform.
Food and other product labeling: Are the ingredients listed for a specific product accurate? Has a certain food product been substituted with something else?	Determine whether local restaurants are mislabeling less expensive fish as swordfish
Microbiome testing: Do individuals living in a certain location tend to have similar microbiomes? How can we monitor certain microbiome species to help make healthcare decisions?	Monitor oral microbiome composition to identify students who may be suffering from anxiety or depression.

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Communities Journal, Part 2

Directions
Answer the following questions, then share your responses with a partner. Refer to the answers you wrote in Communities Journal, Part 1 as a part of Lesson 1.

1. Which topic area did you choose (environment, food and safety, human interest)?

_____

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2. How does this topic fit into one or more of the communities to which you belong?

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Communities Journal, Part 2

Continued

3. What concerns do people in those communities have related to that topic?

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4. What problems exist that need to be solved?

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Identifying Community Leaders Capture Sheet

Directions

Work with your group to identify key leaders in your community.
The goal is not to complete every section, but to brainstorm
a good-sized list of people you could reach out to.

Local Government Groups and Leaders	In many communities, local elected leaders have detailed knowledge of activities and concerns of community members. For this step, find the website for your city government to locate the names and email addresses of main officials. More importantly, find a list of city departments. Record departments that are related to your topic area and find the contact person(s) for that department. These individuals may be among your best government contacts for interviews or surveys.	
	Name(s)	Email
City Government		
City Council or Board Members		
City Departments (related to your topic area)		
County or Township Government		
City Council or Board Members		
City Departments (related to your topic area)		

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Identifying Community Leaders Capture Sheet

Continued

Formal Community and Neighborhood Groups	Many communities have formally organized groups that are active on one or more issues within an area. These groups include neighborhood coalitions, service groups (Lions, Rotary Clubs, etc.), local chapters of national organizations (BLM, Sierra Club, etc.), cultural or ethnic heritage groups, and groups focused on some aspect of community growth or development (art centers, non-governmental behavioral health organizations that offer community mental health services, business development groups). Make a list of groups in your community that you could reach out to. You can use the Internet to help you, but also talk to people around you to build your list.	
	Name(s)	Email
Formal Community Groups		
Neighborhood Groups		

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Identifying Community Leaders Capture Sheet

Continued

Other Community Leaders	In some cases, the people who may have the best insight into community wants and needs are not necessarily those in government or formally organized action groups. Think about people you know around you who you look up to. Do you know coaches, mentors, teachers, community elders, or faith-based leaders who you could reach out to? Make a list of these individuals below.	
	Name(s)	Email

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Data Collection Plan Capture Sheet

Directions

Use this sheet to outline your overall strategy for collecting and analyzing data. This will be added to the Portfolio of Supporting Evidence as a part of the Final Artifact in Lesson 11.

Group Members	*Topic Area:*
	☐ Environment
	☐ Food and Safety
	☐ Human Interest

Data Collection

Method	Number to Conduct	Description
Interviews		
Surveys		
Other		

Participant Identification

Groups to Survey Examples: students, members of an organization, family members, etc.	Survey Administration Will you reach this group via email, in person, table in the lunchroom, etc.?	Incentive How will you encourage people to participate in your data collection?

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Data Collection Plan Capture Sheet

Continued

Potential Interview Subjects	Name	Best Method of Contact	Contact Information

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Data Collection Resources

Directions
Use the next six pages to guide the development of your data collection tools. Four tools (A–D) are followed by two examples that show how to use these tools to analyze different types of data.

A   Interview Structure and Etiquette

Source: *Youth Engaged in Leadership and Learning A Handbook for Program Staff, Teachers, and Community Leaders.*

	Parts of an Interview	Purpose	Examples
1	Introduction	Make sure the interviewee understands why they are being interviewed, how their responses will be used, and what to expect from the interview.	Hello, my name is .... and I am from .... high school. We are trying to figure out ...., and your thoughts and experience will help. All of your answers will be confidential, which means only myself and my group members will see your responses. Please give your honest response and do not answer any question you do not want to.
2	Ice-Breaker or Getting-to-Know-You Questions	Get the interviewee (and yourself!) comfortable talking. Build rapport.	What is your name? How long have you lived here? What are your hobbies?
3	Big Picture Questions	Allow the interviewee to share their view of the topic in their own words.	What do you think is the best feature of our community?
4	Survey Questions	Collect answers to questions specific to your topic.	What environmental issues are you concerned about in our neighborhood?
5	Conclusion	Wrap up your interview and give the interviewee a chance to share any final thoughts. Make sure to thank your interviewee!	That is the final question. Is there anything else you'd like to add?

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Data Collection Resources

Continued

B   Interview Preparation

Source: *Youth Engaged in Leadership and Learning A Handbook for Program Staff, Teachers, and Community Leaders.*

	Step	Checklist
1	Preparation	☐ Practice interview questions.
		☐ Bring interview materials like pen, paper, consent forms, tape recorder, and a written description of the project, if needed.
		☐ Find an appropriate setting, not too noisy and comfortable for both.
2	Introduction	☐ Introduce yourself with your name and any other relevant information to your project, including a brief description of your project goals or what you hope to learn.
		☐ Ask for permission to be interviewed and get the permission form signed. If the person objects to the interview, you cannot do the interview. Thank them for their time.
3	During the Interview	☐ Maintain eye contact. Eye contact is a sign of respect for many and shows engagement and interest.
		☐ Listen intently to the person you are interviewing with few interruptions.
		☐ Limit sharing your own personal opinions. The interview is about your subject and their ideas.
		☐ Ask subjects to speak for themselves and express their opinions.
		☐ Ask follow up questions to tease apart their ideas with questions like "Could you explain…?" or "Can you elaborate a little bit more on…?"
		☐ If they are nervous, give them time to answer. Being nervous is normal. Make sure your subject is calm and comfortable.
4	Ending the Interview	☐ Ask them if they have any final thoughts or anything they would like to include.
		☐ Thank them for their time and express your gratitude.
5	Respect Confidentiality	☐ Tell the person you are interviewing that what they shared was between the two of you. Tell them their identity will be protected for the entirety of the project.
		☐ Only speak about the interview anonymously.

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Data Collection Resources

Continued

C   Tips to Transcribe an Interview   Source: *Tips to Transcribe an Interview*
from GMR Transcription.

1   Before transcribing, make sure to write down the names of the interviewer and the interviewee(s) as well as the time, date, and location of the interview.

2   Include both the interviewer's questions as well as the interviewee's answers when transcribing.

3   When some words are unclear, make an educated guess about what was said. Put that into a bracket to show that it is your words and not from the interview.

4   Add a new paragraph whenever an interviewee makes a new idea and put a space in between each speaker.

5   Delete excessive use of fillers such as *I mean, you know, um, uh,* etc., which are distractions when trying to convey a message during the interview.

6   Although this one is obvious, double check *and* triple check the transcription by making corrections, editing, correcting grammar, and checking spelling to ensure it is as accurate as can be.

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Data Collection Resources

Continued

D Sample Survey Questions

There are generally four different types of survey questions. Below are examples of each category from a survey about homelessness.

Type	Example				
1 Yes or No	Have you ever been homeless?	☐ YES		☐ NO	

2 Scale	My family worries about how to pay rent.	1	2	3	4
		Not True			Very True
	It is hard to find an affordable place to live in my community.	1	2	3	4
		Strongly Disagree			Strongly Agree
	I see homeless people where I live.	1	2	3	4
		Usually			Never
	How much of a problem is homelessness in this community?	1	2	3	4
		Small			Large
	My family worries about how to pay rent.	1	2	3	4
		Not True			Very True

3 Multiple Choice or Rank

What do you think is the most important solution to homelessness in your community? (Check two)

☐ Lower rents   ☐ Better social services agencies

☐ New public housing   ☐ More social service agencies

☐ More homeless shelters   ☐ Other: ....

☐ Guaranteed jobs programs

Rank the following solutions to homelessness (1 is the best solution, 6 is the worst solution):

.... Lower Rents   .... Better social services agencies

.... New public housing   .... New public housing

.... More homeless shelters   .... More social service agencies

.... Guaranteed jobs programs

4 Open Ended

What do you think causes homelessness in your community?
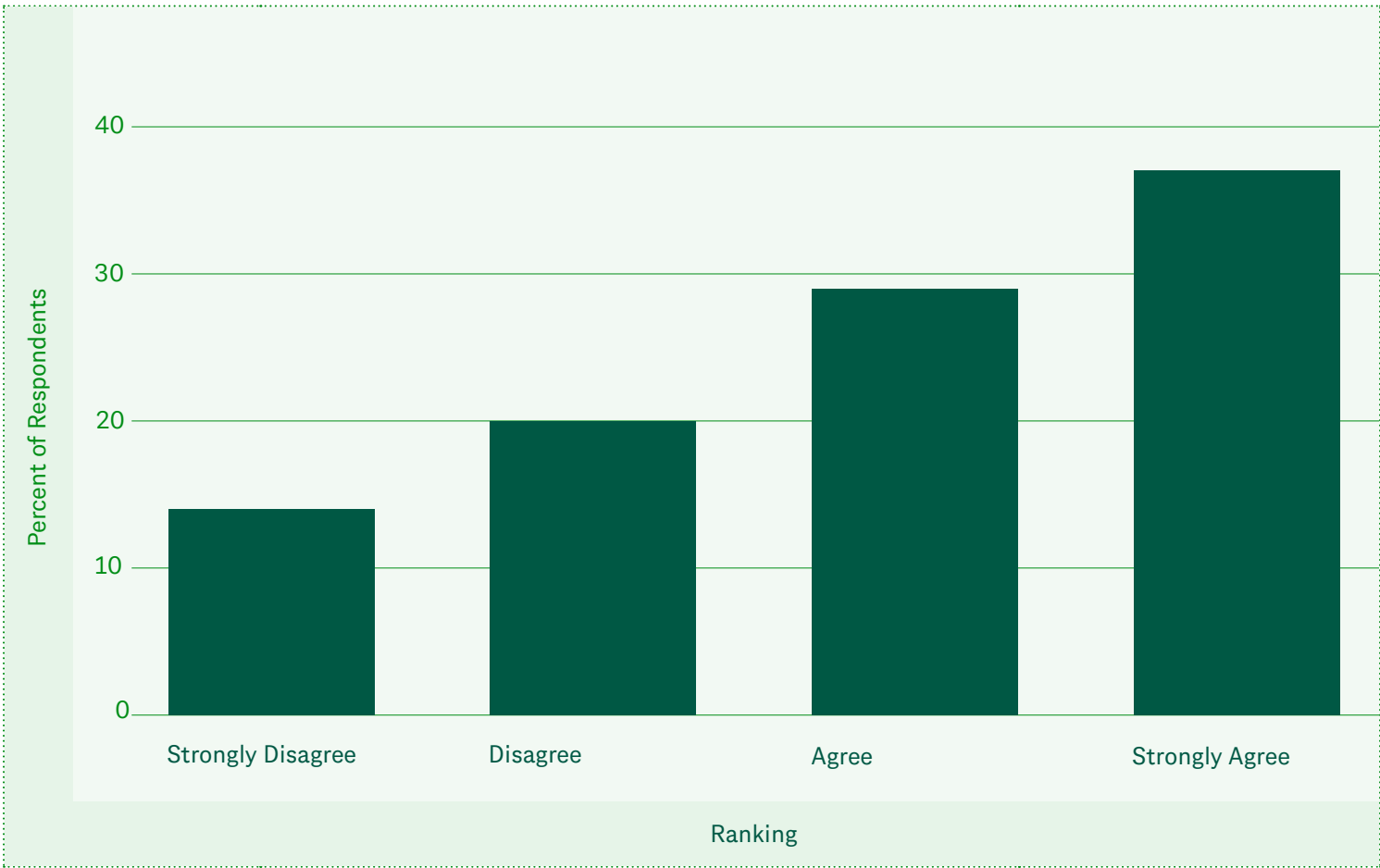

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Data Collection Resources

Continued

Student Example   Data Analysis

Use this example to consider how you might present the data that your group presents.

Questions   Do you agree or disagree with the following statement:
I worry about swimming in outdoor areas of the community because of water pollution.

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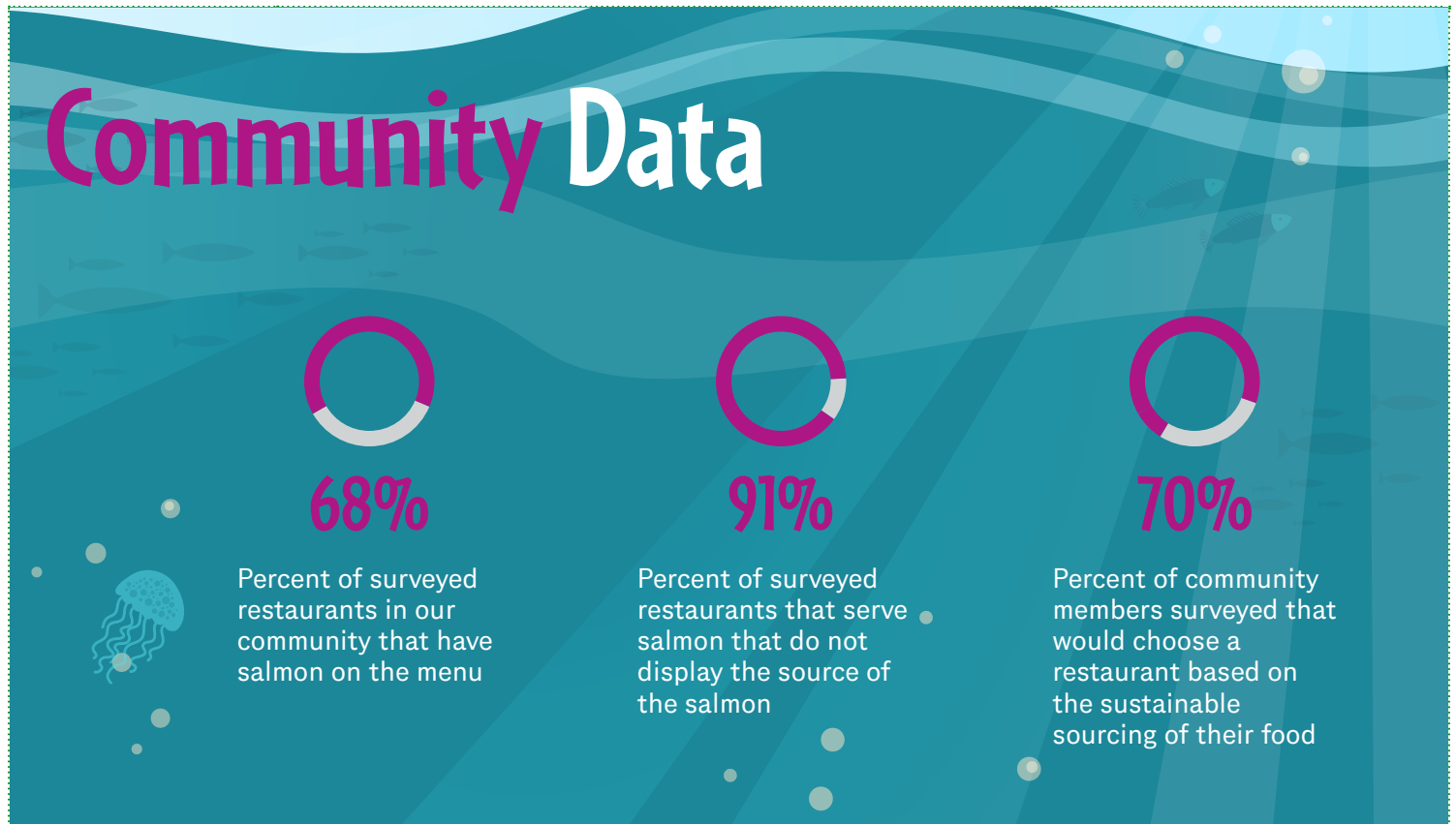**Data Collection Resources**
Continued

Student Example   Final Learning Artifact

Use this example to consider how you might develop your presentation.

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Project Proposal Capture Sheet

Directions

*After you collect all of your data, use this sheet to identify
the project you will focus on for the remainder of the unit.*

Group Members	*Topic Area:*	☐ Environment
		☐ Food and Safety
		☐ Human Interest

Define:
What problem, issue, or challenge does your group propose to address?

Emphasize:
Summarize the data you collected that demonstrate the importance of your proposed idea to the community.

Ideate
How could DNA identification technology help with your proposed idea?

Teacher Topic Approval	☐ Topic approved pending these revisions:
	☐ Topic not approved. Alternative next steps:

FUTURELAB+

Project Proposal Peer Feedback Capture Sheet

Directions
Use this sheet to give feedback to other groups on their initial proposals.

Group Members proposal feedback provided for:	*Feedback provided by:*

	What did the group do well for this component?	What could the group improve upon?
Problem, issue, or challenge group proposes to address Is the main idea clear and understandable?		
Supporting data Does the data the group provided support their choice of topic? Is the topic relevant to the community identified? Are there other ideas the data could suggest?		
Connection to DNA technology Can the problem, issue, or challenge be addressed with DNA identification? Is the connection identified by the group clear and logical?		