

2.2

Grade Level

6-9

Subjects

Health
Science

Time Frame

1 class period

Teacher Materials

- Food Categories Activities
- What Are We Eating data collector
- Food Influences Case Studies

What Are We Eating?

In this lesson, students use case studies to explore the influences on teen food choices, and the ways in which teens may or may not integrate healthy foods into their diets. Teens discuss ways to positively impact their families' food choices.

Teacher Background

In today's world, it is challenging, if not nearly impossible, to live only on Native foods. Because of this, many Native people promote a hybridized diet that incorporates both Western and traditional foods in a way that still supports cultural and spiritual connection. Fostering a deeper connection with food happens in many ways. For example, growing one's own food, harvesting and processing it by hand, and giving thanks to the earth, animals, and plants that have made themselves available to human communities for mindful consumption, are all a part of interacting with food in a way that supports cultural and spiritual cohesion.

Across Indian Country, Native communities have their own cultural traditions, stories, songs, and methods for interacting with food. In Pomo country specifically, a wide variety of detailed **baskets** were used for each step of the harvesting, gathering, and preparing process. Interacting with edible plants requires that significant time and care are taken to weave baskets that can then be used to handle food, with each basket design symbolizing specific edible organisms.



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In this example, eating food is not just about nutrition and energy, it is also about the community in which weavers weave, the songs and stories that both weavers and gatherers sing and tell as they work, and about the deepening connection between organic materials and the humans that rely on them.

In many Native communities, the westernization of food systems has had negative consequences on mental, spiritual, and physical health. Traditionally, Native peoples did not consume refined processed sugars, as sugar came organically from fruits, and were turned into syrups or beverages when prepared for consumption.

Alcohol, another introduction to Native communities through colonization, contributes to physical and mental health disparities in Indian Country as well, with high rates of diabetes and coronary heart disease.

Developing an awareness of the kinds of foods students consume is the first step in changing habits around food. Remember, “food habits” are not just our habits around eating. Eating in a way that is aligned with Indigenous values and that values the health of communities and the greater ecosystem requires reflection on how the foods we eat impact the land, animals, and plants.

In this lesson, students explore four categories of food:

- **Indigenous Foods**
- **Settler/Introduced Foods**
- **Whole Foods**
- **Processed Foods**

Indigenous foods can be defined as locally grown food that is originally from the area and has been eaten by Native people for thousands of years. This food is grown with no chemicals or pesticides and is grown in just the right amount.

Settler or introduced foods represent any foods that are not indigenous to the local landscape, and that often come from outside the country. Just because a food is introduced doesn't mean it is unhealthy or bad for the environment, though sometimes this is the case. Introduced foods have the possibility of interfering with the local ecosystem when not controlled properly. The risk of certain organisms becoming invasive, taking over local ecosystems, is ever present. In addition, introduced foods may not align with the nutritional needs of the local community, which can cause damage to physical health. It is important to be aware of these possible impacts when consuming foods that are not a part of one's ancestral food diet. One common example of introduced foods conflicting with Indigenous diets is the introduction of dairy products and the high rates of lactose intolerance found in

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Whole foods can be defined as foods that have been processed or changed very little from their original form. Whole foods do not have added flavors or additives. While Native communities do process foods, Pomo acorn bread, for example, required significant processing, many foods are minimally processed.

Processed foods can be defined as foods that have been altered or changed from their original form, and that often include added flavors, preservatives, and substances. These foods might taste and look totally different than the organisms from which they originate. Processed foods often contain added sugars and saturated fats that can be detrimental to health.

Much of human eating habits can be linked to community norms and expectations. We tend to eat what our families eat, and, especially for teenagers, peer pressure and pressure to fit in significantly informs choices around eating, exercise, and behavior. This lesson breaks down the categories of influence that students may feel to eat a certain way.

The categories include:

- **Family responsibilities and role models:** Referring to the norms in one's family about acquiring food, preparing, and eating it.
- **Cultural norms and traditions:** Referring to traditional foods, attitudes around cultural foods from one's own culture and other cultures.
- **Environmental awareness and concern:** Referring to consuming, buying, and growing foods with concern for how those behaviors impact the local and global environment.
- **Popular and peer culture:** Referring to norms, pressure, and social attitudes that influence decisions and behaviors in regards to food.

These categories support students in understanding how their personal eating habits come to be and allows them to consider ways that they may want to adjust or improve their relationship with food. By analyzing case studies of teens their age, students begin to identify these influences in others, and apply the same awareness and analysis to their own habits.

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Vocabulary

- **Indigenous:** Produced, growing, living, or occurring Natively or naturally in a particular region or environment
- **Food Sovereignty:** To achieve independence in terms of the production and provision of food. Communities who achieve food sovereignty grow, distribute, and consume their own food from their own food sources
- **Reinvigorate:** To give new or renewed strength or energy to (something or someone) : to invigorate (something or someone) again
- **Nutrition:** Related to eating foods that provide the nutrients needed to live. Nutrients found in food and drink help provide energy to the body.
- **Indigenous Foods:** Locally grown food that is originally from the area and has been eaten by Native people for thousands of years. Food is grown with no chemicals or pesticides, food is grown in just the right amount.
- **Settler/Introduced Foods:** Foods that come from other countries or from outside the local ecosystem. Foods are sometimes healthy and sometimes damaging to health. Sometimes these plants can harm the local ecosystem.
- **Processed Foods:** Foods that have been altered or changed from their original form. They often have added flavors, or artificial substances added, and might taste much different than their original form
- **Whole Foods:** Foods that have very little, or no processing/have not been changed from their original form. Foods do not have additives or any artificial substances added.

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Engage

Provide students with the **Food Sorting: What am I Eating? worksheet**. Ask students to categorize the foods listed in the box at the bottom of the page into the correct categories.

Explore

Project the **What are We Eating? Class Data Collection worksheet** for students to see.

Explain to students that the statements above each box correspond with a “**category of influence**”. Each category represents the kinds of influences we might have in our lives, that impact what we eat. The four categories are:

1. **Family Responsibility and Role Models**
2. **Cultural Norms and Traditions**
3. **Environmental Awareness and Concern**
4. **Pop Culture and Peer Culture**

Students might think of new categories as they move through the lesson.

Ask the class each question, and have students silently raise their hands if the statement read applies to them. Count the number of hands raised for each question and write the number in the box.

As a class, observe the data you’ve collected and discuss the follow up questions.

Explain

Explain to students that for many people, considering what is normal within one’s family, culture, environment, and popular or peer culture is a major part of deciding what to eat.

When your family or friends eat a certain way, commonly you will eat the same. Just because your family or friends eat a certain way, however, does not mean that those food choices are the healthiest for you or your environment.

Walk students through the two **data representations** included, asking what they notice and wonder about the data.

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Elaborate/ Extend

Provide students with the **Food and Health: Who Influences Us? worksheet**. The worksheet includes four separate scenarios that highlight ways that teens make decisions about what to eat. The questions included ask students to consider the importance of role models and how food choices impact different parts of their health.

You may choose to assign two scenarios to pairs or groups, or have students complete all four.

Evaluate

As a class, discuss the following questions:

1. **Who and what can influence the way we eat?**
2. **How can food impact our health?**
3. **What are some ways we can influence others to live healthy lives?**



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Lesson Resources

Sources::

- Tending the Wild by Kat Anderson
- Food in California Indian Culture by Ira Jackni
- Bleich, S. "Federal Public Policy & Population Health" Harvard T. H. Chan School of Public Health, Spring 2020. Boston, Ma. Lecture.



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Learning Standards

CA Indian Essential Understandings

Essential Understanding 2: California Indian identity is individual and the range of Tribal identity from assimilated to traditional is unique to each individual. The diversity of identity means there is no standard or cookie cutter appearance or behavior. There is no generic American Indian, in California, or in the United States.

Essential Understanding 4: California Indian peoples' histories and cultures have been and continue to be impacted by foreign, state, and federal policies. Policies developed during the Mission Period, the Gold Rush Allotment, the Boarding School Period, termination policies, and self-determination policies are integral parts of the history of tribes in California.

Essential Understanding 5: Land and place are unique and inextricably tied to Tribal cultures.

CA Content Standard

California Health Standards

1.1.N Describe the short- and long-term impact of nutritional choices on health.

1.5.N Differentiate between diets that are health-promoting and diets linked to disease.

1.10.N Identify the impact of nutrition on chronic disease.

Common Core:

CCSS.ELA-LITERACY.RI.7.1

Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RI.7.2

Determine two or more central ideas in a text and analyze their development over the course of the text; provide an objective summary of the text.

What Are We Eating?

Name: _____

Date: ____/____/____

Food Sorting: What Am I Eating?

Each box contains a definition of a certain category of food. Read the category definition and organize the foods listed into the correct category. Some may belong in multiple categories.

Indigenous Foods are foods which are

- **Local:** grown close to the community that eats the food
- **Organic:** not grown with chemicals/pesticides
- **Domestic:** originally from the place where it is being grown and have been eaten by the Native people of the area for thousands of years

- | | |
|---------|---------|
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |

Introduced Foods are foods which are

- **Imported:** originally from other countries/places outside of the local ecosystem and have been introduced to the ecosystem recently.
- **Possibly harmful to the ecosystem:** because these foods are not Native to the environment, they can harm the ecosystem.

- | | |
|---------|---------|
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |

Whole Foods are foods which are

- **Unprocessed:** the original food, as it comes from the ecosystem (i.e. from the plant/animal) has not been changed very much.
- **Free of additives:** are not packaged with any synthetic additives/ preservatives, or other artificial substances.

- | | |
|---------|---------|
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |

Processed Foods are foods which are

- **Physically Altered:** the original food, as it comes from the ecosystem (i.e. from the plant/animal) has been changed and looks different.
- **Chemically Modified:** contains artificial substances and additives/ preservatives like high fructose corn syrup.

- | | |
|---------|---------|
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |
| • _____ | • _____ |

Food List:

- Pine nuts
- Salmon Filet
- Potato Chips
- Ice Cream
- Bacon Cheese Burger
- Walnuts
- Blackberries

- Granola Bar
- Milk
- Prickly Pear
- Steak
- Chicken Breast

What Are We Eating?

Name: _____

Date: ____/____/____

What are we Eating? Class Data Collection

Family Responsibilities and Role Models

Responsible
for cooking for
a family mem-
ber

Learned how to
cook from a family
member/adult

Grow food in a
garden or yard

Go grocery
shopping for
their family or
with a family
member

Eats meals
with their
family
regularly

Cultural Norms and Traditions

Eat foods
traditional to
their culture

Eat foods from a
wide variety of their
own and other
cultures

Are interested
in or enjoy
foods from
other countries

Eat specific
foods on specific
occasions

buy foods for
traditional
recipes from a
specialty store

Environmental Awareness and Concern

Eat/buy food
that is locally
grown/
produced

Eat foods that are
Native to California
regularly

Eat organic
food that is
grown without
pesticides

Avoid foods that
are bad for the
environment
(i.e. beef)

Can identify
edible foods
and plants in
their
environment

Pop Culture and Peer Culture

Eat foods that
are popular
with other
teenagers

Eat at popular fast
food restaurants

usually eat the
same foods as
their friends

Think it's weird to
eat certain foods

Are interested
in trendy foods
that become
popular

What Are We Eating?

Name: _____

Date: ____/____/____

Follow Up Questions:

Which questions have the highest number of students? Which categories do these questions come from? Why do you think these questions have the highest number of students represented?

Which questions have the lowest number of students? Which categories do these questions come from? Why do you think these questions have the lowest number of students represented?

Which do you think influence your class's eating choices the most:

- a. Family responsibilities and role models
- b. Cultural norms and traditions
- c. Environmental awareness and concern
- d. Popular culture and peer culture

What Are We Eating?

Name: _____

Date: ____/____/____

For many people, considering what is normal within one's family, culture, environment, and popular or peer culture is a major part of deciding what to eat.

When your family or friends eat a certain way, commonly you will eat the same. Just because your family or friends eat a certain way, however, does not mean that those food choices are the healthiest for you or your environment.

Below are a series of data representations that show the relationship between what we consume and our health:

Poor diet is leading to higher mortality

11 million deaths globally



3 million
High intake of sodium



3 million
Low intake of whole grains



2 million
Low intake of fruits and vegetables

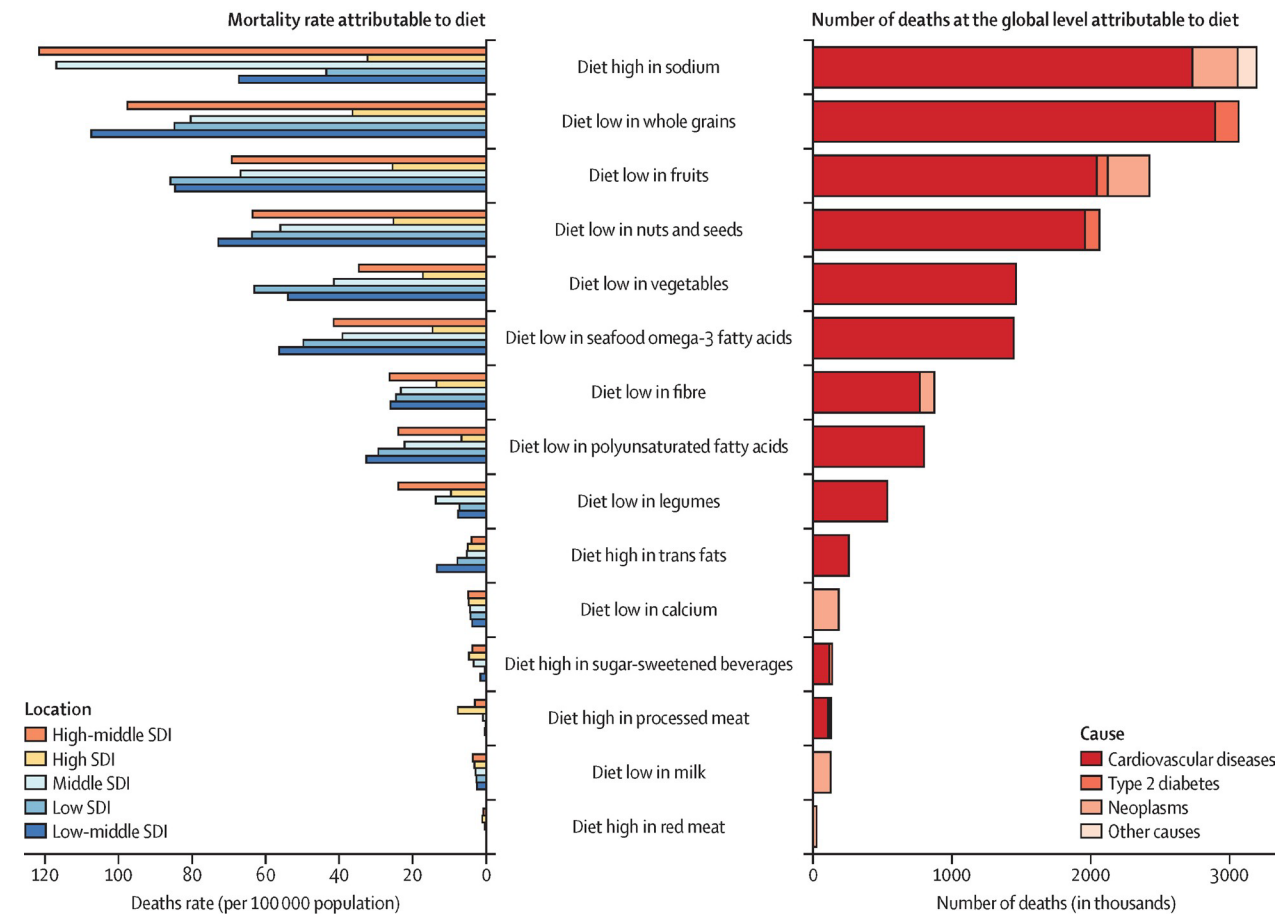
Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, Mullany EC, Abate KH, Abbafati C, Abebe Z, Afarideh M (2019). Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 393(10184):1958-72.

What Are We Eating?

Name: _____

Date: ____/____/____

Mortality rate attributable to individual dietary risks



GBD 2015 Risk Factors Collaborators (2017). Global, regional, and national comparative assessment of 84 behavioural, environmental and occupational, and metabolic risks or clusters of risks, 1990–2016: a systematic analysis for the Global Burden of Disease Study 2016. *The Lancet*, 390(10100), 1345–1422.

When looking for peers and adults that can model healthy eating for you, it is important to think about people who care about their health and the health of their environment as well.

What Are We Eating?

Name: _____

Date: ____/____/____

Food and Health: Who Influences Us?

Directions: Read each teenager's experience with food and answer questions about their food awareness on a separate piece of paper.

SCENARIO 1

Ronny, a 13 year old, loves to play sports, video games, and hang out with his family. Every Sunday, he and his brothers visit their grandparents for dinner. In the mornings, when the weather is nice, Ronnie's grandpa takes his grandsons to the ocean to fish for salmon or collect mussels. On his grandparents' property, Ronnie's grandpa likes to take Ronnie and his brothers around the yard on his tractor. First, they visit the blackberry bushes, where the boys pick berries for dessert. Second, they visit the black oak tree, where the boys trim the branches of the tree to help the tree produce acorns for the fall. Ronnie's grandmother makes acorn flour every year to turn into acorn bread using the family's traditional recipe from their Native culture. Next, they walk through the field below the house, collecting wild mint for tea. Ronnie's grandpa explains that mint can be used for medicine and can help with headaches, nausea, and energy. Ronnie's grandpa carefully tends to all the plants in his yard to ensure enough food for his wife to cook! When he does a good job taking care of his yard, all of his plants thrive and his family has lots of food to eat.

1. Does this teen have any role models that influence the way they eat?
 - a. If so, what kind of lessons does the role model teach?
 - b. If not, how do you think the absence of a role model impacts the teen's relationship with food?
3. Does this teen eat mostly processed or whole foods? What are some examples?
4. Does this teen eat any traditional foods, or foods that are traditional to their family?
5. Would you describe the foods eaten in the scenario as healthy or unhealthy? Explain.
6. What types of economic considerations impact this teens ability to make healthy choices?
7. Are any of the following parts of this teen's life impacted positively by their food choices?
 - a. Physical health
 - b. Family connection
 - c. Emotional/mental health
 - d. Cultural connection
 - e. Environmental connection

What Are We Eating?

Name: _____

Date: ____/____/____

Food and Health: Who Influences Us?

Directions: Read each teenager's experience with food and answer questions about their food awareness on a separate piece of paper.

SCENARIO 2

Stephanie is a 15 year old who lives in the city. Her mom works long hours and so Stephanie is often tasked with grocery shopping, cooking, and feeding herself. After school, Stephanie usually walks to the closest corner store to grab something easy for dinner. She doesn't quite know how to use the stove yet, so Stephanie buys frozen, pre-prepared meals that she can microwave: a frozen macaroni and cheese, a frozen pizza, and frozen burritos. The ingredients on the frozen meals come from all over the world! Corn from Iowa, carrots from California, tomatoes from Mexico! The meals were made in separate factories all over the country- in Colorado, Wisconsin, and Minnesota. They were delivered in three separate big rig trucks. Stephanie has no idea when the food was actually made in the factory, she just knows it tastes good! After eating, Stephanie often feels tired, sluggish, and uncomfortably full. The only thing that helps Stephanie with her energy is eating sugar, like ice cream or soda. She needs energy in order to stay awake to finish her homework.

1. Does this teen have any role models that influence the way they eat?
 - a. If so, what kind of lessons does the role model teach?
 - b. If not, how do you think the absence of a role model impacts the teen's relationship with food?
3. Does this teen eat mostly processed or whole foods? What are some examples?
4. Does this teen eat any traditional foods, or foods that are traditional to their family?
5. Would you describe the foods eaten in the scenario as healthy or unhealthy? Explain.
6. What types of economic considerations impact this teens ability to make healthy choices?
7. Are any of the following parts of this teen's life impacted positively by their food choices?
 - a. Physical health
 - b. Family connection
 - c. Emotional/mental health
 - d. Cultural connection
 - e. Environmental connection

What Are We Eating?

Name: _____

Date: ____/____/____

Food and Health: Who Influences Us?

Directions: Read each teenager's experience with food and answer questions about their food awareness on a separate piece of paper.

SCENARIO 3

Tom is a 14 year old who cares about eating healthy and is anxious about climate change. He follows lots of Native and non-Native influencers on social media that talk about ways to eat healthier and support one's environment through Indigenous and local foods. When he and his mom go to the grocery store every week, he tries to make suggestions to his mom about what the family should eat, and from where they should get their food. In the produce (fruit and veggie) section, he suggests that the family stock up on lots of green vegetables that are produced in the state where his family lives. When Tom sees that the mangoes he wants are imported from the Philippines, he wonders if sending mangoes across the world on a large barge boat is good for the environment. Maybe there is a local alternative? When they get to the snack aisle, Tom looks for the brand of chips that grows their corn and produces their chips close to his town. The food that is grown and produced locally is fresher, and takes less traveling to get to the store. When Tom eats lots of local foods and vegetables, he feels light, energized, and focused. He also feels proud that he is helping his local food growers and that he is influencing his family to be healthier.

1. Does this teen have any role models that influence the way they eat?
 - a. If so, what kind of lessons does the role model teach?
 - b. If not, how do you think the absence of a role model impacts the teen's relationship with food?
3. Does this teen eat mostly processed or whole foods? What are some examples?
4. Does this teen eat any traditional foods, or foods that are traditional to their family?
5. Would you describe the foods eaten in the scenario as healthy or unhealthy? Explain.
6. What types of economic considerations impact this teens ability to make healthy choices?
7. Are any of the following parts of this teen's life impacted positively by their food choices?
 - a. Physical health
 - b. Family connection
 - c. Emotional/mental health
 - d. Cultural connection
 - e. Environmental connection

What Are We Eating?

Name: _____

Date: ____/____/____

Food and Health: Who Influences Us?

Directions: Read each teenager's experience with food and answer questions about their food awareness on a separate piece of paper.

SCENARIO 4

Delilah is a 12 year old who just entered middle school. She is nervous about making friends and wants to fit in. She quickly finds a group of friends that eats lunch together every day in the cafeteria. Although Delilah is starving by the time lunch comes around, she notices that most of her new friends eat only a bag of chips for lunch, and nothing else. Delilah has money to buy lunch from the school cafeteria, but decides not to since she doesn't want to seem weird in front of her friends. After lunch each day, Delilah is sluggish and cannot concentrate on her schoolwork. She becomes anxious about her grades, but doesn't have enough energy to get any work done. Her teacher pushes her to try harder, but she is cranky and refuses. By the time school gets out, she is so hungry and tired, that she runs to the nearest store to buy an ice cream and microwavable ramen with her friends before going home. When Delilah's mom serves her a freshly prepared dinner, Delilah eats very little, since she is full from her after school snack. Her parents are frustrated that Delilah isn't eating their family's favorite traditional foods.

1. Does this teen have any role models that influence the way they eat?
 - a. If so, what kind of lessons does the role model teach?
 - b. If not, how do you think the absence of a role model impacts the teen's relationship with food?
3. Does this teen eat mostly processed or whole foods? What are some examples?
4. Does this teen eat any traditional foods, or foods that are traditional to their family?
5. Would you describe the foods eaten in the scenario as healthy or unhealthy? Explain.
6. What types of economic considerations impact this teens ability to make healthy choices?
7. Are any of the following parts of this teen's life impacted positively by their food choices?
 - a. Physical health
 - b. Family connection
 - c. Emotional/mental health
 - d. Cultural connection
 - e. Environmental connection