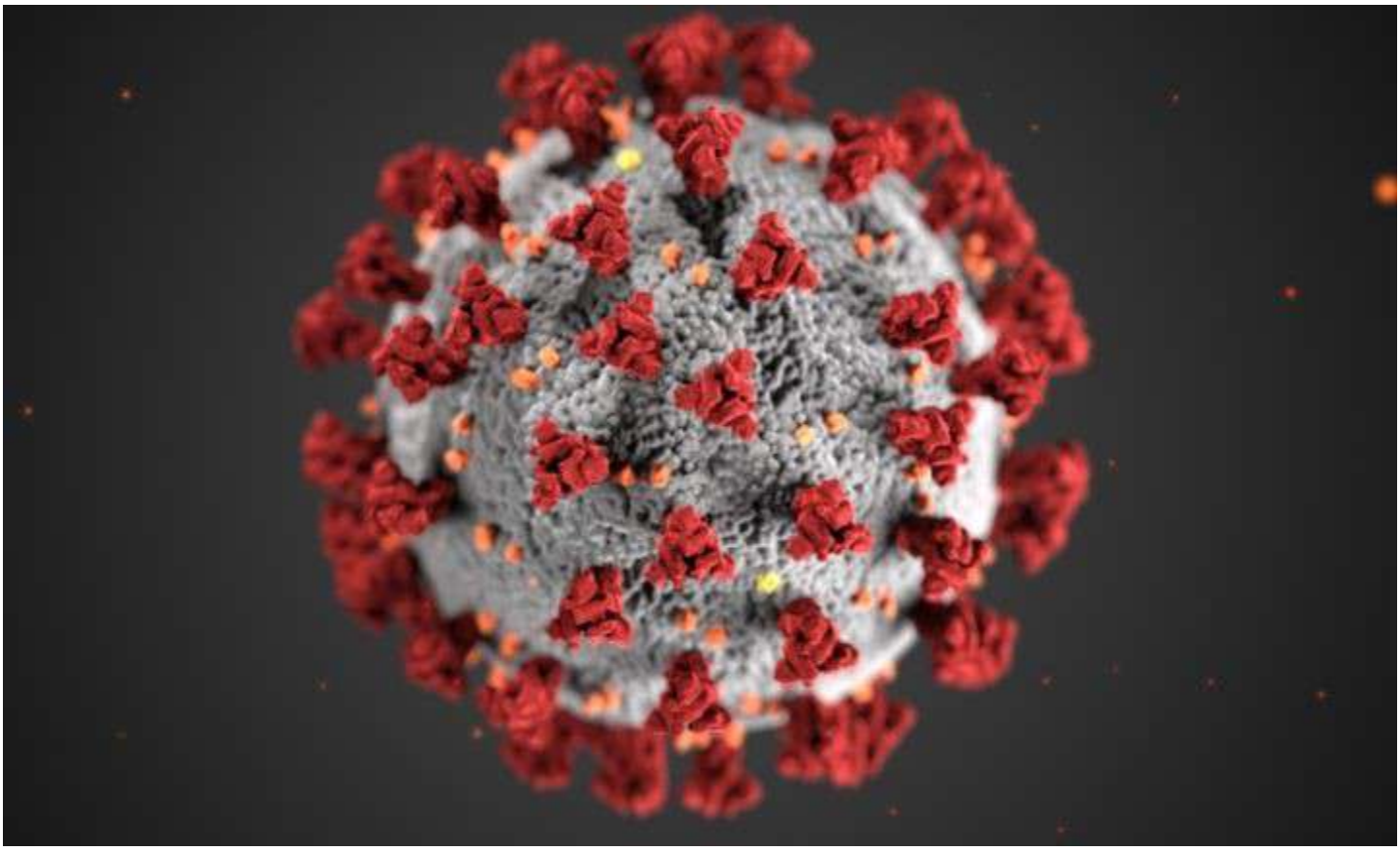
Smithsonian | SCIENCE for Global Goals

COVID-19!

How Can I Protect Myself and Others?



SUSTAINABLE DEVELOPMENT GOALS

developed by

Smithsonian Science Education Center

in collaboration with

iap SCIENCE HEALTH POLICY
the interacademy partnership

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Dear Parents, Caregivers, and Educators,

As we face COVID-19 as a global community, it can be difficult to put into words what we as adults are feeling and even more challenging to discuss these feelings with young people. As the young people in your care move through this guide with you, some difficult questions may come up. What is COVID-19? What is happening in the world and how are people feeling about it? How can keeping our distance, washing our hands, and covering our nose and mouth help protect us? How is COVID-19 impacting families and communities? How can staying informed about COVID-19 make a difference? What actions can I take right now to protect myself and others? You do not have to have the "answers" to any of these questions. The most important thing that you can offer to young people is honesty and security.

The foundation of this material is in science. One of the best ways to become comfortable with the changing state of the world is by arming yourself with knowledge and then using that knowledge to make a difference in the world. This is true for young people as well. As youth around the globe engage with the activities in this guide, they will gain an understanding of the science that underlies COVID-19. They will be able to share their knowledge with their community, create tangible ways to take action in this challenging time, and understand the best places to find additional information on the topic.

But this new knowledge may also be scary and overwhelming for people who are young. They may require support and guidance from you to put their new knowledge into context. Ask the young people around you how they are feeling and what they are thinking about what they have learned. Validate the questions they ask you, even if they ask them over and over again.

These tasks are designed to be completed in collaboration with the young person in your care. Each task is driven by a question that young people may ask you about COVID-19. Each task is structured in a way to help young people (and you) to: (1) **Discover** the answers to the question in your own environment; (2) **Understand** the science that underlies the question; and then (3) provide guidance to help you and the young people you care for **Act** on your new scientific knowledge.

What can young people do to use their new knowledge to protect themselves and others? Task 1 should help you and each young person you care for understand who they are so that they are better prepared to understand others. This is important because as you complete Tasks 2–4, you will interact with people with whom you are isolating or with your friends or families virtually. These interactions will help provide the foundational understanding for Tasks 5–7 on how to protect yourself and others from COVID-19.

As a parent, caregiver, or educator, you may decide to skip certain questions, activities, or an entire task because doing so may go against local guidelines or may be of concern to you. This is okay! Please personalize the interactions so that your health and safety and the health and safety of the young people in your care are of utmost concern.

At the Smithsonian Institution, we are not first responders, but we are experts in helping young people to understand science and how it impacts the world around them. We also deeply believe in the importance of using the United Nations Sustainable Development Goals (SDGs) as a framework to focus on sustainable actions that are defined and implemented by youth. As part of the Smithsonian Science for Global Goals

project, *COVID-19! How Can I Protect Myself and Others?* addresses SDG Goal 3 (Good Health and Well-Being), Goal 4 (Quality Education), Goal 6 (Clean Water and Sanitation), and Goal 11 (Sustainable Cities). We also recognize the incredible power of collaboration and working together closely with others, even at a distance. We are immensely grateful to the World Health Organization (WHO), the InterAcademy Partnership (IAP), Johns Hopkins University, and our colleagues at the Smithsonian for their perspectives and for their technical support in ensuring the science is accurate. We are grateful to the Gordon and Betty Moore Foundation for their support during the development of this module. We are also grateful to WHO and IAP for providing the translations and proofreading to ensure young people and you—as their parents, caregivers, and educators across the globe—can interact with this content.

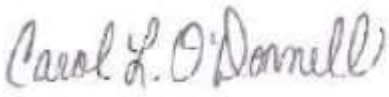
"The Smithsonian Science Education Center makes science exciting and approachable for children and youth all over the world and encourages them to explore the how and the why of things around them. The Smithsonian Science for Global Goals project uses an innovative methodology where children and youth learn by doing and have to discover the answers themselves. Understanding the relationship between human beings and the environment will help us live in harmony and also prepare for future pandemics. With all the myths and misconceptions out there, it is important for children and youth to understand the nature of this pandemic and what can be done to prevent future pandemics from happening."- Dr. Soumya Swaminathan, Chief Scientist, World Health Organization

"It is so important for children—wherever they are in the world—to develop their scientific understanding and rational thinking. Only by being able to make rational decisions based on the best science and evidence can any of us adjust our behaviour to keep ourselves and our families safe from infections such as COVID-19."- Professor Volker ter Meulen, InterAcademy Partnership President

COVID-19, like any pandemic, is frightening. It has upended our lives. But it has also brought us closer together as a global community. We may live across geographic boundaries, but we are all in this fight together. And science—and action—can help us win this battle together.

Stay safe. Stay healthy. Stay informed.

Best,



Dr. Carol O'Donnell, Director
Smithsonian Science Education Center

COVID-19! Storyline Overview

Task 1: What is happening in the world right now?

Discover: How is life changing during COVID-19? (15-30 minutes)

You may have noticed that a lot is different than it was a few months ago. The adults around you may seem stressed or anxious. You may be feeling the same way, especially if you have watched the news, spent time on social media, or talked to friends.

This project, *COVID-19! How Can I Protect Myself and Others?* will help you, and your community, understand the science of the virus that causes COVID-19 and other viruses like it. It will help you to figure out how this virus is impacting or affecting you or may impact you in the future. It will help you to understand the actions that you can take to keep yourself and your community safe.

In this project, you will discuss how people feel about the virus. You will investigate the science of this virus. You will explore public health measures, which are things that are happening in your community or may happen soon to keep COVID-19 from spreading. You will take action to support health in your community.

1. Start with a conversation. You can speak to a parent, caregiver, or trusted adult. Talking to a sibling, a friend, or someone you can call on the phone is great, too! You can use the following structure to help guide your conversation.
2. If you are able to, sit face-to-face with your partner. Take 30 seconds to think about this question: ***How has life changed recently and how do I feel about it?***
3. Choose a speaker and a listener. For the next 2 minutes, the speaker gets to respond freely to this question. The listener's job is to actively listen, but not say anything. Once the 2 minutes are finished, switch roles.
4. Repeat the same conversation model for the following three questions:
    a. Do I understand why this is happening?
    b. What are my fears about COVID-19?
    c. What am I excited about?
5. Once you have finished the conversation, thank your partner. Discuss anything that came up that you might like to talk more deeply about. This conversation structure is called a Dyad. It is a way to talk about challenging things so that all feel heard and respected.[1]

    ✓ Emotional Safety: Was this conversation scary? Was it sad? Was it helpful? You will see this note when these feelings might come up. This is a good time to check in with a trusted adult or a friend.

6. During this project, you will be asked to collect your thoughts, feelings, and research. It is up to you how you choose to record it. Just keep the information safe. So that it does not get confusing, we will call it a "journal" for the rest of the project. There are a few different reasons to do this[2]:
    a. There is a lot happening in the world! One of the best ways to process how you are feeling is to write it down.
    b. Scientists keep records! Throughout their research, scientists capture data about what they are studying so that it is all in one place.

   c. You are experiencing history! It may not feel like it right now, but the world is experiencing a major historical event. History is preserved on a global and state level. But you are also a part of it. Someday future generations will want to know what it was like to be here now.
7. Take some time to record how you are feeling about COVID-19 in your journal. What has your experience been so far? What did you learn from your Dyad conversations?

Understand: How would I describe myself? (30 minutes)

1. It's time to create your identity map! An identity map is a graphic tool that can help people to understand the things that shape them as an individual. You can do this with others or by yourself. You can write down your identity map in your journal.
2. Start with your name in the center.
3. Put a circle around your name.
4. Answer the question, "Who am I?" or "What describes me?" You can use the following list of categories to help, but do not feel limited to only the things on this list.

Age	School/Class	Race or Ethnicity
Gender	Nationality	Religion
Family background/origin	Interests, hobbies, or things you like to do for fun	Physical traits (tall, black hair, blue eyes, wears glasses)
Personality traits (loud, funny, sad, kind)	Role in family (sister, son, cousin)	Anything else you can think of!

5. If you want, you can use objects around your home to create your map. To preserve your map, you can take a picture or capture it in a memory.
6. A young girl named Ada created two versions of her identity map for you to see:

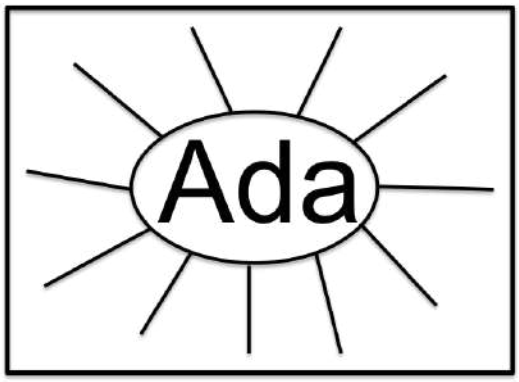


Figure 1.1 This is an example identity map.

She will add these things to her map at the end of each line:

   a. Big sister
   b. Loves elephants
   c. Wants to travel to a big city
   d. Loves sweets
   e. Listens to lots of music
   f. Learning to sew
   g. Best friend is Nina
   h. In grade 7 (primary school)
   i. Spends lots of time in nature
   j. Favorite colors are orange and green

Figure 1.2 Ada made an identity map with objects from around her home. Here they are displayed.

7. Ada's physical identity map includes these things (along with a flag from her country):
    a. Puzzle piece because her little brother loves puzzles
    b. Model elephant, which is her favorite animal
    c. Postcard from a big city because she wants to travel there
    d. Fruit because she loves sweets
    e. Headphones because she listens to lots of music
    f. Needle and thread because she is learning to sew
    g. Bracelet from her best friend Nina
    h. "7" card because she is in grade 7
    i. Leaf because she spends lots of time in nature
    j. Orange and green pencil for her favorite colors
8. What have you included in your identity map? Put them in your journal, or capture it in a memory. If you are doing this activity with someone else, you can discuss your identity maps together. Here are questions to guide your thinking:
    a. How might your identity map change over time?
    b. How much control do you have over the things on your identity map?
    c. How might things on your identity map affect decisions you make in life?
9. Now think about how the things on your identity map affect your life.
10. Turn your attention back to COVID-19. It's time to make a map of what you know and what you would like to learn about COVID-19.
11. In your journal, find a new space and write "COVID-19" in the center. Circle it.
12. Write down what you know or think you know about COVID-19. Here are things that may help guide your thinking:

What is it?	Can you see, taste, or touch it?
How do people get it? Are some people more likely to get it than others?	Are there things you can do to protect yourself from getting it?
What is it doing to your community?	What is it doing to the world?

13. You don't need to have all of the answers right now. If there are questions you have about COVID-19, write them down. Throughout the project, you may be able to answer some of these questions. You may have more questions to add to your map. You can refer back to these questions at the end of each task.

Act: What are things we can do to feel safe? (30-45 minutes)

1. COVID-19 is scary for everyone. But there are some things you can do to help you to feel safe:
    a. Are there things that you do in your home that make you feel more safe? Make a list of these things in your journal.
    b. Speak with others in your home about continuing these practices.

    Physical Safety: Talk to an adult to make sure these things are in line with local safety guidelines.

2. Another strategy that you can practice any time you feel anxious, nervous, or scared is breathing. Try this:
    a. If it is comfortable for you, start by closing your eyes.
    b. Notice what you hear and what you smell in the space around you.
    c. Place your hands on your stomach, just below your belly button.
    d. Inhale through your nose. Fill your belly with air so it presses against your hands.
    e. Exhale out your mouth, pushing out all of the air that was in your belly.
    f. Do this four more times or as many times as you need to feel more calm and secure.[3]

    Remember that no matter what is happening, you are not alone. Scientists, researchers, and healthcare workers all over the world are working on finding solutions to COVID-19. They are working to keep everyone safe. You will see quotes from some of them throughout this project. Before you go on to the next task, here are some COVID-19 basic facts to help you get started.
3. What is COVID-19?
    a. COVID-19 is a disease. It is caused by a virus called SARS-CoV-2. Scientists think this virus first spread from an animal to a person. Scientists now know that it can spread from one person to another person.[4] Scientists are trying to find out more about if this virus can spread from people back to animals.
    b. SARS-CoV-2 virus is part of a family of viruses called "coronaviruses." The illustration on the cover of this module is of a coronavirus. They are called this because the pointy structures emerging from the viruses look like a crown or a "corona" when scientists look at them under a microscope.[5]
    c. COVID-19 is difficult to track or trace because it takes between 1 and 14 days for people to begin feeling sick, or "showing symptoms."
    d. A symptom is what people feel when they are sick. Symptoms of COVID-19 may include: fever, dry cough, tiredness, body aches, and shortness of breath or difficulty breathing. Some people may also lose their sense of smell or sense of taste. A stuffy nose or sore throat have been rare.
    e. Some people who get COVID-19 become very ill and find it difficult to breathe. Older people and those with other medical conditions have more chance of becoming very ill, though this can happen to anyone.
    f. Some people who are carrying the virus in their bodies will never show any symptoms or look sick. But they can still pass the disease to others. This is called being "asymptomatic."[6]
    g. This virus is affecting the health of people all over the world. It is also changing how people interact with each other, how they do business, their impact on Earth, and what they feel is right and wrong. You can learn more about these social, economic, cultural, environmental, and ethical perspectives throughout the project. Look for information from experts and in the activities.

4. This disease is evolving. For the most up-to-date information, please see the additional resource sections below.
5. One thing you can do to feel safer from COVID-19 is to learn more about it. The more you understand, the less scary it becomes. The more you understand, the better you can protect yourself.

"There are always two pandemics. The first and most obvious is the worldwide spread of a pathogen - virus, bacteria, etc. The second causes just as much damage but is not always recognized or named. It's fear. Sometimes fear will just waste time and resources as people try to do something. Watch and see if the reactions in people around you and in yourself are based on fears or on facts. You must always address the fear first if you ever want anyone to listen and act on the facts." - Anne McDonough, MD, MPH, Public Health Emergency Officer, Smithsonian Occupational Health Services, United States of America (USA)

6. In the rest of this project, you will learn about many aspects of COVID-19. In some cases, you will learn directly from scientists and researchers working around the world. You will see quotes from them throughout this project. You will find answers to many of the questions that you thought of earlier and hopefully you will feel safer!

Additional Resources:

World Health Organization Q&A on coronaviruses (COVID-19): An overview of COVID-19, its symptoms, and how to protect yourself.
https://www.who.int/news-room/q-a-detail/q-a-coronaviruses

Emerging respiratory viruses, including COVID-19: methods for detection, prevention, response and control: Video overview of COVID-19 and other coronaviruses.
https://openwho.org/courses/introduction-to-ncov

Task 2: How can keeping distance from others help?

Discover: Do you notice people keeping distance from others? (15-30 minutes).

1. Think about the following questions. Write your own thoughts in your journal.
    a. Have you heard people talking in your home or community to keep more distance from each other than before? Why do you think this is happening?
    b. Are there physical distancing orders from local leaders or authorities where you live? How do you feel about that?
    c. If there are not currently orders to stay home where you live, answer this question. How would you feel if the government ordered you to stay home and not leave for weeks or months?
2. Interview each of the people in your home using the following questions. Write your notes in your journal.
    a. Are you keeping distance from other people right now? Why or why not?
    b. Have you come into contact with any sick people recently? If so, when and where?
    c. Do you think all of the people in our home should keep distance from people outside our home? Why or why not?

⇈ Learning Tip: When you conduct a survey, ask everyone the same questions. Record your answers in the same way every time. Keep all of your answers together so you can look for trends in them later!

✓ Emotional Safety: Sometimes people do not like to talk about their personal habits. That's okay! You can skip a question. Or just ask the last question about what they think we should do?

Understand: Why is distance so important? (45 minutes)

1. Think about the social perspectives of the problem in your community as you read the following quote from an expert.

"COVID is spread through respiratory droplets. These droplets travel from one person to another, including from our hands. Think of a typical day in your community. You greet multiple people with handshakes, hugs, and kisses. You buy things at the store using money that has passed from person to person. You are constantly interacting closely with people and things. These are all opportunities to spread COVID. Limiting these interactions and contacts is what reduces community transmission." - Cassie Morgan, Kuunika Sustainability Coordinator, Cooper Smith, Malawi

2. To understand why distance is so important you must understand three other things about COVID-19: **respiratory droplets, being asymptomatic, and contact**? Try this activity:
   a. Blow a long slow breath into a dry cup or onto a mirror. Observe and feel the inside of the cup or mirror.
   b. Do you notice that it feels wet? This is one example of respiratory droplets.
3. Read the following to learn more:

Respiratory droplets are very small drops of fluid that come from the lungs, nose, and mouth. When a person coughs, sneezes, or talks, the droplets can come out of the body. These droplets come out of the body through saliva and mucus. Respiratory drops mostly consist of water. All people, not just those who are ill, produce respiratory droplets.

Respiratory droplets can be of many different sizes. Sneezing and coughing can produce larger droplets. These droplets can spread COVID-19 if a person is infected with the virus. When healthy people come into contact with respiratory droplets from a person with COVID-19, the virus could be spread to them. Some people who are carrying the virus in their bodies will never show any symptoms or look sick. But they can still pass the disease to others.[6] This is called being "**asymptomatic**."[6]

Being asymptomatic means you can still spread the virus to other people in the same ways as people who feel ill. This happens through the spread and contact with respiratory droplets.

There are different types of **contact** that can spread the respiratory droplets between people.

a. **Direct Contact** - Any person who is in close contact (within 2 meters) with someone who has respiratory symptoms (coughing). The risk is directly exposing your mouth, nose, or eyes to the respiratory droplets from the ill person. In these situations, you are more likely to breathe in the viruses when an ill person coughs, sneezes, or speaks.

b. Indirect Contact - Respiratory droplets containing the virus from a cough, sneeze, or talking may land on an object like your hand, a table, doorknob, or handrail. The COVID-19 virus could remain there for some time. Sometimes from a few hours to several days. Another person could then touch the object with their hand. If that person touches his or her face, mouth, nose or eyes, the virus gets into their body.

Understanding how respiratory droplets move is an important part of COVID-19 spread. Remember that the COVID-19 virus can be spread from person to person through these droplets.

Physical Safety: Safety is always important when studying diseases like COVID-19. In these cases, it is better to use and study a model than the real thing. As you learned earlier, respiratory droplets mostly consist of water. So instead of studying respiratory droplets from real coughs and sneezes, you will study a model of them using water.

4. Now you will create a model of respiratory droplets. This water model will help you observe how far droplets of water can move. These observations may help you think about how far you should stay from others when they cough, sneeze, and talk.

   You will need these materials: Bowl or cup with enough water to cup in your hand, cloth to clean up water on hands and surfaces, measuring device (ruler or use your foot), objects or tape to mark off distances from the wall.

Physical Safety: Please ask an adult or older person in your home to help you. Before starting this experiment, you should wash your hands for 40 seconds with soap and water.

5. Locate an open area with a wall inside or outside of your home. Make sure you have permission to get it a little wet, such as a bathroom or outside wall. Location requirements:
    a. You need to be able to stand very close to the wall.
    b. You need to also be able to stand at least 2 meters (4-6 steps) or more away from the wall without anything in your way.
6. Using your measuring device, mark off the following distances from the wall on the floor:
    0.5 m, 1.0 m, 1.5 m, 2.0 m, or just count steps (1 step from wall, 2 steps, 3 steps, 4 steps).
7. Stand facing the wall at the 0.5 m or 1 step mark with a bowl of water.
8. You will now model respiratory droplets leaving your mouth and nose from a cough or sneeze by flicking water from your hand toward the wall. To do so:
    a. Hold the bowl of water with one hand below your chin to prevent dripping.
    b. Dip your other hand into the water to get all of your fingers wet.
    c. Shape your hand into a fist. Quickly lift your fist out of the water over the bowl.
    d. Quickly flick just your fingers 2-3 times toward the wall. Some of the water should fly off of your hand toward the wall. If it does not, practice and adjust until you find a method that works for you.
9. Look closely at the pattern of droplets on the wall and floor in front of you. Make a drawing and record your observations in your journal.
    a. Are all the droplets the same size?
    b. How high up the wall were the highest and lowest droplets?
    c. How close together are the droplets?
    d. Were there more droplets on the floor or wall?
10. Use your cloth to clean and dry the wall and floor.
11. Repeat the experiment at 1.0 m (2 steps), 1.5 m (3 steps), and 2.0 m (4 steps) distances from the wall. Clean and dry the wall and floor between each trial.
12. Compare and contrast your observations at the different distances. Make a chart in your journal to compare your data for each distance.
13. If water droplets still make it to the wall at the 2 m (4 step) distance then try this: Continue moving farther away from the wall at 0.5 m (1 step) increments to see how far away you need to be until no droplets make it to the wall.
    a. What is the farthest you could flick droplets to the wall?
    b. Write your observations in your journal.
14. Remember, the water is simulating potentially infected droplets that leave the body when you cough, sneeze, talk, or breathe. Considering your observations of this model, why is distance an important factor to think about when protecting yourself and others? Write your ideas in your journal.

Act: What can you do or share about physical distancing? (15-30 minutes)

1. Think about the economic, cultural and social perspectives of the problem as you read the following quotes from experts.

"Economics is the big picture of what groups of people do to survive. The need to survive the immediate threats of starvation, lack of shelter, security, water, and livelihood for an individual, family, or community is the most intense motivator of behavior. If you cannot buy enough food for 2 weeks, or can't find 2 weeks of shelter with a 2 meter separation from other people, you will not be able to comply with social distancing or stay at home rules. Your need to eat or find water will have you out of the house working and interacting with others. If this is not understood and taken into consideration, then that pandemic response is not adequately thought out." - Anne McDonough, MD, MPH, Public Health Emergency Officer, Smithsonian Occupational Health Services, USA

"During a pandemic, the recommendations guided by science may conflict with people's cultural beliefs and values. For example, in some cultures, the value placed on group gatherings for worship or other special events is very great. Some people may perceive public health recommendations to engage in social distancing or to avoid physical contact difficult to accept. They may choose not to follow those distancing recommendations." – Dr. Lisa Cooper, John Hopkins University, USA & Ghana

2. Write your answer to this question in your journal:
    a. Do you think physical distancing could help protect you from the virus that causes COVID-19?
    b. Would you ever change your answer? Why or why not?
3. Now that you understand more about physical distancing, choose a way to share your knowledge with others.
    a. Ask someone in your home to breathe into a cup. Do they see respiratory droplets?
    b. Use the bowl of water activity to model the spread of droplets with someone in your home.
    c. Tell others about how spreading respiratory droplets happens and why physical distancing matters.
    d. Make a drawing or poster, act it out, make a podcast, or record a video.
4. In Task 1, you read that COVID-19 may be changing how people feel about what is right and wrong (remember that this is called ethics). Imagine that someone told you, "I don't need to physical distance. I'm not sick."
    a. Think about how this might make you feel. Do you think this is right or wrong?
    b. What would you say to this person?
5. Remember that you also read about how COVID-19 is changing how people work. This is called an economic effect. Some people are not physical distancing because they have to work in close spaces. What do you think? Is it okay to be physically close to others if it means having a job and bringing money home for food, even if it may spread COVID-19?

Additional Resources:

WHO Social Distancing Guidance
https://www.youtube.com/watch?v=6Ooz1GZsQ70&feature=emb_title

Task 3: How can covering our noses and mouths help?

Discover: Are the people in your home covering their noses and mouths? (15 minutes)

1. Think about these questions by yourself first. Then ask the people in your home these questions:
    a. Do you cover your nose and mouth when you sneeze or cough?
    b. Do you think covering your nose and mouth could help protect you from the virus that causes COVID-19?

    ✓ Emotional Safety: Sometimes people do not like to talk about their habits. That's okay! You can skip a question. Or ask it in a different way such as, "Should people cover their nose and mouth when they sneeze or cough?"

2. You have already learned that the virus that causes COVID-19 can spread through respiratory droplets. When you conduct your survey, practice physical distancing by staying at least 2 m apart from the people you survey (even if they are your family). This will help you practice protecting you from respiratory droplets.
3. Read this social perspective from an expert about why physical distancing is so important:

"Social distancing is really important for COVID-19 because you can be transmitting (spreading) infection while still looking and feeling healthy...we don't have those behavioral cues that we tend to rely on. 'Oh, this person is sniffling or is sneezing or seems to have a high fever, so maybe I should keep my distance.'" - Shweta Bansal, PhD, Associate Professor of Biology, Georgetown University, USA

4. But what should you do if you can't always keep physical distance? How else can you avoid respiratory droplets? Write your ideas in your journal.
5. In some countries, people are wearing masks or other cloth coverings over their nose and mouth. Masks are one way to try to prevent the movement of respiratory droplets. Some countries are letting people choose if they want to wear a mask. Other countries are telling people that they must wear a mask. You can ask the adults in your home to find out what your country says about wearing masks.

    According to the WHO, another way to prevent the movement of respiratory droplets is by "...covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately and wash your hands. Why? Droplets spread the virus."[6]

    Even if you feel healthy, you should always cover your nose and mouth in some way when you sneeze or cough. This is important because you may still have the virus that causes COVID-19, even if you don't feel sick. That means that you could accidentally spread the virus to people or surfaces without realizing it.[7]

Understand: How does covering your nose and mouth help? (15 minutes)

1. In the last task, you modeled how far respiratory droplets can go. Now you'll model how covering your nose and mouth can help protect you and others from droplets.
2. You will need these materials:
    a. Bowl with a small amount of water, a cloth to clean up water on hands and surfaces, a cloth to hold in front of your face
3. Find an area where you can easily see where droplets of water land, such as the wall you used in Task 2, a wood, dirt, or tile floor, or on a piece of newspaper.
4. Dip your hand in the bowl of water. Model respiratory droplets from a cough or sneeze by flicking water from your hand.
5. Look at where the droplets landed. Make a drawing and record your observations in your journal.
6. Move to a new area without droplets so you can try again.
7. Ask someone in your home to hold another piece of cloth 3-5 centimeters in front of your hand. This cloth is a model for a mask, clean tissue, or bent elbow.
8. Dip your hand into the water again and model respiratory droplets by flicking the water from your hand.
9. Look at where the droplets landed. Make a drawing and record your observations in your journal.
10. How did the cloth change how the droplets traveled? Did they travel as far as they did in steps 4 and 5?
11. You should have noticed that the cloth stopped some of the water droplets from traveling a long distance. This showed how using a mask, a clean tissue, or a bent elbow can block some respiratory droplets. Using masks, tissues, or a bent elbow along with physical distancing and hand washing can help protect you and others from spreading the virus that causes COVID-19.[6]
12. Read this social perspective from an expert about why it is so important to change our behavior to protect us from the virus that causes COVID-19:

"This is a new virus, so our bodies don't have the natural immunity...and we don't have any protection as individuals...Over time there might be more evidence that comes to light that tells us that certain people in our population may have been more protected...But at the moment we know of nothing that actually protects individuals. So everyone is at risk." - Shweta Bansal, PhD, Associate Professor of Biology, Georgetown University, USA

Act: What can you do or share about covering our noses and mouths? (15-30 minutes)

1. Write your answer to this question in your journal
    a. Do you think covering your nose and mouth could help protect you from the virus that causes COVID-19?
    b. Would you change your answer now? Why or why not?
2. Now that you understand more about covering your nose and mouth, choose a way to share this with others.
    a. Do the droplet and cloth activity with someone in your home.
    b. Tell others about how to prevent spreading respiratory droplets. Make a drawing or poster, act it out for the people in your home, make a podcast, or record a video.
3. In Task 1, you read that COVID-19 may be changing how people feel about what is right and wrong (remember that this is called ethics). Imagine that someone told you, "I don't need to cover my nose and mouth when I sneeze or cough. I'm not sick."
    a. Think about how this might make you feel. Do you think this is right or wrong?
    b. What would you say to this person?
4. Remember that you also read about how COVID-19 is changing how people affect Earth. This is called an environmental effect. Some people are using tissues or masks that are thrown away after one use. This can cause waste. What do you think? Is creating waste okay if it helps protect people from COVID-19?

Additional Resources:

Cover your Coughs and Sneezes: This video from the Centers for Disease Control and Prevention (CDC), the leading national public health institute of the United States, shows how to use a clean tissue or your elbow to cover a cough or sneeze.
https://www.youtube.com/watch?v=mQINuSTP1jI

Cover your Cough: This poster from the U.S. Centers for Disease Control and Prevention (CDC) shows how to use a clean tissue or your elbow to cover a cough or sneeze.
https://www.cdc.gov/flu/pdf/protect/cdc_cough.pdf

Task 4: How can washing our hands help?

Discover: Are the people in your home washing their hands? (15 minutes)

1. Think about these questions by yourself first. Then ask the people in your home these questions:
    a. When is it important to wash your hands?
    b. What do you use to wash your hands?
    c. How long do you wash your hands?
    d. Do you think washing your hands can help protect you from the virus that causes COVID-19? Why or why not?

✓ Emotional Safety: Sometimes people do not like to talk about their cleaning habits. That's okay! You can skip a question. Or ask it in a different way such as, "How should people wash their hands?"

2. Remember that you learned that the virus that causes COVID-19 can be found on surfaces. If you touch a surface like a doorknob that has the virus on it, that virus may now be on your hand. If you accidentally touch your face, the virus may enter your body.[8]
3. How can you keep your hands safe from viruses? Write down your ideas in your journal. (The WHO says to wash hands with soap and water to prevent the spread of COVID-19.)
4. Read this perspective about washing your hands from an expert:

"We constantly touch our face, so it is easy to imagine how our hands become the virus's main way into our body through our nose, eyes, and mouth. Washing our hands with soap and water or hand sanitizer is a very powerful defense." - Cassie Morgan, Kuunika Sustainability Coordinator, Cooper/Smith, Lilongwe, Malawi

Understand: Why do we need to wash our hands with soap? (30 minutes)

1. To find out more about how soap and water help protect you against the virus that causes COVID-19, you are going to try a few different ways to wash your hands. Write down what you notice in your journal.

⇈ Learning Tip: If you do not have enough water in your home to use for this activity, try this activity the next time you go to wash yourself or your clothes.

2. You will need:
    a. clean water
    b. cooking oil, butter, or ghee
    c. soap (bar or liquid)

3. Why does this activity use cooking oil? The virus that causes COVID-19 has a membrane, or outer layer that surrounds all of its parts. This membrane is fatty, like your cooking oil, butter, or ghee. This activity models how hand washing affects the fatty membrane of a virus.

   Physical Safety: Only use cooking oil. Do not use oil for machinery. Do not eat any cooking oil once it has touched your skin.

4. Pour a small amount of oil (or spread a small amount of butter or ghee) onto one hand or the flat part of your wrist and spread it out into a small circle. (Do not get it on your other hand.) Your skin should look and feel very oily.
5. Next, quickly rinse the oily part of your skin with water.
6. Did that wash away all of the oil?
7. Next, use soap and water to make a soapy lather on the hand that doesn't have any oil.
8. Wipe your soapy hand just once across the oil on your skin. Quickly rinse with water.
9. Did that wash away all of the oil?
10. Next, make more soapy lather with the hand that doesn't have any oil.
11. Wipe the soapy hand across the oil on your skin for 20 seconds. Quickly rinse with water.
12. Did that wash away all of the oil?
13. What worked the best to wash away the oil? Repeat this experiment, but this time wash your hands for 40 seconds. Try it again, but this time wash your hands for 60 seconds.
14. Did you notice that washing thoroughly with soap and water worked well to wash away the oil?
15. Remember that the virus that causes COVID-19 is surrounded by a fatty membrane. When you wash your hands with soap and water, very tiny pieces of soap go into the fatty membrane of the virus. As the soap goes into the membrane, the membrane eventually breaks open and the inner parts of the virus spill out. Once the virus is broken apart it can no longer infect you.[9,10,11]
16. Look to the left side of the image below. You can see a round virus. You can see a long, twisted string of virus parts surrounded by a membrane and pointy pieces (this is the crown or "corona"). You can also see tiny pieces of soap on the right side of the virus.
17. Now look at the right side of the image below. What do you think is happening? Record your ideas in your journal. Use evidence from your experiment above to support your answer. This shows what happens after the pieces of soap have gone into the fatty membrane of the virus. The membrane of the virus has opened up and the parts have spilled out. The soap surrounds the parts of the membrane and the spikes. The soap makes it easy to wash away pieces of the virus with water.

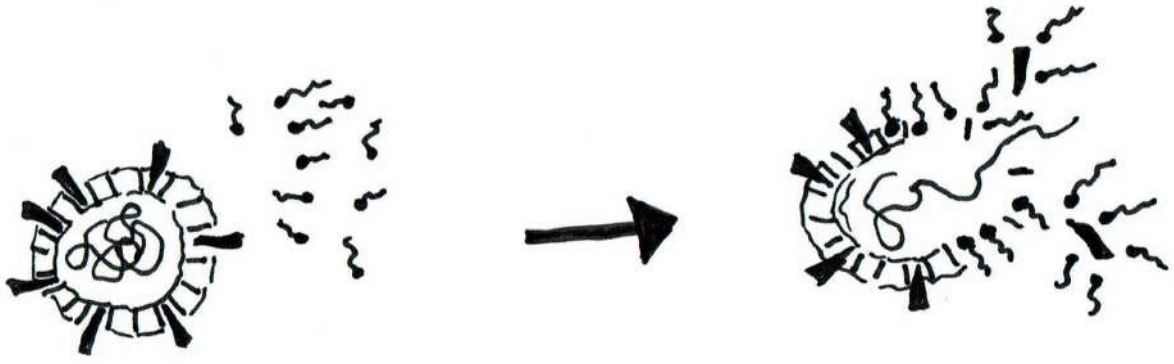


Figure 4.1 These images show how soap can destroy the membrane of a coronavirus.

18. Washing your hands thoroughly allows you to wash every part and surface of your hands and destroy the viruses that might be on them. The WHO says that washing your hands should take between 40 and 60 seconds. Look at the Additional Resources for guides to how to wash your hands.
19. Try another experiment, only this time, instead of soap and water, use hand sanitizer. Hand sanitizer can also be used to destroy the virus that causes COVID-19. It is most effective on hands that are not covered in dirt or mucus (mucus is the slippery substance that sometimes comes out of your nose). Put a small amount of hand sanitizer on your hands. Rub them together until they are dry. Keep hand sanitizer away from your eyes, nose, mouth, and open flames. Look at the Additional Resources for guides to using hand sanitizer.
20. Remember to wash your hands thoroughly, and keep your hands away from your face.
21. Read this social perspective from an expert about why washing your hands is so important:

"We don't have many tools in our arsenal against this infection, at least at this point. Social distancing and hand washing are really the main tools at our disposal. With other infections we've got antivirals, therapies, drugs, and so forth. But here, we aren't really working with much else in our toolbox." - Shweta Bansal, PhD, Associate Professor of Biology, Georgetown University, USA

Act: What can you do or share about washing your hands? (15-30 minutes)

1. Think back to your answer to this question:
    a. Do you think washing your hands can help keep you safe from COVID-19?
    b. Would you change your answer now? Why or why not?

✓ Emotional Safety: It is okay to change your behavior because you learned something new. But if you cannot change the way you wash your hands because it's hard to find soap and water, that is okay. Just do the best that you can.

🛑 Physical Safety: Even though soap and hand sanitizer can destroy viruses on the outside of your body, you should never eat or drink them.

2. Now that you understand more about how using soap or hand sanitizer can destroy viruses, choose a way to communicate this to others.
    a. Do the oil and soap activity with someone in your home to teach them about how soap can destroy viruses. Or make a drawing, poster, or video of the activity to send to others.
    b. Write a song or choose a part of a song that lasts between 40 and 60 seconds that you could sing while washing your hands.

3. In Task 1, you read that COVID-19 may be changing how people feel about what is right and wrong (remember that this is called ethics). Imagine that a friend tells you they don't want to wash their hands.
    a. Think about how this might make you feel. Do you think this is right or wrong?
    b. What would you say to this person?
4. Some people may not have soap and clean water in their homes. Can you think of a way to set up a hand-washing station in a public area that they could use? What materials would you need? Make a drawing or poster of your design and share it with someone in your home. See the example posters below.

Additional Resources:

How to Hand Wash and Hand Rub: These posters from the WHO show how to wash and rub your hands.
https://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf?ua=1
https://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf?ua=1

Hand Washing Demonstration: This video uses paint to show how to thoroughly wash your hands.
https://www.youtube.com/watch?v=nEzJ_QKjT14

Task 5: How is COVID-19 impacting families and communities?

Discover: How are we protecting people in our community from COVID-19? (30-45 minutes)

✓ Emotional Safety: In this task, you will think about what might happen in someone in your community or your family contracts COVID-19. This may be a scary topic. If possible, work through this task with a parent, caregiver, or other trusted adult so you are not alone in thinking about these difficult topics.

1. How many people do you think you have been in contact with, directly or indirectly, in the past week? Write that number down in your journal. We will come back to it shortly.
2. Consider the social and economic perspectives of the COVID-19 problem as you ask the people in your home these questions and answer these questions for yourself:
    a. How many people did you interact with in-person today?
    b. How many people do you think you interacted with in-person in the last week?
    c. Are you taking precautions to protect yourself against COVID-19? If so, what are you doing?
    d. Do you know if the people you are interacting with are taking precautions to protect themselves against COVID-19? If so, what are they doing?
    e. How do you think COVID-19 is affecting our household?
    f. How do you think COVID-19 is affecting our community?

⇈ Learning Tip: When you conduct a survey, ask everyone the same questions. Record your answers in the same way every time. Keep all of your answers together so that you can look for trends in them later!

3. You have now collected survey answers in Tasks 2, 3, 4, and 5. Put all your answers together. Are there any trends that you notice? What is similar about the responses you received? What is different? Do people know a lot about COVID-19? Are there things that they do not know and should know? Write these down in your journal.

Understand: Who are you coming into contact with? (15 minutes)

1. Make a list of everyone in your home. Add anyone else you have met or talked to in person in the past week. It does not matter where you met them or how old they are. Count them all. These people are your "primary contacts." You can write this information down, or you can start to draw a contact tree like this picture:

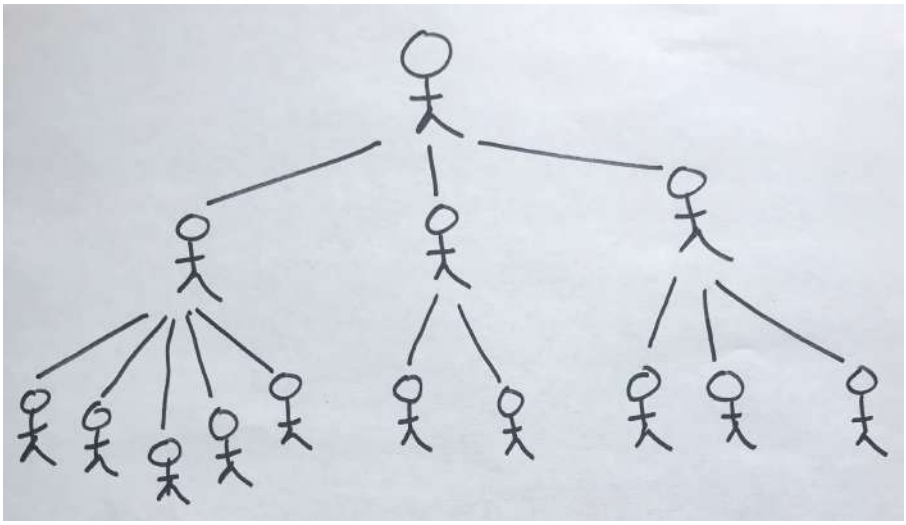


Figure 5.1 You are at the top of your contact tree. Your "primary contacts" are the middle row, and your "secondary contacts" are the bottom row.

2. You asked everyone in your home to make a list of the people that they have been in contact with. You can now add these people to the bottom row of your contact tree. They will go under the person that you both had contact with. These people are your "secondary contacts."

   Physical Safety: You have learned about keeping physical distance between yourself and others, covering your nose and mouth, and washing your hands. As you communicate with people, make sure you use these strategies to protect yourself and others from COVID-19.

3. Review your tree. Does everyone have the same number of contacts? Do some people have more contacts than others?
4. Are the people with lots of contacts doing things that are ethically or economically necessary to support your household or community such as going to work, going to the market, attending a religious ceremony, or caring for elderly people?
5. Try this activity while watching people in a video or TV show, or while reading in a book. Create a contract tree for the characters in the story.
6. Why is it important to track your contacts? Can this information help your community know who could get the virus? Can this information help healthcare workers understand the spread of COVID-19?

"People in close contact with someone who is infected with the virus are at higher risk of becoming infected themselves, and of potentially infecting others. Closely watching these contacts after exposure to an infected person will help the contacts to get care and treatment and prevent the further transmission of the virus. This monitoring process is called contact tracing. [12] ***" - World Health Organization***

7. Contact tracing for COVID-19 is important because:
    a. Other than keeping distance, covering mouths and noses, and washing hands, humans do not have any tools yet to protect us from COVID-19. (S. Bansal, personal communication, April 23, 2020).
    b. This is a new virus, and humans do not yet have a vaccine for it. (S. Bansal, personal communication, April 23, 2020).
    c. Current data indicate the number of people becoming very ill or dying from COVID-19 appears to be higher than with other viruses. Scientists do not yet have enough data to know exactly what these numbers are (S. Bansal), personal communication, April 23, 2020).
    d. People can pass this virus to others even when they are looking and feeling healthy.[6]
    e. Contact tracing can identify people who are potentially infected and isolate them before they spread the virus further.[6]
8. Now that you have built your contact tree, count up how many primary and secondary contacts you have had in the past week. Compare this number to what you wrote down in step 1 of the Discover section. Did you get a bigger number? Did you get a smaller number? Or was your estimate accurate?
9. Share your contact tree with those in your home and ask them the following questions (write your answers in your journal):
    a. How can we reduce the number of primary and secondary contacts we are making?
    b. How can we protect ourselves when meeting and talking with others?

✓ Emotional Safety: It may not be possible for others in your household to limit their contacts for many reasons. This can be scary. Remember that if people have to leave your home, they can do so in as safe a way as possible, and they can take proper precautions when returning home.

Act: How can you plan for COVID-19 in your home? (45 minutes)

1. What would you do if you knew you had a primary contact who was sick with COVID-19? How would this change your day-to-day life? Are you worried about having to stay home or stay isolated? Are there specific actions you think you would take? How would you change your daily habits? Write down your ideas in your journal.
2. The challenges this can put on a family are also felt by larger systems such as entire countries and regions. This social perspective of the COVID-19 crisis is explained below:

"As we see with COVID-19, a pandemic can place incredible stresses on whole countries, impacting people's lives, health care systems, businesses, municipal services, schools—everything. People need to understand that planning around pandemics is important so that societies can be resilient during crises and make sure that there are systems in place to care for all its members." – Lisa Cooper, MD, MPH, Physician, Public Health Researcher, Johns Hopkins University, USA and Ghana

3. Even if everyone reduces their number of contacts, it is possible that someone in your home may become ill with COVID-19. It is possible that you may be exposed to the virus as well. This might be scary to think about. But as you have learned in this project, the best ways to feel safe are to learn more, to protect yourself, and to be prepared. Read this perspective below. It is a social perspective? Environmental? Cultural? Economic? Write your ideas in your journal. Use evidence to support your claim.

"If someone in your home is sick, you should wear a mask or cover your face when in close contact. If they have fever or cough, treat this at home and contact a healthcare provider to see if the sick person should be tested for COVID-19. If possible, keep a safe distance until their diagnosis is confirmed. If they have trouble breathing, seek medical treatment as soon as possible. If possible, the sick person should stay in a different room. You should designate separate eating utensils, plates, and bowls, which need to be properly and safely sanitized with soap or chlorine water between every use." - Cassie Morgan, Kuunika Sustainability Coordinator, Cooper/Smith, Lilongwe, Malawi

✓ Emotional Safety: If someone in your home or someone you know becomes ill with COVID-19, it is not their fault they contracted the disease. They are likely scared about their health and worried about spreading the disease to others. Be kind and sympathetic.

4. Review your ideas on what you will do if someone gets sick. Have a conversation with your family and come up with a plan together. Write your ideas in your journal. Three questions to address in your plan are:
    a. How can we help and support someone who becomes ill even though we have to keep distance from them?
    b. If the ill person is the one who provides for our household by working to earn money or by doing household duties like cooking or cleaning, can we make a plan to keep our household going while they cannot do their normal duties?
    c. What are the economic considerations for you and your household if someone becomes ill?

Additional Resources:

Washington Post Coronavirus Simulator: A simulation of virus transmission and community spread (available in several languages).
https://www.washingtonpost.com/graphics/2020/world/corona-simulator/

Science at Home Corona Minister Simulation: A simulation that illustrates the difficult economic, environmental, and social choices facing nations across the world and to facilitate reflection on the trade-offs of any policy.
https://corona.scienceathome.org/

Task 6: How can staying informed about the problem help?

Discover: Where are people in your home getting their information about COVID-19? (15-30 minutes)

1. Interview each of the people in your home to collect the following information in your journal:
    a. What are all of the sources where you get information about COVID-19? (examples: person at home, WhatsApp, TikTok, pamphlets, television, radio, YouTube, Twitter, Snapchat)
    b. Which of these sources do you most trust for new information about COVID-19? Pick the top three. Why do you trust those the most?
    c. Do you share information about COVID-19 from these sources with other people? Why or why not?
    d. When you receive new information on COVID-19:
        i. Do you investigate where that information came from before sharing it with others? Why or why not?
        ii. Do you investigate to see if other sources are also covering it before you share it? Why or why not?
    e. How concerned are you about getting incorrect information about COVID-19? Why?

"Leadership must come not just from government and scientists but also from people who are trusted sources of information in that specific community." – Dr. Lisa Cooper, John Hopkins University, USA & Ghana

2. Rank all of the information sources people use in your home from most to least used.
3. Identify the top three sources of information used by people in your home.
4. Collect one or two posts/articles/pieces of information about COVID-19 from each of these three sources. If you are not able to collect them personally, ask other people in your home to provide them to you from their sources.

Understand: How can I identify trustworthy information about COVID-19? (30-60 minutes)

1. Consider the social perspective of the COVID-19 problem as you read the following quotes:

   "Fake news spreads faster and more easily than this virus,[13] and is just as dangerous."

   "We're not just fighting an epidemic; we're fighting an infodemic.[13]" - Tedros Adhanom Ghebreyesus, Director-General, World Health Organization

   "The 2019-COVID outbreak has been accompanied by a massive 'infodemic.' An infodemic is an over-abundance of information. Some of this information is accurate and some is not. This makes it hard for people to find trustworthy sources. It also becomes harder to get reliable guidance when people need it. There is a high demand for timely and trustworthy information about COVID-19. WHO teams have been working closely to track and respond to myths and rumours.[14]" - Situation Report #13, February 2, 2020, World Health Organization

   a. False or untrustworthy information and rumors about COVID-19 can be found everywhere. You might hear about magic cures, who is responsible for creating the virus, or new ideas about where the virus came from.
   b. Like the virus, when people share false information or rumors it can spread very quickly. False information from untrustworthy sources can be harmful to yourself and others in many ways.
   c. False information or rumors may change how a person thinks, acts, or protects themselves. This false information could cause people to not protect themselves, try unproven remedies, or not act responsibly around others, making people ill.
   d. Some people are sharing false information or rumors on purpose. Be aware.
   e. Other people are sharing false information or rumors without knowing they are false. They also may not be aware that this false information could cause harm to themselves or others.
   f. Like the virus, stopping the spread of this false information is the ultimate goal to protect people. All of us can be part of the solution to stop sharing false information.
   g. Being aware that some news, information, or sources are not trustworthy is the first step. But identifying untrustworthy sources can be difficult. So learning how to identify them takes some practice.
   h. A good general practice is if you are not sure about some information, do not share it until you can learn more. Quickly sharing false information before checking it is a reason it can spread so fast.
   i. Look at all of the posts/articles/pieces of information you collected. Now you will determine how trustworthy you think the information is and decide if you think it is good information to share or not. Write your ideas in your journal. Use the following questions to investigate each one:

Investigation #1 <u>Slow down, stop, and think.</u>

   a. How does the article, information, or thing the person said make you feel? Does it give you a strong emotional reaction (such as anger or outrage)? If so, stop and think before you share it.

Investigation #2 Investigate the source.

a. Who made or said this information? (examples: professional journalists, citizen journalists, average person, qualified expert) Do you or people in your home think they are a good source of information on COVID-19? If not, stop and think before you share it.
b. Check the dates of all parts of the information or thing they said. Sometimes people share old information and present it as new. Also, as we learn more about COVID-19, the information we have may change over time. Can you find any dates? If not, stop and think before you share it.

Investigation #3 Trace the claims and quotes to their original source.

a. Does the information or person provide the source or link to the data, evidence, or quotes they include? If not, stop and think before you share it.
b. Ask for help from others around you to research the claims in the information. If you cannot do any further investigation, stop and think before you share it.
c. If you do trace the data or quotes, determine if the data and quotes were taken out of their original context or not. This is a common and easy way for people to change the real story. If so, stop and think before you share it.

Investigation #4 Find better coverage.

a. Are other sources also covering this news about COVID-19 that were not on your list? List these sources. If not, stop and think before you share it.
b. Are the other sources providing similar information as your source? If not, stop and think before you share it.
c. Can you talk with someone in your home about the information before you share it? What do they think about it? If not, stop and think before you share it.

2. From all of the articles or information you investigated, which do you feel are more trustworthy? Why do you think those are more trustworthy? Write your ideas in your journal.
3. From all of the articles or information you investigated, which do you feel are less trustworthy? Why do you think those are less trustworthy? Write your ideas in your journal.

Act: What is my plan to stay informed during an infodemic? (15-30 minutes)

1. Think about the social and economic perspectives of the problem by reading this quote:

"Those most at risk during a pandemic are those who are not able to protect themselves and others from infection. They often lack Internet access and telephone services, placing them at greater risk of social isolation and for being uninformed about what they need to do to protect themselves. Due to historical and current experiences of discrimination and stigma, they may distrust the very institutions they need to protect them during a pandemic." – Dr. Lisa Cooper, John Hopkins University, USA & Ghana

Being aware of the COVID-19 infodemic is step one. Even if a friend or family member shares something with you, do not assume it is always true. Even if your friend means well.
Having a plan to stop the spread of false information is something we can all act upon.
Developing a plan for what you will do with new information as you get it is step two. A plan will help make it easier for you to know what to do when it happens.

2. Make a step-by-step list of what you will do. Here are some suggestions:
   a. Make a list of questions you still have about the COVID-19 infodemic. Identify who you could talk to in your home or community to get more information.
   b. What questions will you ask yourself (or the people sharing the information with you) to know is the information is true?
   c. What could you and people in your home do differently to reduce the spread of potentially false information about COVID-109?
   d. What could you do differently to increase awareness of more trustworthy sources of information about COVID-19 in your community?

Additional Resources:

WHO Coronavirus disease (COVID-19) advice for the public: Myth busters
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters

Smithsonian Magazine Article: How to Avoid Misinformation about COVID-19
https://www.smithsonianmag.com/science-nature/how-avoid-misinformation-about-covid-19-180974615/

WHO Coronavirus (COVID-19) News
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/news

UNODC's materials explaining cybersecurity to kids
https://www.unodc.org/e4j/en/primary/e4j-tools-and-materials/the-online-zoo.html

Task 7: What actions can I take right now?

Discover: What should I include in my action plan? (30 minutes)

1. Think about the tasks on Physical Distancing, Hand Washing, Covering Your Nose and Mouth, the Physical Safety tip on how it is sometimes safer to use and study a model than the real thing, and the Emotional Safety Tip on making sure not to judge those who may have COVID-19. These tasks helped you learn how to slow the spread of COVID-19 and how to look out for your emotional well-being during this pandemic. You have also learned about the social, economic, environmental, and ethical perspectives associated with COVID-19 from scientists like Maryam and Anne.

⇈ Learning Tip: Use your journal to help you reflect on your experiences.

2. Write down the title of the module *COVID-19! How Can I Protect Myself and Others?* in your journal, and then around it, write down as many things as you can remember about your experiences. What actions did you try? Take your time. Sometimes it can take a while to get started.
3. Look at your list. Think about all the strategies that may have helped you, your family, and your community manage COVID-19. Circle the ones you think worked the best.
4. Now add a list of all the family and community interactions and considerations (this will need to be pulled from previous sections). Think about the following questions:
    a. How many people live at home?
    b. How many different generations?
    c. Is anyone sick?
    d. How many people do you interact with each day?
        a. Just like most challenges in life, there is no one right solution. It will take a number of actions working together to solve this problem. Look at your brainstorming sheet again and ask yourself, "Which two to three actions do I think will be most effective for me, my family, and/or my community right now?"
        b. Do you think these actions address the social, economic, ethical, and environmental perspectives? If so, how?
5. Select the two or three actions and ask yourself, "What evidence do I have that will support these actions?"
6. The two or three actions you feel will work best for you, your family, and community will become your Action Plan.
   An action plan that has multiple actions working together is called an integrated action plan, so technically, you have just developed your first Integrated Action Plan!

✓ Emotional Safety: Your Integrated Action Plan can include physical actions like hand washing and physical distancing and Emotional Safety tips such as talking to an adult if you are scared and keeping a journal to record your thoughts and feelings.

Understand: Should I only do one thing? (15 minutes)

1. Scientists from around the world researching some of the most challenging issues today, from Mosquito-borne diseases to having access to enough food and even COVID-19, all recognize the importance of developing an Integrated Action Plan.
2. Combining multiple actions helps to address all of the different perspectives of the problem (social, economic, environmental, ethical). This is one of the reasons why the Integrated Action Plan you just created is just like the recommended plans from the World Health Organization, UNICEF, and Centers for Disease Control and Prevention. (use resources from below for each here)Each one recommends you combine actions.

"What is most interesting to me about pandemics, and public health emergencies in general, is that they are very complex and many different specialties, people, communities, environments, and science all must quickly organize and work together to find an (integrated) solution. COVID-19 is a perfect example because it demands an integrated solution." - Anne McDonough, MD, MPH, Public Health Emergency Officer, Smithsonian Occupational Health Services, USA

"*We have seen that in the case of COVID19, countries need to move very fast to deploy a multisectoral (integrated) response to be able to face the situation. How can poor households apply physical distancing if their livelihood depends on going out and working? How can we impose general confinement if there is domestic violence or child abuse? How do we address the issue of homeless people during an outbreak? We can work hard on more hospital beds or a new vaccine but in the meantime, people need to be safe and have access to food, water, education." Dr. Maryam Bigdeli World Health Organization Representative, Morocco*

Figure 7.1 An Integrated Action Plan can be thought of as a three-stranded rope.

3. Now that you have your Integrated Action Plan, the next step is to make sure you get the message out to your family and community.

Act: How will I let my family, friends and my community know about my plan? (45 – 60 minutes)

1. Now that you have your Integrated Action Plan, the next step is to introduce it to your family, friends, and community.

   Physical Safety: If you cannot safely protect yourself while communicating your Integrated Action Plan to your friends and community, limit yourself to those in your home.

2. Think about who your audience is and how they like to consume information. Think about what will make the biggest impact for your brother, sister, mother, uncle, grandmother, or neighbor. Should you make a poster? A sign near a sink? Should you write a newspaper article or a song? The way you communicate your plan is very important, so be creative!

   This plan can include:

   a. Poster or art project
   b. Song or a one-act play
   c. Podcast
   d. Letter to community leaders
   e. Public service announcement (audio or video)
   f. Social media campaign
   g. Phone list/WhatsApp
   h. Email campaign
   i. Brochure

   Come up with your own ideas!

3. After you have developed your communication plan, you will need to share it and present it to family and local community members. It is time to take action!

You have now completed all parts of this module, but COVID-19 is still a major problem for many people in the world. Scientists are learning more about COVID-19 every day.

This new understanding will continue to change the decisions we make. Just remember, every community is different. The same answer is not always right for every place in the world. But the question remains the same:

How can I protect myself and others from COVID-19?

Ask questions. Make a plan. Explore the world around you. Be open-minded.

And most important, think about how we can use science to make the world a better place.

Additional Resources:

WHO full action plan:
https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public

UNICEF full action plan:
https://www.unicef.org/stories/novel-coronavirus-outbreak-what-parents-should-know#how-can-avoid-risk-infection

CDC full action plan:
https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/get-your-household-ready-for-COVID-19.html

UNICEF: description of resources
https://www.unicef.org/parenting/coronavirus-covid-19-guide-parents

Examples of COVID-19 adds from across the world
https://www.adsoftheworld.com/collection/covid19_ads

UNICEF action plan: short description of resource
https://www.unicef.org/media/65936/file/Preparedness%20for%20and%20response%20to%20coronavirus%202019%20(COVID-19).pdf

Red Cross: short descriptions of resources
https://www.redcross.org/about-us/news-and-events/news/2020/coronavirus-safety-and-readiness-tips-for-you.html

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COVID-19!

How Can I Protect Myself and Others?

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