OVERVIEW
Students will learn about common symptoms of COVID-19, as listed in health communications, and discuss similarities and differences of COVID-19 with other illnesses, such as colds or flu (influenza).

LEARNING OBJECTIVE
Students can interpret and communicate information related to symptoms of COVID-19.

SCIENCE, HEALTH AND MATH SKILLS
• Observing
• Comparing
• Interpreting information

NGSS SCIENCE AND ENGINEERING PRACTICES
• Asking questions and defining problems
• Engaging in argument from evidence

TIME
• Set Up: 5 minutes
• Activity: Two 45-minute classes

MATERIALS FOR SCIENCE INVESTIGATION
• It Starts @Home Slide Deck (www.bioedonline.org)
• One sheet of plain paper (8.5 x 11)
• Markers or crayons

SET UP AND TEACHING TIPS
This activity can be taught synchronously online or face-to-face in a classroom. If used asynchronously, provide the slides to students as prereading.

PROCEDURE
■ ENGAGE
1. Ask students, Have you ever had a cold? Give students time to answer. Follow by asking, How did you feel? What did you experience? Students may describe having the sniffles, sore throat or fever, for example.

2. Tell students that the changes that happen when a person is sick, such as having a runny nose or a fever, are called “symptoms.” The word, symptom, often is used to describe the characteristics of a particular illness, such as pain or fatigue, that can or cannot be observed by someone else. Signs are indications of a particular illness that can be seen or measured by another person.
3. Explain that the illness, called COVID-19, has its own set of symptoms and signs. Because it is caused by a new virus, we don’t know everything about COVID-19. However, some symptoms of infection are common or frequent with COVID-19. The only current way to be certain that a person has COVID-19 is to be tested. Tests can be accessed at a clinic, pharmacy, a COVID testing center in the community and other locations.

4. If students are not familiar with “coronavirus,” as a description of a virus, explain that the disease COVID-19 is caused by a kind of virus called a coronavirus.

**EXPLORE AND EXPLAIN**

5. Use the accompanying slides to prompt discussion about typical symptoms and signs of COVID-19. If students raise a question for which you do not have an answer, use it as an opportunity for them to do research on the Centers for Disease Control and Prevention (CDC) website (www.cdc.gov).

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**SLIDE 3**

Have you seen posters like this one on the news, online or at school? Give students a chance to answer out loud or to write their ideas in a journal.

Do you have questions about what some of this information means? Tell students that COVID-19 often has symptoms and signs similar to those of other illnesses, like colds or flu.

Not everyone who is infected with the virus (coronavirus) that causes COVID-19 feels sick or has symptoms. However, there are some common symptoms or signs to watch for. The only way to really know if a person has COVID-19 is to be tested.

**SLIDE 4**

How would you know if a cough is a serious one?

All of us cough sometimes. Coughs may be triggered by allergies, asthma, or something in our surroundings. But cough can also be caused by an infection, such as a cold or flu, that affects the respiratory system (nose, mouth and lungs). New and frequent coughing can be a sign of COVID-19 infection.

What about shortness of breath?

Have you ever run hard and had trouble catching your breath? That feeling is called “shortness of breath.” There are medical conditions, like asthma, that can cause shortness of breath. COVID-19 also can cause breathing problems.

**SLIDE 5**

What is a fever?

Our bodies always stay warm. In fact, your internal temperature usually is around 98.6°F. A person is considered to have a fever when her or his body temperature is higher than normal. Fever is a sign that your body is trying to fight an illness. Many illnesses, including COVID-19, can cause fever. It is important for people to stay home when they have a fever.

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Coronaviruses are shaped like spheres with spikes all around the outside surface. Scientists refer to the particular coronavirus that causes COVID-19 as SARS-coV-2, because it is the second known SARS virus. SARS is an acronym for Severe Acute Respiratory Syndrome and CoV is an acronym for coronavirus.
How do we know if body aches are normal or due to COVID-19 or flu?

We all have muscle and body aches! Sometimes, we feel sore from exercising, or bad posture, or even sleeping in the wrong position. COVID-19 and other illnesses, including flu, can cause a person's whole body to hurt.

Should you stay home if you are nauseous, vomiting, or have diarrhea?

Many illnesses can cause digestive (stomach or intestine) problems. It’s always a good idea to stay home if a person is vomiting or has diarrhea. It is important to tell an adult if this happens at school.

Have you ever been unable to taste or smell something?

Think of a time when you had a bad cold, and nothing tasted as it should. Maybe you couldn’t smell your food. This is what this sensation may be like. Sometimes, COVID-19 causes some people to lose their senses of smell and taste for a short period of time.

What is fatigue?

Everyone feels tired at the end of the day, or after working or exercising. That feeling of tiredness usually goes away after we rest or sleep. Fatigue is unusual or excessive tiredness that is not helped by rest or sleep.

Should someone stay home with a sore throat or runny nose?

A sore throat and runny or stuffy nose can be brought on by allergies or colds. As with many common symptoms, it is sometimes hard to know the cause. But it’s important to let an adult know if you have several symptoms or signs that point to possible COVID-19 infection.
**EXTEND**

6. Remind students that someone experiencing symptoms and signs of COVID-19 doesn’t always have the virus. There can be other reasons for people to feel this way. However, there are symptoms to look for and take seriously during this pandemic. If you have symptoms and signs that might be COVID-19, stay home from school and check with an adult.

7. Wearing face coverings, physical (social) distancing and handwashing are our best defenses against COVID-19 right now!

**EVALUATE**

8. Conclude by having students create a poster for display in the classroom or at home that provides reminders about possible symptoms and signs of COVID-19. Or, have students create an electronic poster or slide to share with the class online.

**THE SCIENCE**

COVID-19 is a disease caused by a new form of coronavirus. Coronaviruses are viruses shaped like spheres with spikes all around the outside surface. The genetic material of a coronavirus is in the form of a single strand of RNA.

Currently there are seven known types of coronavirus that cause infection in humans. Four of them cause infections like the common cold. The three others are newer to the humans. These three can cause cold like symptoms but also cause more serious illness. SARS-CoV-2 is one of these three viruses. Scientists refer to the particular coronavirus that causes COVID-19 as SARS-CoV-2, because it is the second known SARS virus. SARS is an acronym for Severe Acute Respiratory Syndrome, and CoV is an acronym for coronavirus.

Some symptoms of infection are common or frequent with COVID-19. The more common symptoms of COVID-19 infection include: cough, shortness of breath, fever or chills, body aches, nausea or vomiting, diarrhea, new loss of taste or smell, fatigue, and sore throat.

Currently, the only way to be certain that a person has COVID-19 is to be tested at a clinic, pharmacy, community COVID testing center or other location. Two kinds of tests are available.

• A viral test (also called a diagnostic test) tells if someone has a current infection. There are two kinds of viral test: a rapid antigen test and a more accurate molecular test that requires a sample to be sent to a lab.
• An antibody test indicates whether a person might have had a past infection.

**WORDS TO KNOW**

- **COVID-19** Infectious disease caused by a coronavirus called SARS-CoV-2.
- **Coronavirus** Type of virus that causes predominantly respiratory disease.
- **Signs** Indications of a particular illness that can be seen by another person.
- **Symptoms** The changes that happen when a person is sick. Symptoms are feelings that patients experience and can or cannot be observed by someone else.
RESOURCES


COVID HEALTHY ACTIONS, COMMUNITY KNOWLEDGE AND SCIENCE

A SCIENCE-BASED CURRICULUM FOR THE COVID-19 PANDEMIC

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