Why Do We All Have to Stay Home?
Elementary Version

Welcome to NSTA's Daily Do
Teachers and families across the country are facing a new reality of providing opportunities for students to do science through distance and home learning. The Daily Do is one of the ways NSTA is supporting teachers and families with this endeavor. Each weekday, NSTA will share a sensemaking task teachers and families can use to engage their students in authentic, relevant science learning. We encourage families to make time for family science learning (science is a social process!) and are dedicated to helping students and their families find balance between learning science and the day-to-day responsibilities they have to stay healthy and safe.

What is Sensemaking?
Sensemaking is actively trying to figure out how the world works (science) or how to design solutions to problems (engineering). Students do science and engineering through the science and engineering practices. Engaging in these practices necessitates students be part of a learning community to be able to share ideas, evaluate competing ideas, give and receive critique, and reach consensus. Whether this community of learners is made up of classmates or family members, students and adults build and refine science and engineering knowledge together.
Introduction

The COVID-19 global pandemic has led to major changes in our everyday lives. The biggest changes for young children are likely staying home from school and no longer being able to spend time with extended family and friends.

In this task, *Why do we all have to stay home?*, students and their families engage in science and engineering practices and use the thinking tools of patterns and cause and effect to figure out how social distancing (and shelter in place) slows the spread of the coronavirus. This task is designed to help young children talk about changes they've seen and heard about, understand how the coronavirus is spread, and take actions to keep themselves and their families healthy and safe.

Discussions play a large role in supporting students' sensemaking in this task. You may want to first introduce or remind students of classroom norms before you begin. OpenSciEd has a set of classroom norms that well-support students in sharing, listening, and respectfully critiquing and building on other's ideas.

**A printable version of the Why do we all have to stay home? Elementary Version lesson plan in now available!**

[Download Lesson Plan](#)

Tell your students, "We're going to watch what happens when an imaginary germ spreads in a town where people are playing, hanging out, and going to school together." Video Model representing people playing, hanging out, and going to school together (no social distancing) via Washington Post.

Ask, “What do you notice or wonder about this model?” Start with the simulation off, and then let it play all the way through.

**How are the two models similar and different?** (example responses)

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lots of dots (200)</td>
<td>In the first model, all the dots changed colors and in the second model, most of the dots stayed the same color.</td>
</tr>
<tr>
<td>Dots change colors – healthy to sick to recovered</td>
<td>Most of the dots change location in the first model, but only a few dots change location in the second</td>
</tr>
<tr>
<td>Dots move</td>
<td>Most of the dots bump into each other in the first model, but not many bump into each other in the second.</td>
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As students share their noticing, ask them a clarifying or probing question as appropriate to get them to think more deeply about the components (parts) and relationships (what moves?/what changes?) represented in the model. You may want to go back to the simulation and ask each student to follow the journey of one dot from beginning to end if they have difficulty answering the questions.
If you are facilitating this task with two or more students (or family members), you have a wonderful opportunity to bring the group to consensus on the components and interactions represented in the model. See the example consensus discussion below using the questions provided and guidance from OpenSciEd 3 Discussion Types.

As students share their noticings, you can work to bring the class to consensus about the components (parts) and interactions (what moves/what changes) of the model. Here is an example of a consensus discussion using guidance from OpenSciEd 3 Discussion Types:

Student A: There are lots of dots.
Teacher: What do you think the dots represent? (What are those dots?)
Student A: People.
Teacher: Do we all agree with that?
Students: Yes!
Teacher: What else do you notice?
Student B: The dots are bumping into each other.
Teacher: We know the dots represent people – what do you think dots bumping represent?
Student B: People bumping into each other.
Student C: Maybe people are playing together?
Student D: That’s too many people to be playing! Maybe they are shaking hands?
Student E: Why would all those people be shaking hands?
Teacher: How are these explanations similar?
Student B: It could just be all the ways people come into contact – playing, greeting each other, waiting in line at the store.
Teacher: Would someone restate what Student B said?
Student E: The bumping dots on the model is all the ways people come into contact with each other.
Teacher: Are we all Ok with that?
Students: Yes!

Tell students, “Now we’re going to watch what happens when the imaginary germ spreads in a town where people are mostly staying at home. Scientists call keeping close to home social distancing.” Video Model representing most people staying at home (extreme social distancing) via Washington Post. (Note: Keeping close to home more closely represents shelter in place. If students ask the difference, social distancing is keeping a distance (6 feet recommended) from others and only gathering in groups of 50 or less.)

Ask student how this model is similar to the first model (start with the simulation off, then let it play through while students are making observations). Record the similarities. Play the simulation again, this time asking students to notice differences between the first and second models. Record
the differences students observe. You may need to run the simulation 2-3 times.

See image below for examples of similarities and differences.

**How are the two models similar and different?** (example responses)

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Ask students to turn and talk to a partner to answer the question, “How do these models help explain why scientists are asking us not to play, hang out, or go to school together?”

To facilitate the conversation, give students the following prompts:

Speaker: I think _____ because ____.

Responder: I heard you say _____. (to honor speaker's ideas) What is your evidence?

As you listen to the partner conversations, remind students to use the models and the similarities and differences list to support their thinking. Make sure each student takes a turn as speaker and responder.

**How do these models help explain why scientists are asking us not to play, hang out, or go to school together?**

I think _ because _.

I heard you say _______.

What is your evidence?
If you have two or more students (or family members), navigate to a building understanding discussion. Start by asking students to share their claims. As each student shares their claim, ask them share evidence from the models that supports their claim.

Some questions you might pose to the class to encourage critique and student-to-student interaction include:

- Does any group have evidence to support Group A’s claim?
- What data do we have that challenges Group B’s claim?
- _____ and ____ made similar claims. Did you have the same evidence?
- _____, what do you have to say to ____ about her idea? It sounds pretty different from yours.

To conclude the building understanding discussion, consider using the following prompt:

What can we conclude about how these models help explain why scientists are asking us not to play, hang out, or learn together?

**NSTA Collection of Resources Today’s Daily Do**
NSTA has created a [Why do we all have to stay home? Elementary Version](#) collection of resources to support teachers and families using this task. If you're an NSTA member, you can add this collection to your library.

**Check Out Previous Daily Dos from NSTA**
The NSTA Daily Do is an open educational resource (OER) and can be used by educators and families providing students distance and home science learning. Access the [entire collection of NSTA Daily Dos](#).

**Acknowledgement**
The coronavirus simulations used in this task are part of the story "[Why Outbreaks like Coronavirus Spread Exponentially and How to "Flatten the Curve"](#) published in *The Washington Post* on March 14, 2020.