

LESSON 7: How does what we figured out about the different parts of our body help us identify similar structures in other living things?

PREVIOUS LESSON *We wanted to figure out what makes up skin, bone, and muscle, and we thought microscopes could help us do that. We made some predictions and we observed pre-prepared slides of human skin, bone, and muscle to come to consensus around how cells' unique structures support their functions in the body.*

THIS LESSON

PUTTING PIECES TOGETHER

2 days



This lesson marks the end of the first lesson set. We develop a Gotta-Have-It Checklist to highlight the key ideas that we figured out in Lessons 1–6. Students take an individual assessment where they plan and carry out an investigation to determine if a mysterious object is similar to humans based on its microscopic structures. They use this data to argue from evidence that other living things are similar to humans because they are made of cells.

NEXT LESSON *We will revisit the timeline and Driving Question Board to identify questions we have answered. We will revise our definition of healing to include that healing involves filling in the gaps caused by an injury with cells, but we do not know how it happens. We will observe a time-lapse video of a skin wound healing. We will revise our model to predict what must be happening with cells for skin to heal.*

BUILDING TOWARD NGSS

MS-LS1-1, MS-LS1-2, MS-LS1-3*, MS-LS1-8*



WHAT STUDENTS WILL DO

- 7.A** Plan and carry out an investigation to produce data on what microscopic structures make up parts of a mysterious object (pattern) to conclude that more than just humans are made of cells.
- 7.B** Construct a written (or oral) argument to support an explanation that humans and animals are made up of cells whose unique structures support their particular functions.

WHAT STUDENTS WILL FIGURE OUT

- Other living things besides humans are made of cells.
- Cells of other things that look similar to human cells also have special structures that could be responsible for particular functions.

Lesson 7 • Learning Plan Snapshot

Part	Duration	Summary	Slide	Materials
1	5 min	NAVIGATION Connect what we figured out last time to our work today.	A	Healing Timeline
2	20 min	BUILD A GOTTA-HAVE-IT CHECKLIST Work in pairs to review our Progress Trackers from Lessons 1-6 to decide which ideas we need to explain how a healed or injured foot functions based on the interactions of different structures and systems. Student groups share their Gotta-Have-It Checklist ideas with the class.	B-D	Parts of the Body poster, chart paper, markers
3	10 min	EXPLORE A MYSTERIOUS PHENOMENON Notice and wonder about a mysterious object that washed up on the beach.	E-F	
4	10 min	PLAN AN INVESTIGATION TO COLLECT DATA ABOUT THE MYSTERIOUS OBJECT Independently plan an investigation to see if we can determine what the mysterious object is using what we figured out about parts of the human body.	G	<i>Mysterious Object: Plan an Investigation (Part 1)</i> , tape
<i>End of day 1</i>				
5	10 min	CARRY OUT AN INVESTIGATION TO IDENTIFY THE OBJECT Individually conduct an investigation to determine if the mysterious object is similar to humans.	H	<i>Mysterious Object: Carry Out an Investigation (Part 2)</i> , <i>Microscopic Images of the Mysterious Object</i>
6	13 min	ARGUE FROM EVIDENCE ABOUT THE IDENTITY OF THE MYSTERIOUS OBJECT Work individually to argue from evidence about the identity of the object based on similarities to human body systems and structures.	I	<i>Mysterious Object: Carry Out an Investigation (Part 2)</i> , <i>Mysterious Object: Argue from Evidence (Part 3)</i>
7	17 min	REVISIT THE DRIVING QUESTION BOARD AND DRIVING QUESTION Revise the driving question to include living things and not just the foot or body.	J	<i>DQB Questions or Parts of Questions We Have Answered</i> , Driving Question Board, markers
8	5 min	NAVIGATION We still have many questions we cannot yet explain about healing.	K	<i>DQB Questions or Parts of Questions We Have Answered</i>
<i>End of day 2</i>				

Lesson 7 • Materials List

	per student	per group	per class
Lesson materials	<ul style="list-style-type: none">• science notebook• <i>Mysterious Object: Plan an Investigation (Part 1)</i>• <i>Mysterious Object: Carry Out an Investigation (Part 2)</i>• <i>Microscopic Images of the Mysterious Object</i>• <i>Mysterious Object: Argue from Evidence (Part 3)</i>• <i>DQB Questions or Parts of Questions We Have Answered</i>	<ul style="list-style-type: none">• tape	<ul style="list-style-type: none">• Healing Timeline• Parts of the Body poster• chart paper• markers• Driving Question Board

Materials preparation (15 + time to set up microscopes (on day 2) minutes)

Review teacher guide, slides, and teacher references or keys (if applicable).

Make copies of handouts and ensure sufficient copies of student references, readings, and procedures are available.

In this lesson, students use microscopic images at different scales to look at different samples. Make sure that each student has access to a copy of *Microscopic Images of the Mysterious Object* to use for Part 2 of the assessment. Alternately, you may access the Virtual Microscope interactive at <https://www.teachersopensciencedfieldtest.org/healing>. From there, you can copy the link for viewing the **mysterious object** and share it with your students so they can access it on their own devices. By sharing this direct link, your students will only have access to the images needed for this lesson. Note that the image of the mysterious object cross section without magnification is not available via the Virtual Microscope, so students should refer to *Microscopic Images of the Mysterious Object* to see that.

Make sure students have access to their Progress Trackers in their science notebooks.

If you did not type up a list of the questions from the Driving Question Board from Lesson 1 (or later in the unit), type them up and print a copy for each student.

Lesson 7 • Where We Are Going and NOT Going

Where We Are Going

All students' ideas generated during Lessons 1–6 will be relevant in this lesson. This lesson is a putting the pieces together lesson. It includes a midpoint assessment along with a scoring guide for the assessment.

If you're using *Microscopic Images of the Mysterious Object* instead of microscopes, please note that the magnification level noted with each image is as seen through the microscope and does not attempt to account for any enlargement due to the printing or projection of the image.

Where We Are NOT Going

Students will analyze images of a mysterious item that has washed up on a beach shore. They will be using these images to argue how the item is similar or different from a human. Though they will be comparing images of structures (bone cells of a whale) in the object that look similar to structures in a human (bone cells), students will not be analyzing other structures of the whale. They will only be using what they figured out about how bones look in a human to argue whether this object could be a bone from another living thing.

LEARNING PLAN for LESSON 7

1 · NAVIGATION

5 min

MATERIALS: Healing Timeline

Revisit the timeline to help us connect our work in the unit back to the anchoring phenomenon. Display slide A. Say, *Last time we used a microscope to investigate skin, bone, and muscle tissue and so far we have figured out a lot about the parts that make up a foot and how they interact and work together. But we still have more to figure out about how the foot healed from the injury. Let's begin by taking stock of what we have figured out about the healed foot.* It might be helpful to position yourself near the timeline so that you can refer to different points on the timeline as you facilitate this brief discussion.

Suggested prompt

The last few classes when we looked at samples of blood, nerves, bone, skin and muscle under the microscope, what did we figure out about those tissues?

Can someone remind us why we were trying to figure out more about the bone, skin, muscle, nerves, and blood?

Sample student response

Bone, skin, muscle, blood, and nerves cells all looked different.

Yeah and the tissues, or repeating pattern of cells looked different from each other too.

It makes sense that they look different because they all have different functions.

Each type of tissue had a repeating pattern of cells in it that supported its function.

We wanted to know how those parts function and work together when they're not injured, so that we can figure out what has to heal for the injured foot to work again.

Say, *Let's spend some time today putting all the pieces together about what we have figured out about healed or uninjured parts of bodies. Then next time we can continue to explore our remaining questions about healing.*

2 · BUILD A GOTTA-HAVE-IT CHECKLIST

20 min

MATERIALS: science notebook, Parts of the Body poster, chart paper, markers

Preview the Gotta-Have-It Checklist. Display slide B. Explain to students that they will create a Gotta-Have-It Checklist where they decide which ideas that we've figured out so far are most necessary, using their Progress Trackers and Parts of the Body poster, for explaining how the healed or uninjured foot can function based on the structures and systems in the body. Say, *We need to take stock of all of these ideas we have figured out about the different parts of the foot, what those different parts are made of, and how those parts interact in a healed or uninjured foot so that we can move on to explaining what happens during the healing process.*

Tell students they will work with a partner to find these big ideas and create a Gotta-Have-It Checklist. Direct students to find their Progress Trackers in their notebooks and the Parts of the Body poster on the wall. Tell students that these are all important ideas that they have figured out over the past six lessons, but that some ideas may be more critical than others for answering the question: What structures, functions, and system interactions explain how the healed or uninjured foot worked before *the injury*?

* ATTENDING TO EQUITY

Having students select a personal norm for their work today will help to reinforce to them that the class norms are important. This also creates an opportunity for students to actively participate in group work following norms and to self-regulate their participation in group activity. Over time, these norm-reinforcing strategies can help to build a positive group-work culture by encouraging students to identify their

ADDITIONAL GUIDANCE

Although a Gotta-Have-It Checklist is often built before doing a classroom consensus model, we are using it to take stock of key science ideas that we have figured out from investigating the anchoring phenomenon of a foot healing to compare human body systems to other living things. Students are going to use the Gotta-Have-It Checklist as a way to support their planning of investigations and then arguing from evidence about their findings. Students will be able to use the Gotta-Have-It Checklist on their *Mysterious Object: Plan an Investigation (Part 1)*, *Mysterious Object: Carry Out an Investigation (Part 2)*, and *Mysterious Object: Argue from Evidence (Part 3)*.

Work in pairs to select a few ideas for the Gotta-Have-It Checklist. Distribute *Lesson 7 Gotta-Have-It Checklist* to each student and direct them to tape it into their science notebooks. Preview how to build the checklist: We will complete only the left-hand column as a class right now and leave the right-hand columns blank until later.

Have students gather in groups of two or three to develop a few ideas on their *Lesson 7 Gotta-Have-It Checklist*. In their groups, they will note the ideas from their Progress Trackers and the Parts of the Body poster they want to use on *Lesson 7 Gotta-Have-It Checklist*. Students should spend up to 5 minutes working with their partners.

Remind students of discussion norms. Display **slide C**. Highlight important ways to talk with one another, including frames for how to agree or disagree respectfully and how to push for justification. Encourage students that it's OK to share an idea they're not sure about or to disagree with someone's or a group's idea. Ask students to pick one of the classroom norms that they feel personally connected with to work on today. Say, *As we build the Gotta-Have-It Checklist, remember the process should be collaborative and involve students arguing from evidence for their ideas. We will create a public record of our ideas we agree are important.**

Facilitate a sharing of ideas. Display **slide D**. Ask students to briefly mention an idea they listed on their Gotta-Have-It Checklist and why it's important for understanding how the healed or uninjured foot functions. Ask groups to not repeat the same idea. However, direct students to add to their own lists any ideas someone else shared that they don't already have but think are important. The sample student responses below are not a comprehensive list of all the ideas from their Progress Trackers and are also listed on *Key for Lesson 7 Gotta-Have-It Checklist*. As you record the checklist as a class, have students add anything they are missing to their individual copy of *Lesson 7 Gotta-Have-It Checklist*, so they can use it on *Mysterious Object: Plan an Investigation (Part 1)*, *Mysterious Object: Carry Out an Investigation (Part 2)*, and *Mysterious Object: Argue from Evidence (Part 3)**

resources that can strengthen their group, as well as systems to ensure that all students are actively participating in sense-making.

* ATTENDING TO EQUITY

The sample Gotta-Have-It Checklist responses are suggestions for important ideas students will use to develop an argument later in the lesson. It is important, however, to appropriate the words and ideas that your students use and agree upon during this discussion. Your class's list of ideas could be articulated differently and may include other ideas not listed here. Actively look for different ways students share and represent their ideas (e.g., words or pictures) as an opportunity to communicate to your students that different ways of representing their thinking is valuable.

Suggested prompts

Can someone suggest an idea we've figured out about the body systems and structures from Lessons 1-6 that will help us explain how the healed or uninjured foot functions?

Some of you mentioned that there are blood vessels and nerves found throughout the body and within these different tissues, what did we figure out about these two structures?

Sample student responses

Each part of the body is made of cells.

Many cells that are together in a repeating pattern make tissues.

Muscle is attached to bone somehow, and skin is attached to muscle.

Blood vessels are all over the body and within the tissues (bone, muscle, and skin).

Nerves are also found all over the body and within the tissues (bone, muscle, and skin).

The structures of the cells that make up the tissue of the different body parts support the work they do.

- Skin cells are closely-packed together to keep things in or out of the body.*
- Muscle cells are long and stringy because they are attached to bones and contract/extend to move the body.*
- Bone cells are arranged in circles like the rings of a tree and they are strong to support the body.*

Blood is a mixture that contains food particles, water, and round cells that bring what the body needs all over.

Nerve cells have branches to carry signals around the whole body.

Motivate trying to see if the ideas we included on our Gotta-Have-It Checklist ideas could also explain something other than the human foot.

Suggested prompt	Sample student response
<p><i>Now that we have figured out a few things about how a foot works with the parts it is made of, do you think we could use this to explain other things in our body?</i></p> <p><i>What else from our related phenomena might we be able to explain using what we have figured out about the foot and the structures it is made up of?</i></p> <p><i>If we were to look at the foot, or a limb of another living thing that we think might also have muscles, bones, skin and blood, what would we want to investigate and analyze?</i></p>	<p><i>Yes! We can also explain how our arm works because we saw how a chicken wing works and how it is similar to our arm.</i></p> <p><i>Accept all answers that are tied to something on the related phenomena poster.</i></p> <p><i>We would want to be able to see how the parts work together like we did with the chicken wing.</i></p> <p><i>Yeah and we would want to see samples of the different parts under the microscope.</i></p>

Say, It sounds like we think that if we were to have samples to look at and investigate, we could use some of the big ideas we have figured out so far about the systems, structures, and different scale of what we see to explain other things besides just the human body or foot. Let's try it and see if we can use our Gotta-Have-It Checklist to explore a new phenomenon.

3 · EXPLORE A MYSTERIOUS PHENOMENON

10 min

MATERIALS: science notebook

Observe a mysterious object that washed up on a beach. Display slide E. Have students create a Notice and Wonder chart in their notebooks.

Display slide F. Ask students to record several noticings and wonderings about the object in their science notebooks. Then share ideas about the mysterious object as a class. Use prompts such as ones below to help students notice and wonder about the image on the slide. If time allows, you can have students Turn and Talk before sharing their ideas with the whole class.

Suggested prompt	Sample student response
<p><i>A family found this mysterious object on the beach. What are some of your ideas for what this object could be based on these two images?</i></p> <p><i>What made you think that the mysterious object is a _____?</i></p>	<p><i>I think it's a bone (from a big animal).</i></p> <p><i>It could be a tree branch.</i></p> <p><i>It might be part of a shipwreck.</i></p> <p><i>Maybe it's a rock.</i></p> <p><i>Because of its size.</i></p> <p><i>Because of its shape.</i></p> <p><i>Because of where it washed up.</i></p>

Suggested prompt	Sample student response
<p><i>What do you wonder about this object? What questions do you have about this object?</i></p>	<p><i>Is it hard?</i></p> <p><i>Is it old?</i></p> <p><i>I wonder what animal it's from (if it's a bone).</i></p> <p><i>How long was it in the water before it got to the beach?</i></p> <p><i>How far did it travel to get here? If it's from a tree, is that tree nearby or on an island somewhere?</i></p>
<p><i>What more would you want to know about this object based on what we have figured out about the parts of the human body?</i></p>	<p><i>We want to know what it is made of.</i></p> <p><i>We want to know what it looks like inside.</i></p> <p><i>We want to know if it has always looked like this?</i></p> <p><i>We want to know if it is alive or dead or never was either!</i></p>

Say, let's start thinking about how we can investigate this object to find evidence that could help us determine what it is.

4 · PLAN AN INVESTIGATION TO COLLECT DATA ABOUT THE MYSTERIOUS OBJECT

10 min

MATERIALS: *Mysterious Object: Plan an Investigation (Part 1)*, science notebook, tape

Prepare for the Mysterious Object: Plan an Investigation (Part 1). Have students tape or glue their *Lesson 7 Gotta-Have-It Checklist* into their notebooks. Remind students that they should use their *Lesson 7 Gotta-Have-It Checklist*, *Progress Trackers*, and evidence from previous investigations to plan their investigation. Explain to students that this is a three-part assessment. First, they will use their *Gotta-Have-It Checklist* to plan and carry out an investigation to find data that will allow them to argue from evidence whether the structures in a mysterious object are similar to the structures in human body parts. To help students plan their investigation, ask them questions similar to those below:

- *A lot of you wanted to know what it was like inside the object or what it was made of. What tools could we use to look closer at this mysterious object?*
- *How could you use what we have figured out about the human body to understand more about this mysterious object?*

 **Independently plan an investigation to see if the mysterious object is similar to humans.** Display slide G. Distribute *Mysterious Object: Plan an Investigation (Part 1)* to each student. * Say, *You are going to use Mysterious Object: Plan an Investigation (Part 1) to help plan your investigation to figure out which of our predictions about the mysterious object is most likely true based on evidence. Today, you will develop a detailed plan to figure out what the mysterious object is. Tomorrow, you will carry out the investigation and then argue from evidence about what the mysterious object is.*

* ATTENDING TO EQUITY

Universal Design for Learning

Some students may benefit from using other modalities, such as a drawing to show their thinking for any or all of the parts and questions on this assessment. You may consider allowing some students to present their answers verbally with you and having a student scribe their thinking on paper. This might allow students to also use gestures to help articulate their understanding about the structures in the mysterious object that are similar to those in humans. Encouraging students to use other modalities to *represent* their thinking creates an equitable pathway for all students to demonstrate proficiency.

ASSESSMENT OPPORTUNITY

Building towards: 7.A Plan and carry out an investigation to produce data on what microscopic structures make up parts of an mysterious object (pattern) to conclude that more than just humans are made of cells.

What to look for/listen for: Students wanting to look closer at the object through using cross sections and samples under the microscope. Students may also say they want to see images of different organisms or animals that live in the ocean to compare this object to the animals. Use scoring guidance on (CL.L7.KEY2) to see possible student responses.

What to do:

If students are having trouble getting started, ask, *What kind of investigation could you do to figure out where this came from? What are some things we have done in class that could help you figure this out?* If some students are arguing that they know what the object is based on images they have seen of different animals that live in the ocean, remind them that in addition to figuring out what the object could be, we also want to figure out if the object is similar to a human body in any way, and then ask them what kind of data they would want to collect to help them be able to argue this.

End of day 1

5 · CARRY OUT AN INVESTIGATION TO IDENTIFY THE OBJECT

10 min

MATERIALS: *Mysterious Object: Carry Out an Investigation (Part 2)*, *Microscopic Images of the Mysterious Object*



Navigate to where we left off last time. Display slide H. Say, *Can someone remind us of what we were trying to figure out at the end of last class?* Listen for students to say that we are trying to figure out what an object is that washed up on a shore and whether we can use what we have figured out about the structures in the human body to figure out what it does.

Explain to students that since that you were unable to get an actual sample from the mysterious object but were able to obtain some of the images they described in their investigation plans. There are images of the mysterious object with no magnification and at various magnifications provided in *Microscopic Images of the Mysterious Object*. Students can observe these images and record their observations on *Mysterious Object: Carry Out an Investigation (Part 2)*.

ALTERNATE ACTIVITY

Instead of *Microscopic Images of the Mysterious Object* you may access the Virtual Microscope interactive at <http://www.teachersopensciencedfieldtest.org/healing>. From there, you can copy the link for viewing the **mysterious object** and share it with your students so they can access it on their own devices. By sharing this direct link, your students will only have access to the images needed for this lesson. Note that the image of the mysterious object cross section without magnification is not available via the Virtual Microscope, so students should refer to *Microscopic Images of the Mysterious Object* to see that.

ASSESSMENT OPPORTUNITY

Building towards: 7.A Plan and carry out an investigation to produce data on what microscopic structures make up parts of an mysterious object (pattern) to conclude that more than just humans are made of cells.

What to look for/listen for: See Part 2 of *Lesson 7 Assessment Key* for guidance.

What to do: If students are struggling in carrying out their investigation and collecting, remind them to look back at the investigations into the cells of blood, skin, bone, nerves, and muscle.

6 · ARGUE FROM EVIDENCE ABOUT THE IDENTITY OF THE MYSTERIOUS OBJECT

13 min

MATERIALS: science notebook, *Mysterious Object: Carry Out an Investigation (Part 2)*, *Mysterious Object: Argue from Evidence (Part 3)*



Ask students to complete the assessment. Display slide I. Have students individually complete *Mysterious Object: Argue from Evidence (Part 3)*. While this is an embedded assessment that should be answered individually, students can use their Progress Trackers, *Lesson 7 Gotta-Have-It Checklist*, and posters around the room to help recall what evidence, ideas, and models are useful for each question. Additionally, students will be using the data they recorded on *Mysterious Object: Carry Out an Investigation (Part 2)* to support their argument*

The screenshot shows a worksheet titled "Mysterious Object: Argue from Evidence (Part 3)". At the top, there are fields for "Name" and "Date". Below the title, there are three numbered instructions: 1. "Use words or pictures to argue from evidence about what the mysterious object might be that best fits the bones based on the data you collected." 2. "To help yourself and support your argument, use your Gotta-Have-It Checklist and evidence from the investigation you collected to describe you as far as you can about the object." 3. "Thinking about the structure you see, what function would this object perform within the larger system that it came from?" Below the instructions is a large empty rectangular box for writing or drawing. At the bottom left, it says "openstax.org" and at the bottom right, it says "Page 1".

* SUPPORTING STUDENTS IN DEVELOPING AND USING SCALE, PROPORTION, AND QUANTITY

Students may argue that we couldn't tell that the mysterious object was a bone just by looking at it. However, after zooming-in with a microscope to a different scale, we could see cells and observe that they are similar to humans.

ASSESSMENT OPPORTUNITY

Building towards: 7.B Construct a written (or oral) argument to support an explanation that humans and animals are made up of cells whose unique structures support their particular functions.

What to look for/listen for: See Part 3 of *Lesson 7 Assessment Key* for guidance.

What to do: If students are struggling in constructing or supporting their argument, encourage students to think of what evidence we collected for the ideas in their *Lesson 7 Gotta-Have-It Checklist*. Ask them to compare what we know about humans to what we are seeing in the mysterious object.

Collect all three parts of the assessment. Have students give you *Mysterious Object: Argue from Evidence (Part 3)*, *Mysterious Object: Carry Out an Investigation (Part 2)*, and *Mysterious Object: Argue from Evidence (Part 3)* either stapled or paper clipped together. The *Lesson 7 Assessment Key* is one document that has scoring guidance for all three parts of the Lesson 7 assessments.

7 · REVISIT THE DRIVING QUESTION BOARD AND DRIVING QUESTION

17 min

MATERIALS: *DQB Questions or Parts of Questions We Have Answered*, Driving Question Board, markers

Gather in a Scientist's Circle around the DQB. Display slide J. As students are gathering, ask them to take a few minutes to read our driving question and some of our individual questions on the Driving Question Board (in their heads). Say, *Let's take a few minutes to review our original mission.*

Suggested prompt	Sample student response
<i>What have most of the questions/ideas from the timeline we have been working on been about?</i>	<i>We were focused on figuring out how and what was going on inside a foot that was healed.</i> <i>A lot of our original questions were about just the foot or the body.</i> <i>We have a lot of questions about what was done to the injured foot to help it heal.</i>
<i>Now, that we have turned in our assessment, what did we figure out about the mysterious object?</i>	<i>We can't tell you exactly what is, but we think it came from an animal with bones because it had similar structures to human bones when we looked at it under the microscope.</i> <i>We don't think it is a human because the object was way bigger than the kid.</i>
<i>Can this help us explain anything on our related phenomena or Driving Question Board? And what new questions do we have?</i>	<i>We think that maybe we can use what we have figured out about the parts of the human body to explain other things besides humans.</i>
<i>Do you think our driving question still captures what we are trying to figure out?</i>	<i>Well... we now know that not just humans are made of cells.</i> <i>Yeah a lot of us shared related phenomena about animals that are injured.</i> <i>We still need to figure out about healing!</i>
<i>That is true. It sounds like we think we might be able to investigate more than just human bodies and if they have similar structures and systems that could heal. What could we revise our question to be?</i>	<i>Possible response might include:</i> <i>How does the foot (body) AND other types of bodies heal?</i> <i>How do different things heal?</i>

Post the new main driving question to the DQB (similar to): *How do living things heal?*

Say, *Now that we have revised our question, let's take a few minutes to see what questions we have answered already and if we have new questions.*

Revisit our individual questions on the DQB. Distribute the *DQB Questions or Parts of Questions We Have Answered* to each student. If they don't already have it in their notebooks from Lesson 1, give them a copy of the DQB questions you typed up in Lesson 1. Give students 10 minutes to individually complete the *DQB Questions or Parts of Questions We Have Answered*.

If students need additional time for this activity, they may finish the *DQB Questions or Parts of Questions We Have Answered* as home learning. While students are answering questions from the Driving Question Board, this is an excellent formative assessment opportunity to address partial understandings and see if any pieces need to be revisited.

8 · NAVIGATION

5 min

MATERIALS: *DQB Questions or Parts of Questions We Have Answered*

Navigate to the next lesson. Display **slide K**. Remain in the Scientists Circle. Ask students to Turn and Talk about the prompts on the slide. As students are talking, circulate the room, listening to student questions. Then share as a class.

Suggested prompt	Sample student response
<i>What are some new questions you have now?</i>	<i>Accept all responses.</i> <i>What other things are made of cells?</i> <i>How are cells involved in healing?</i> <i>Can we zoom in on healing parts like we zoomed in on the blood, skin, bone, muscle, and nerves?</i>
<i>What are a few of the questions you think we can explain?</i>	<i>We know what the foot is made of.</i> <i>We know what it looks like inside the foot.</i>

ADDITIONAL GUIDANCE

At the start of the next lesson, students will be adding additional questions to the DQB. It is important to capture any new questions that students have, but don't spend too much time adding additional questions to the DQB until Lesson 8.

Say, I agree! We can explain a lot of things about the healed foot but can't explain how it healed yet! We have so many new questions and still have so many questions we haven't answered. Let's start next time by adding our new questions to the DQB and taking stock of the questions we have answered.

Additional Lesson 7 Teacher Guidance

**SUPPORTING
STUDENTS IN
MAKING
CONNECTIONS IN
ELA**

In this lesson, students construct a written scientific argument in *Individual Midpoint Assessment*. This addresses **CCSS.ELA-LITERACY.WHST.6-8.1** as students must introduce and support a claim about how the mysterious object could be similar to humans.