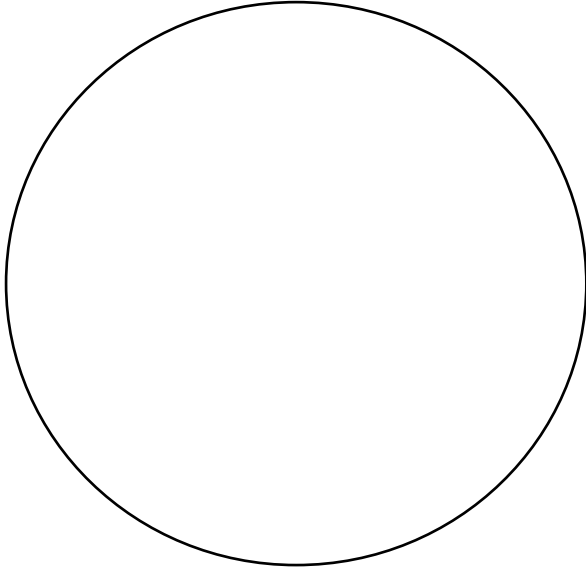
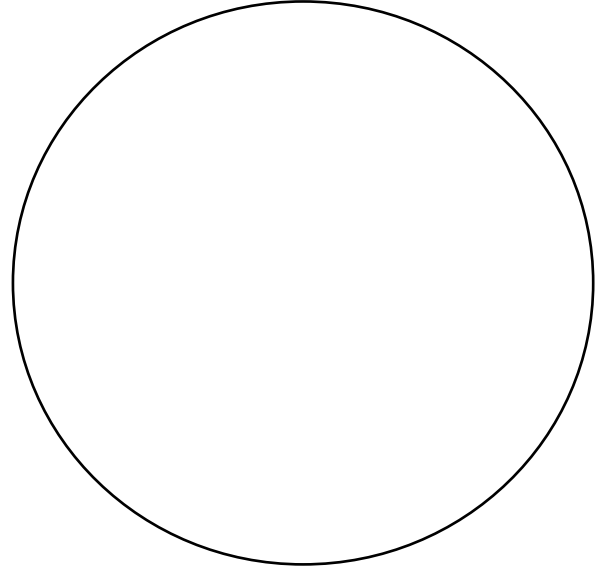


Initial Models

What is changing in the water that is causing the death of living things, and how can we, as scientists, investigate the water?



Healthy pond



School pond

Questions I have:

Name: _____

Data Table

Name: _____

Data Table

Ideas about Matter Mash Up

My <i>initial</i> ideas	<ul style="list-style-type: none"> ● This idea is incorrect. ● I'm not sure about this idea--some parts may be correct and other parts incorrect. ● This idea is accurate. 	How my ideas have changed
	When you boil salt water, some of the salt leaves with the water into the air.	
	The water molecule has one end that is slightly positive, and the other end is slightly negative.	
	Salt (NaCl) water will conduct electricity largely due to the water molecules' ability to conduct electricity.	
	All matter is made of tiny particles too small for us to see even with a microscope.	
	You can use a filter to separate the sugar from water in a sugar-water solution.	
	The molecules that make up liquid water are different from the molecules that make up ice, and these molecules are different from the molecules that make up water vapor.	
	NaCl dissolves in water, and the solution will conduct an electric current. Solid NaCl will also conduct an electric current.	
	When 5 grams of sugar is added to 200 grams of water, the mass of the solution will be 205 grams.	
	All substances dissolved in water will conduct electricity well.	
	Water molecules or particles are inside substances such as ice and liquid water.	
	How quickly a substance dissolves is a property of the substance and cannot be changed.	

Teacher/Video	SSUP_Belcastro_gr5_Matter_L1_C1_Transcript
Content Area	Matter
STeLLA Strategy	Strategy 1: Ask questions to elicit student ideas and predictions Strategy 2: Ask questions to probe student ideas and predictions
Context	This clip is from the end of lesson 1 of 7 in the Matter unit. Students are wrapping up the anchor lesson by capturing and organizing questions for the driving question board.

- 00:00:03 T: You all came up with a lot of questions today. I want you to pick one question that feels most important to you about how can the kids figure out what's in the water that could have caused these changes. Every person is gonna write down one question for a sticky note, and then we're gonna collect all of our questions to end our time together, okay?
- 00:00:57 T All right, so here's what I'm gonna ask you to do, we're gonna come back to this idea of listening. I need you to listen really carefully, I'm gonna have one person share out a question, and then if your question is related to theirs, your is a similar question, I want you to raise your hand. I'll have you read it out and then we're gonna put those up here together in a cluster.
- Okay, in a little chunk. So who would like to right now, when I look around, what do you think I would see if you were listening carefully to each other? You might be making eye contact to the person who's talking, we might not be fidgeting or sketching otherwise. All right, who can start us off? What is the question that you capture right here?
- 00:01:12 T: Yeah, Zoe.
- 00:01:14 S: Does the water/air get polluted?
- 00:01:16 T: Does anybody else have a question related to, did the water or air get polluted? What's your question?
- 00:01:23 S: My question was is it safe?
- 00:01:26 T: Is it so that's related? Does anybody else have a related question?
- 00:01:31 SN: Um, mine-mine is- mine isn't really related.
- 00:01:33 T: Okay, then pause on that, is yours related?
- 00:01:35 S: Yes.
- 00:01:36 T: What's yours.

00:01:36 S: Is there a disease in the water--

00:01:38 T: Are there diseases in the water? Okay-okay, Zoe, would you get those three questions and put them up here together, is your question related? What's your question?

00:01:46 SN: Are there bacteria?

00:01:48 T: Are there bacteria, excellent, can I have your sticky note open up there in the cluster? Any other related questions? Thank you. crosstalk

00:01:54 S: Mine's related.

00:01:55 Zoe: Oh.

00:01:55 T: Here you go. Yours is related, what's your question?

00:01:59 S: Is there something that is, or is there a plant deadly that's on the water?

00:02:04 T: Great, is there a plant outside the growing water? Excellent, any other related questions right here?

00:02:09 SN: Is the clear one drinkable?

00:02:11 T: Is the what?

00:02:12 SN: Is the clear one drinkable?

00:02:14 T: Is the clear one drinkable, interesting, okay, let's add it to that cluster, what else?

00:02:19 S: Um, what bacteria I got in it?

00:02:22 T: Okay, add that to the cluster. These are all about what is in the water that makes it safer, and safe, right here.

00:02:28 SN: So did the water have new characters in it?

00:02:31 T: Great, add that to the cluster, anything else that's related yeah? Oh.

00:02:34 S: What does it smell like?

00:02:35 T: What does it smell like? Is that related to this, or might that be a different one?

00:02:39 S: A different one.

00:02:40 T: A different one, okay, let's-- That feels maybe a little different, like, 'cause that's almost about like how we could test it, so this feels like what's in the water but I can see that that might be another category, anything else related to this category? The idea of polluted water, what's your question?

00:02:55 SN: Um, are there bubbles made by fish or an animal that could matter of fact they're unhealthy ones.

00:03:02 T: Pause for the bubbles, I don't know, do you think-- does that feel related or maybe its own category?

00:03:08 SN: I think- I think its own.

00:03:09 T: It's its own category, how about this, if you have a question, stand up, tell us your question, put it on the board and then sit down, so-so we now have that question, go ahead and add that-- add your question. Okay, read us yours?

00:03:20 S: Uh, I don't know. It depends like how clean is the water is in comparison to each other.

00:03:25 T: Great, how, oh, how clean are they in comparisons, so you're talking about comparing the two, love it.

00:03:30 SN: What's in the water that is.

00:03:33 T: What's in the water that's right here. Tell us aloud. If you can't hear, do this, if you wanna hear the question.

00:03:40 S: Why does, um, the, unhealthy one feel heavy

00:03:46 T: Why does it feel heavy, great, add that one, what else? Ian.

00:03:49 SN: What makes the water green?

00:03:51 T: What makes the waters green? Great, what, else? Eleanor?

00:03:54 S: Why is the water green?

00:03:55 T: Why is the water dirty, great, what's your question?

00:03:58 SN: Why is it green?

00:03:59 T: Why is it green? Okay, there are couple about being green, let's put those together up there, what other questions do we have right here?

00:04:05 S: Um, my question is-is if the leeches are parasites?

00:04:10 T: The leeches are parasites, go on, great, right here.

00:04:12 SN: Um, I think it's related but, um, what would it smell like?

00:04:16 T: What it would smell like, we've got a smell question, good, put those together up here, what else?

00:04:21 S: Uh, are there too many fish in the water?

00:04:23 T: Are there too many fish in the water? Oh, interesting to the environment itself, what's your question?

00:04:27 SN: Is there trash in.

00:04:29 T: Say that a little louder.

00:04:31 SN: Um, is there trash in the--

00:04:32 T: Is there trash in the water, great, and final question right here.

00:04:36 S: The

00:04:40 T: Excellent, go ahead and add that.

Lesson Analysis Protocol: SSUP_Belcastro_gr5_Matter_L1_C1

1. Identify Lens and Strategy

- What instances of engaging students in analyzing and interpreting data and observations do you observe in the clip?
- What instances of engaging students in constructing explanations and arguments do you observe in this clip?

2. Analyze the Video

- What do students understand (or not) about properties of matter being used to identify substances?
- How did the teacher's use of the identified STeLLA strategies reveal, support, or challenge student thinking (or not)?

Lesson Analysis Step	To Do	Your Analysis
Claim	Turn an observation, question or judgment into a specific claim that responds to the focus question.	
Evidence	Point to a specific place in the video transcript, lesson plan, or student work that supports your claim. Be sure to use timestamps if your evidence comes from a transcript.	
Reasoning	Connect your claim and evidence with reasoning based on STeLLA Strategies, research on teaching and learning, your teaching experience, or scientific principles.	
Consider Alternatives	Alternatives may include an alternative interpretation of evidence, new questions this clip, or analysis might raise, and/or alternative question(s), activity(s) or strategies that might have better supported student learning.	

3. Reflect and Apply

What did you learn through this analysis that you want to apply to your own practice?

