Template for Writing First/Subsequent Drafts of Science News Article

RUBRIC	**There!**	**Almost there…**	**Not there yet**
Do I keep reading? (Structure)			
Do I develop clear images in my mind of the story and its characters? (Vividness)			
Do I understand the science conveyed in the story? (Accuracy)			

Questions to keep in mind as you revise (These will help you reflect on your progress)

1. Which feedback is helpful? Why? Which feedback is confusing? Why?
2. Do I as a reader understand my writing and do I continue reading until the end? Why or why not?

On a hot summer morning, Logan Beattie looks out at Worden Pond. A man is fishing at a nearby dock and the waterline is glistening at a distance. A breeze comes in, gently swaying the trees. Logan, a rising senior at University of Rhode Island majoring in civil engineering, will be collecting water samples at Worden Pond to test for microplastic presence.

Logan, working under Dr. Coleen Sucklng, assistant professor in Sustainable Aquaculture at URI, is testing half a dozen major freshwater sources in Rhode Island for microplastic levels this summer. Samples will be collected and analyzed at the lab; microplastics will be imaged to detect material composition and what it carries.

“[Microplastics have] been shown to be very good at almost acting like sponges for some very harmful chemicals, which could lead to issues with bio accumulation,” explains Logan. We're interested to see how those chemicals can move up the food chain and affect us as people. And also [how] it can cause the death of numerous species.”

Worden Pond is a primary source of drinking water for RI residents. Unlike most contaminants, microplastics are not filtered out by water treatment plants due to how small they

are. Usually, water treatment plants use settlement tanks to filter out physical contaminants; water runs at a really slow rate and particles settle to the bottom of the tank.

“The issue with microplastics is that since they're so small and have such a low density, they don't actually end up settling out and are able to get by a majority of our filters that we use,” Logan says. “So yeah, unfortunately, we don't have a really good system right now to process and remove these microplastics from our drinking water.”

Soon after, a blue truck with the letters “University of Rhode Island,” pulls up onsite and two other researchers have joined Logan for field testing. Bantering, they set up their testing equipment and change into what looks like bright orange jumpsuits to make recognizing clothing contaminates easier. If Logan and his colleagues see bright orange fibers, an uncommon fiber color, in their water samples, they know to exclude them from their results.

Logan untangles the pipes and walks into the water to begin pumping 50 gallons of water out from the pond, which runs through a set of filters that captures particles 10- 280 microns large. Later, they will be imaging these particles to test for microplastics.

Referring to the man fishing at the dock, Logan says, “[He] might be catching plastics.”
Logan describes,”I find it interesting that these things that you can't really see with your eyes are all around us, and they're in the water. But you don't really know they're there until you're intentionally looking for them.

“Even at Narragansett Bay, you think to yourself, oh, this is pretty clean, pretty pristine water,” Logan says. “If you really take a closer look at it, you realize it's not as clean as you think. Or as the naked eye would lead you to believe.”

Logan has yet to process samples from Worden Pond, but based on imaging from Narragansett Bay samples, a common source of microplastics is our clothing.

“A lot of our clothes are synthetic fibers and when we wash them, especially, it can shed a lot of those fibers,” which, as we discussed earlier, our treatment water treatment facilities can't really filter out or deal with these particles effectively. So they end up in our water. It'll be interesting to see what the composition of plastics are in all the freshwater sources that we're testing.”

Logan emphasizes, “We can't really solve the problem until we quantify the problem and really understand it. So I think by taking samples and realizing what's out there, we can better predict what will happen and more importantly, how to prevent it from happening, how to fix it.”

Logan became interested in microplastic research after taking an environmental engineering course with Dr. Goodwill, assistant professor of Civil and Environmental Engineering at URI, in the fall. At the end of the class, they briefly covered the effects of microplastics and solid waste management. To Logan, it felt like “[they] kind of described [it] as

an issue, but it didn't really seem like there was a whole lot of urgency or importance being put towards the matter, or at least the importance that I believe is necessary."

In the spring, Logan took initiative, starting his first lab research job at *Water for the World* after reaching out to Dr. Goodwill about his interest in learning more about environmental engineering and research. The lab's mission is to give people access to clean drinking water across the world.

This summer, Logan's research is split between field work to collect samples; imaging samples in the lab; working with Hannah Haskell to investigate retention times of polyester fibers in seawater; and designing an experiment with his mentor Coleen Suckling to trace how plastic pollution is ingested and affects the Eastern oyster.

After SURF, Logan will travel to Costa Rica to clean up macroplastics along the beaches through a Michale P. Metcalf Memorial Fellowship. Next school year, he is looking forward to continuing his research with Coleen Suckling and applying to environmental engineering master programs.

Despite seeing first-hand how human activity has negatively impacted the environment, Logan remains unjaded about people. "There are a host of different really intelligent people working on this problem across the globe, really, which I personally find really inspiring," he says. "And I'm optimistic for our future."