

EARTH DAY 2020 CHALLENGE: Climate Connections

SCAVENGER HUNT!

Fill in the blanks (clues in the links) and then search for each item in your home or neighbourhood. You can be creative with this! Submit a photo* of you doing this challenge OR a picture of the subject item that was most tricky to find: post it on social media, be sure to tag @WaterlooSci and use the hashtag #EarthDayChallengeUW, OR [email them to us](#). Winners will be randomly selected for the prize of a video science chat with one of our experts!

The contest closes on [Friday, April 24, 2020 at 11:59 AM EST](#). Winners will be notified by direct message or email before 5:00 PM Friday, April 24, 2020, in order to organize your prize.

**By submitting a photo, you are consenting to its use on the Faculty of Science social media accounts. Photos of children should not include recognizable features like faces.*

- 1 The study of _____s, like frogs and toads, and reptiles, like lizards and snakes, is called herpetology. Contaminants and climate change have [contributed to a decline](#) in worldwide _____ populations.
- 2 Limnologists consider inland bodies of _____ like lakes, rivers, and streams. They might research how changes in climate will affect our _____ systems and how [melting glaciers impact the food supply](#) for fish and animals that live in lakes.
- 3 The _____ is used by nearly all scientists to process large amounts of data. Physicists can model ground [CO₂ storage](#) or [movement of groundwater contaminants](#), while bioinformaticians might [process genetic data to track species changes](#) due to environmental pressures.
- 4 The environmental balance in a freshwater system is studied by [aquatic ecologists](#). They might investigate the effect of [micro _____](#) on freshwater algae.
- 5 Ecotoxicologists study the effect of toxic chemicals on environments and living organisms. They can study the effect on animal health when _____ from pharmaceutical production or waste ends up in our [water systems](#).
- 6 Nephrologists, who study white fluffy _____, meteorologists, who predict the weather, and geochemists, who investigate [chemicals in the atmosphere to learn about](#) our atmosphere's history are all atmospheric scientists.
- 7 Climate change alters the seasonal freezing and thawing of soil. Agronomists inspect the effects on the [nutrients in soil used for agriculture](#) and growing _____ like carrots or corn.

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Geologists focus on _____ of all sorts, while sedimentologists look specifically at sedimentary _____ and sand. Sedimentary _____ can reveal a lot about historic water levels to help us understand [how humans might influence our future fresh water](#) supply.

9

Get your binoculars and look to the trees! Scientists who observe _____ s are called ornithologists. For example, studies of _____ populations can [highlight ecological responses](#) to invasive species.

10

[Botanical ecologists](#) look at the relationship between _____ and the environment. As the climate changes, can we predict how different species of _____ will adapt?

11

To move towards a greener future, _____ scientists (edaphologists and pedologists) can study how to remove pollutants that result from industrial land use. Some scientists are even [using plants to help clean up](#) the _____ in a process called phytoremediation!

Bonus!

I'm a Hippologist, it's not what you think!

12

Microbiologists study living things too small to be seen with the naked eye, like bacteria in _____ landfills. Studying these bacteria can help us understand their abilities, so we can harness and maybe help [us harness those abilities for environmental remediation](#) – the removal of pollution.

13

Ichthyology is the study of _____ es, like salmon, or sharks. An ichthyologist might study the behaviour, [physiology, and genetics](#) of _____, to understand how they survive in changing natural environments and what we can do to protect them.

15

Organic chemists investigate how naturally occurring chemicals are built. They can try to [manipulate those structures to make useful building blocks for things](#), like new rechargeable _____ technology for hybrid electric vehicles.

14

The study of the world's natural _____, like glaciers, is done by glaciologists. Glaciologists can study historic atmosphere composition through glacial air bubbles, the [movement of glaciers and how they change the surface of the Earth](#), or even glacier melting and the relationship with rising global temperatures.

16

"Nano" means super tiny. Nano-chemists can [optimize electrochemical reactions](#) such as treatment of the water that goes down the _____ in your bathtub or sink.