

What your child will learn in Grade 8 science

Grade 8 science this year covers two big topics: fluids (liquids and gases, and how we use them) and living things (how cells, organs and body systems work together to keep us healthy). Along the way your daughter will also build skills in asking questions, running experiments safely, and communicating results.

Fluids

Many of the materials around your house, from the air she breathes to the milk in the fridge to the gas in the car, are fluids. Your daughter will learn that fluids include gases and liquids, and that many everyday products are actually mixtures of water with something else dissolved or suspended in it. [See the curriculum.](#)

She'll investigate the difference between a pure substance, a mixture and a solution, and figure out why some things dissolve better than others. This includes learning that temperature, stirring and particle size all change how fast something dissolves, and how to describe how "strong" a solution is, using the everyday idea of concentration. [See the curriculum.](#)

Your daughter will compare how different fluids flow, from thick syrup to thin water, and connect this to density and why some things float while others sink. She'll also learn what pressure means as a force pushing on an area, and why a stiletto heel can dent a floor while a flat shoe won't. [See the curriculum.](#)

She'll also read WHMIS safety symbols (the hazard symbols found on cleaning products and other chemicals), learn how to handle and store household substances safely, and see how fluids show up in technology, from paint to tires to natural gas pipelines. [See the curriculum.](#)

Finally, she'll look at real technologies that use fluid properties on purpose, such as hydraulic lifts, oil pipelines and IV lines in hospitals, and she may even build a working model, like a small hydraulic lift or a submarine that sinks and floats. [See the curriculum.](#)

Living Things

Living things come in an enormous range of shapes and sizes, yet they share common building blocks. Your daughter will learn to see organisms as systems and compare how very different creatures, like an amoeba and a grizzly bear, manage similar jobs such as finding food. [See the curriculum.](#)

She'll learn that the cell is the basic unit of life, compare single-celled organisms with multicelled ones, and tell plant cells apart from animal cells. She'll also learn, in general terms, how substances move into and out of cells. [See the curriculum.](#)

Your daughter will study the major human body systems, including breathing, blood circulation, digestion, waste removal and the senses, and learn how organs like the lungs and specific cells like nerve or muscle cells keep the body running. She'll also see how the body responds to change, like a faster heartbeat during exercise. [See the curriculum.](#)

She'll connect classroom science to real medical progress, learning how research on cells and organs has led to things like vaccines and medicines, and what factors, such as air quality or aging, affect how well our breathing, circulation and digestion work. [See the curriculum.](#)

How to help at home: Fluids

- Check labels together on cleaning products under the sink and talk about the WHMIS hazard symbols; this builds the safety habits she's learning to apply at home and in the lab. [See the curriculum.](#)
- Let her measure the mass and volume of a liquid (a kitchen scale and a measuring cup work fine) and calculate its density; this turns an abstract formula into something she can see and touch. [See](#)

[the curriculum](#).

- Compare how honey, oil and water pour, and ask her to explain why they flow at different speeds; this practises the idea of viscosity in a hands-on way. [See the curriculum](#).
- Dissolve salt or sugar in warm versus cold water and ask her to predict which dissolves faster; this practises designing a fair test, one of the key inquiry skills for this unit. [See the curriculum: 1, 2](#).
- Ask her to spot a fluid-based technology around the house, like a soap dispenser or a car's power steering, and explain how it works; this connects science to everyday technology. [See the curriculum](#).

How to help at home: Living Things

- Take her pulse before and after a set of jumping jacks and graph the results together; this ties directly to what she's learning about how the body reacts to exercise. [See the curriculum](#).
- If you have a magnifying glass or microscope, look at leaves, skin or hair together and ask her to sketch what she sees; observing and drawing carefully is a skill she's practising in class. [See the curriculum](#).
- Ask her to explain, in her own words, what a lung, a kidney or the heart actually does for the body; putting it in plain language checks her understanding of organ function. [See the curriculum](#).
- Talk about a family member's experience with medicine or a vaccine and ask her how she thinks that treatment relates to research on cells and organs. [See the curriculum](#).
- Compare a favourite pet or plant to a human body and ask what jobs they both need to do (breathing, eating, moving); this practises the comparing skill used across the unit. [See the curriculum](#).

Note: 41 learning outcome blocks were left out to fit the 6000-token curriculum budget for this kind of material. Use "Split into parts" to generate one document per organizing idea.