

Weather or Climate? The Five Clues Challenge

This brain teaser asks you to sort clues into weather and climate, the two big ideas Grade 5 scientists learn to tell apart ([Knowledge](#), [Skills](#)). Along the way you will use facts about climate zones, the tools that measure weather, and the ways climate shapes farming and animal life in Alberta ([Knowledge](#), [Knowledge](#), [Knowledge](#)).



Figure 1: A wide illustration of a farm landscape in Alberta split diagonally into two moods, one side glowing with summer sunshine over golden wheat

The puzzle

Five clues arrived at the weather station this morning, but the sensor mixed up two kinds of information: short-term weather and long-term climate. Weather is what a thermometer, rain gauge, or wind vane measures right now, over hours or days. Climate is the pattern of temperature, precipitation, humidity, and wind that a region shows over at least 30 years ([Knowledge](#)).

Read each clue and decide: is it describing weather, or is it describing climate?

Clue A: This afternoon, a hygrometer at the school reads 65 percent humidity, and the wind vane points east.

Clue B: Records kept over the last 40 years show this region almost always has cold, dry winters and short, mild summers, a pattern typical of a continental climate zone ([Knowledge](#)).

Clue C: A barometer shows falling pressure right before a storm rolls in tonight.

Clue D: Every year for generations, Elders in this community have observed that geese migrate south around the same weeks each autumn, a pattern tied to the region's long-term seasonal cycle ([Knowledge](#), [Understanding](#)).

Clue E: The anemometer on the school roof measures wind gusts of 40 kilometres per hour during today's storm.

Now for the real puzzle: exactly three of these five clues describe weather, and exactly two describe climate. Figure out which two are climate clues, then explain in one sentence how you know, using the difference between short-term and long-term ([Knowledge](#), [Skills](#)).

Hints

Hint 1: Look for words that signal a single moment or a single day, like "today," "tonight," or "this afternoon." Those usually point to weather.

Hint 2: Look for words that signal many years of records or a repeating pattern across generations. Those usually point to climate.

Hint 3: Three clues mention specific tools reading a value right now (a hygrometer, a barometer, an anemometer). Those three are your weather clues. The other two describe patterns that repeat over 30 years or more, which makes them your climate clues.

Answer key

The climate clues are B and D.

Clue B describes a 40-year pattern of cold, dry winters and mild summers, which matches the definition of climate as long-term weather patterns of a region over at least 30 years ([Knowledge](#)). It also names a climate zone, continental, which is one of the defined climate zones students compare in this unit ([Knowledge](#), [Skills](#)).

Clue D describes a pattern that Elders have observed across generations, which is intergenerational knowledge used to recognize cycles related to weather and seasons ([Understanding](#)). Because the goose migration happens at roughly the same time every year over many years, it reflects a long-term pattern rather than a single event.

Clues A, C, and E are weather. Each one describes a tool giving a reading at one moment in time: a hygrometer reading humidity this afternoon, a barometer reading pressure tonight, and an anemometer reading wind gusts during today's storm. These are exactly the kinds of tools used to measure and track short-term weather conditions ([Knowledge](#)).