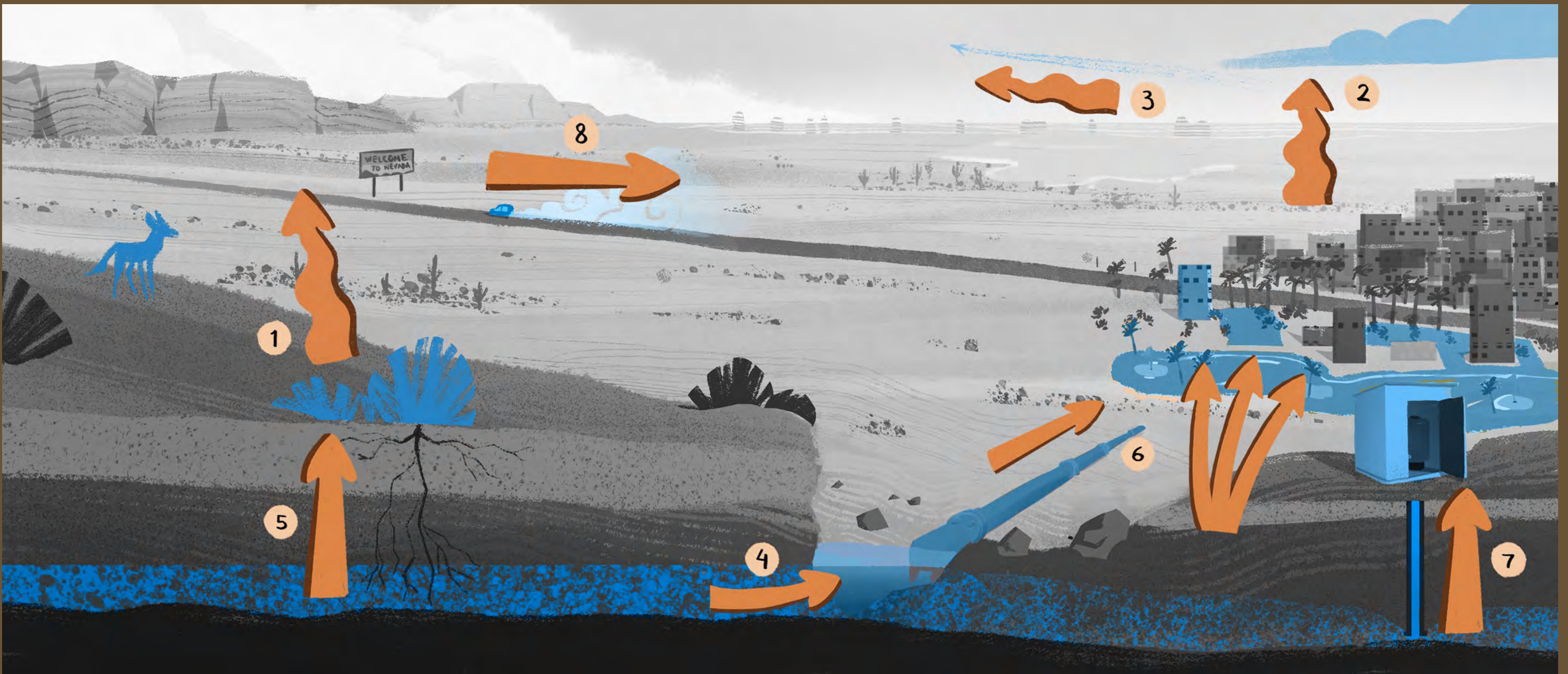


# WHERE IS THE WATER?



## HOW DOES IT MOVE?



High in the atmosphere, it is usually cold and dry. Warm, humid exhaust from jet engines creates perfect conditions for water vapor to collect and condense behind airplanes, creating long clouds called contrails.



Moisture in the atmosphere is rare above deserts, but prevailing winds can bring in clouds from wetter regions.



Rainwater quickly evaporates or soaks into the dry ground. If it is not used by plants, rainwater eventually ends up in underground aquifers.



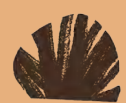
Intermittent desert streams flow only during wetter parts of the year. During the dry months, they may dry up completely or be reduced to stagnant puddles.



We pump groundwater to use when there is limited precipitation and surface water dries up.



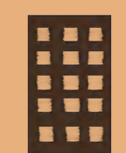
All living things contain water within their cells, which allows them to grow and function.



Plants draw up, use, and retain water as part of photosynthesis. Desert plants are especially good at retaining water because of a waxy layer that covers the exterior surface of many plants, and some also use a unique form of photosynthesis to reduce water loss.



Watering lawns in dry ecosystems uses a lot of water. Drought-tolerant plants that are native to dry ecosystems use less water than grass lawns.



Water is needed for building materials like stucco and concrete. Buildings also require water to keep their plumbing, cooling, and certain electrical systems functioning.



Water is used to grow, manufacture, and transport goods and food before they are delivered to store shelves.

### WATER MOVEMENT



### PHASE CHANGE



- Plants need water to support photosynthesis. The water is pulled up to the leaves from the roots by the process of transpiration, which is the evaporation of water from pores in the leaves.
- Energy from the sun can cause water to evaporate from the landscape, even in areas that appear to have little water. This is a local source of moisture to the atmosphere.
- Airplane engine exhaust creates ideal conditions for water vapor to condense high in the atmosphere.
- Surface water soaks into the parched ground where it eventually reaches aquifers and can be pumped for human use.

- Groundwater in the desert can be very deep and slow to recharge. Desert plants need deep roots to access this important and limited water supply.
- With hot and dry climates, desert cities may have to supplement limited local water supplies with water piped in from distant sources.
- Pumping groundwater is a critical way to create a reliable water supply in areas with little rain.
- We transport food and goods produced with water across the landscape.