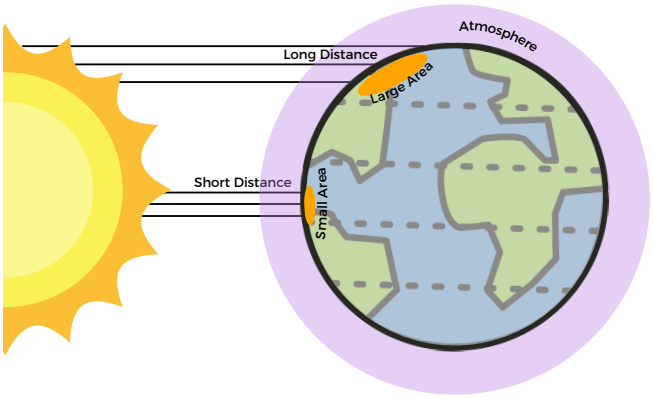
Factors Influencing Climate

Use the words in boxes to fill the gaps on your worksheet

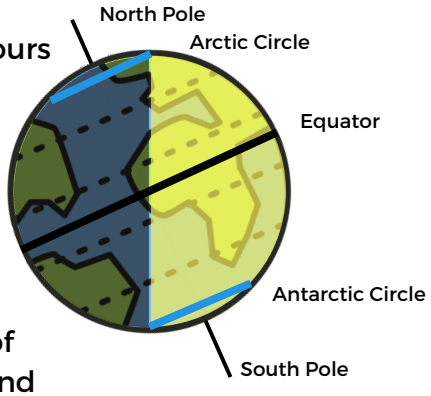
lower, equator, daylight, overhead, summer, poles, equator, latitude, polar, smaller, consistent, larger, direct, hotter, cooler, darkness, winter.



_____ is the measurement of a location's distance north or south of the Equator, expressed in degrees.

- At the _____, the Sun is _____ in the sky, meaning its rays hit the Earth at a shallow angle. This angle spreads the sunlight over a _____ area, leading to less _____ sunlight and _____ temperatures.
- At the _____, the Sun is directly _____, resulting in _____ temperatures because its rays are concentrated over a _____ area.

- In _____, _____ regions can have almost 24 hours of daylight, while in _____, they experience long periods of _____.
- Locations on the _____ have a fairly _____ day length throughout the year, with around 12 hours of _____.

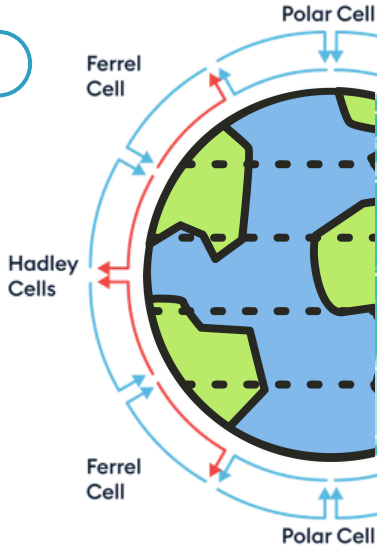


This difference in how long the Sun shines on different parts of the Earth helps explain why polar regions have such unique and varied climates compared to places near the Equator.

Global atmospheric circulation

wet, Hadley, global atmospheric circulation, rises, air, windy, heat, Ferrel, equator, sinks, poles,

_____ is the large-scale movement of _____ around the Earth, which helps distribute _____ from the _____ toward the _____. This movement of air creates different climate zones and weather patterns across the planet.

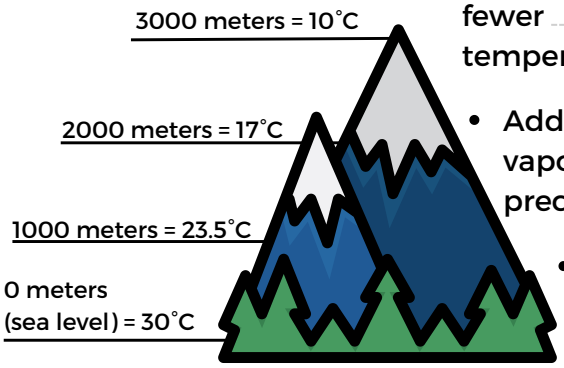


- In the _____ cell, warm air _____ at the Equator, then cools and _____ around 30° north and south, creating deserts like the Sahara. The air then flows back toward the Equator, completing the loop.
- The _____ cell, between 30° and 60°, moves in the opposite direction. Air rises at around 60° and sinks at 30°, bringing _____ and _____ weather to places like the UK.

Factors Influencing Climate

Altitude (Height above sea level)

condensing, mountainous, ascend, cooler, molecules, dense, drop, less, climates, retain,

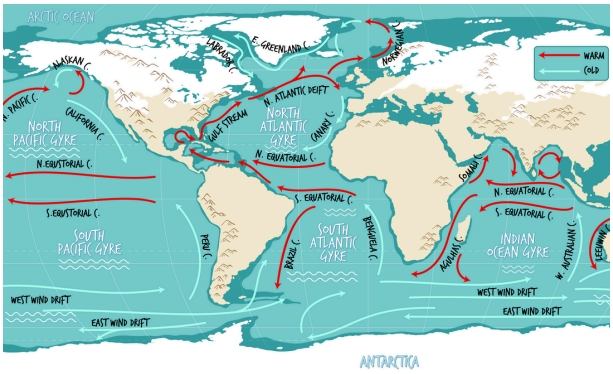


- As you _____, the air becomes less _____, which means there are fewer _____ to absorb and _____ heat, causing temperatures to _____.
- Additionally, _____ air holds _____ moisture, leading to water vapor _____ into clouds. When enough water collects, it falls as precipitation, resulting in relief rainfall.
- This process means that _____ areas often receive more rain than low-lying regions, creating distinct _____ based on height.

Ocean Currents

polar, warm, raising, ocean currents, latitudes, cold, redistributing, equator,

_____ play a vital role in shaping climate by _____ heat across the planet.



- _____ currents, such as the California Current, bring cooler water from _____ regions, resulting in lower temperatures along coastlines.
- _____ currents, like the Gulf Stream, carry warm water from the _____ toward higher _____, _____ temperatures in coastal regions in the UK.

These currents also affect weather patterns. When warm currents heat the air above them, it can lead to more rainfall in those regions. In contrast, cold currents can create drier conditions.

Continentality

distance, balanced, hotter, coastal, extreme, moderated, sea, inland, continentality, colder,

_____ refers to how a location's _____ from the _____ affects its climate. Places that are far from the ocean tend to experience more _____ temperatures compared to coastal areas.

- _____ areas heat up quickly in the summer and cool down rapidly in the winter, leading to _____ summers and _____ winters.
- _____ areas are _____ by the ocean, which absorbs and releases heat more slowly, leading to milder temperatures throughout the year.

This effect is stronger in big continents, where places far inland have more extreme temperatures because they are further away from the sea, which helps keep temperatures more _____.