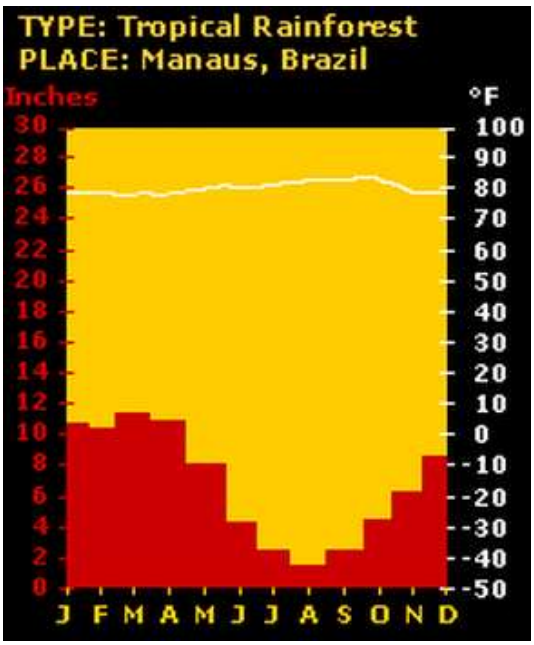
Student Sheet 1

PROBLEM SOLVING ACTIVITY: COMPARING CLIMATES

Climate is the pattern of weather that occurs in an area over many years. It determines the types of plants or animals that can survive, and it influences how people live. Climate is determined by averaging the weather of a region over a long period of time, such as 30 years. Scientists average temperature, precipitation, air pressure, humidity, and number of days of sunshine to determine an area's climate. Some factors that affect the climate of a region include latitude, landforms, location of lakes and oceans, and ocean currents.

A ***climgraph or climate graph*** is a special diagram that is often used to present data about climate. They is a tool used for learning how climate control factors influence an area's local climate by comparing a series of paired examples from different locations. A climgraph displays a site's temperature and precipitation levels. Precipitation is shown with a bar graph because it is a cumulative, not continuous, event. The climgraph will usually show the latitude and longitude of the location and its elevation.



The climgraph for Manaus, Brazil, indicates that the tropical rainforest is an extremely hot and humid biome. It receives between 60 to 160 inches of precipitation throughout the year (pretty evenly distributed). On the climgraph, the letters at the bottom represent months and the red bar graph shows inches of precipitation per month (measured from the left). The white line at the top shows average temperature each month (measured from the right, in Fahrenheit) and it is clear that it is quite constant all year round.

Student Sheet 2

DATA TABLE #1:CLIMATE VARIABLES FOR DENVER,CO and SAN FRANCISCO,CA

LOCATION		
ELEVATION		
LONGITUDE		
LATITUDE		
CLIMATE ZONE		
AVERAGE YEARLY PRECIPITATION		
AVERAGE MONTHLY PRECIPITATION		
TEMPERATURE SCALE		
PRECIPITATION SCALE		

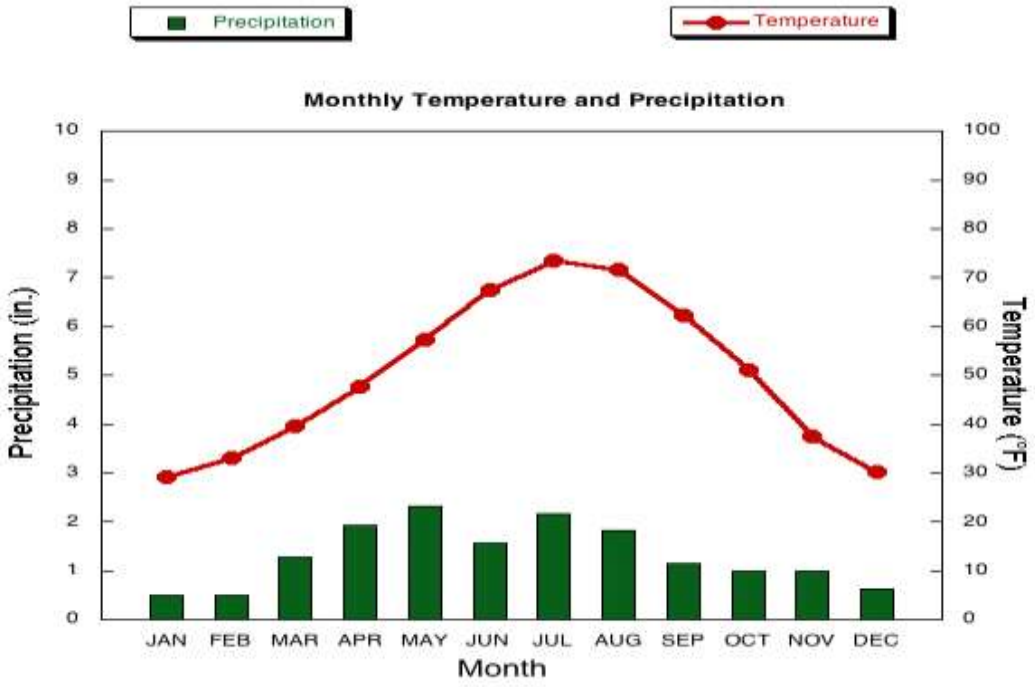
MONTHLY PRECIPITATION	J___ F___ M___A___ M___J___ J___A___ S___O___N___D___	J___ F___ M___A___ M___J___ J___A___ S___O___N___D___
MONTHLY TEMPERATURES	J___ F___ M___A___ M___J___ J___A___ S___O___N___D___	J___ F___ M___A___ M___J___ J___A___ S___O___N___D___
Warmest average monthly temperature (°C/F)		
Month with warmest average temperature		
Coldest average monthly temperature (°C/F)		
Month with warmest average temperature		
Driest month and total amount of precipitation for this month (in)	Month: Total precipitation:	Month: Total precipitation:
Wettest month and total amount of precipitation for this month (in)	Month: Total precipitation:	Month: Total precipitation:

Student Sheet 3 DATA TABLE #2: CLIMATE CONTROL FACTORS

CLIMATE CONTROL FACTOR	SAN FRANCISCO, CA	DENVER,CO
PROXIMITY TO WATER		
LATITUDE		
LONGITUDE		
ELEVATION		
OCEAN CURRENTS/ UPWELLINGS		
TOPOGRAPHY		
VEGETATION		
PREVAILING WINDS		

Annual Climatology: Denver, CO Elev: 5286 ft

Lat: 39° 46'N Long: 104° 52'W



Annual Climatology: San Francisco, CA Elev: 8ft

Lat: 37° 37'N Long: 122° 24'W