



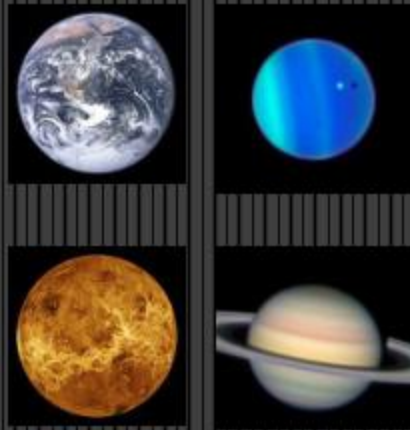
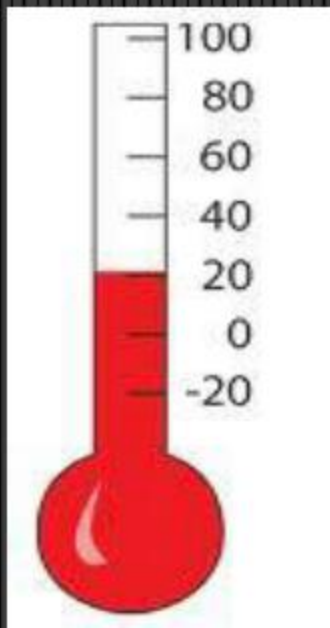


Planet	Perihelion ( $10^6$ miles)	Aphelion ( $10^6$ miles)	Average Temperature ( $^{\circ}$ F)
Mercury	28.6	43.4	333
Venus	66.8	67.7	867
Earth	91.4	94.5	59
Mars	128.4	154.9	-85
Jupiter	507.4	4331	-166
Saturn	941.1	10,747	-220
Uranus	1866.4	30,589	-320
Neptune	2824.5	59,800	-330
Pluto	4538.7	90,588	-375

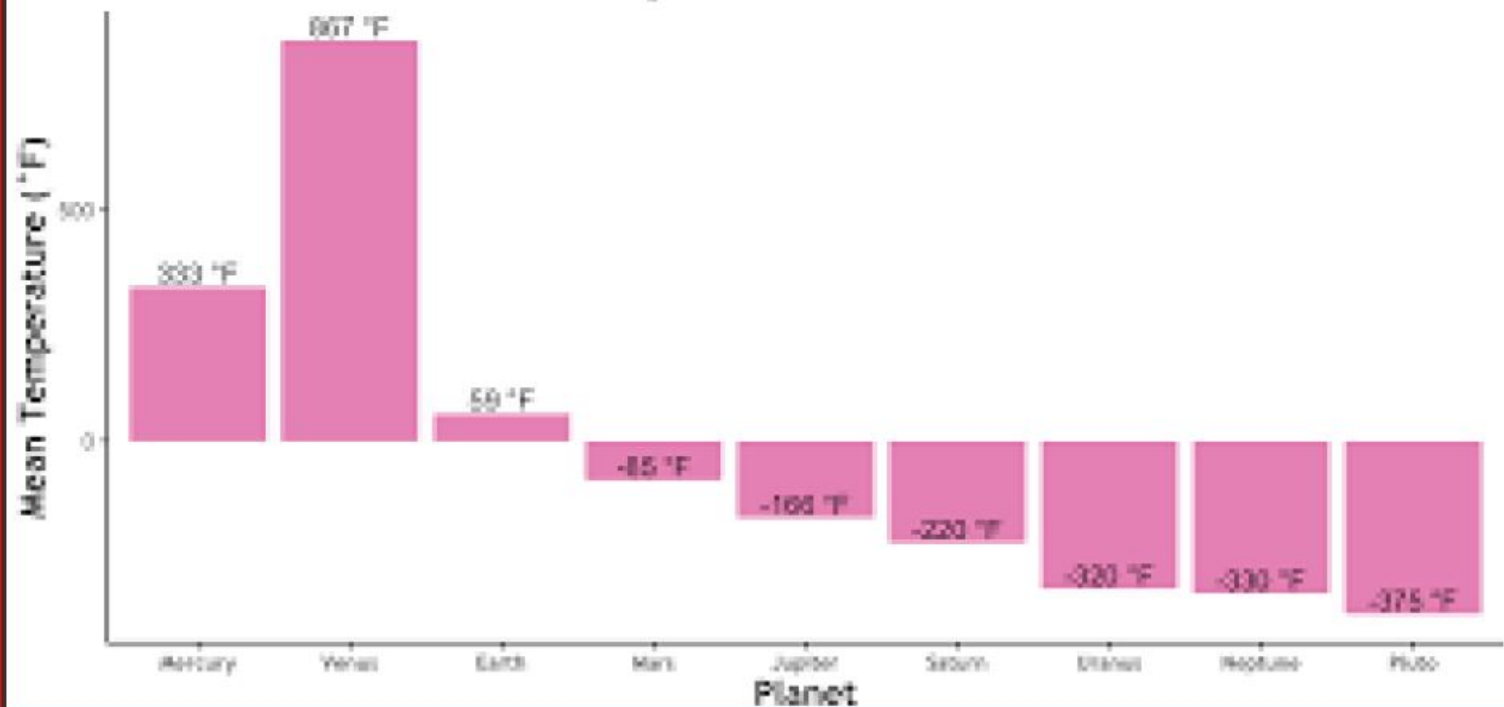
				
Planet	Mercury	Venus	Earth	Mars
$T_p, K (^{\circ}C)$	437 (163)	232 (-41)	255 (-18)	209 (-64)
$T_{obs}, K (^{\circ}C)$	~440 (167)	735 (462)	288 (15)	215 (-58)
Atmosphere: Pressure, kPa composition [trace gases]	none	9300 CO <sub>2</sub> (0.965), N <sub>2</sub> (0.035), [SO <sub>2</sub> , Ar]	101 N <sub>2</sub> (0.78), O <sub>2</sub> (0.21), Ar(0.009), [CO <sub>2</sub> , H <sub>2</sub> O]	0.64 CO <sub>2</sub> (0.95), N <sub>2</sub> (0.03), Ar(0.02), [O <sub>2</sub> , CO]

# TEMPERATURE

EARTH	VENUS	URANUS	SATURN
- The average surface temperature on Earth is 15° celcius	- Its average surface temperature is about 467° celcius	- Its average surface temperature is about -195° celcius	- Its average surface temperature is about -180° celcius



# Planets' Mean Temperature





# The mean temperature on the dwarf planet Pluto is $-225^{\circ}\text{C}$



**MERCURY |  $167^{\circ}\text{C}$**



**VENUS |  $464^{\circ}\text{C}$**



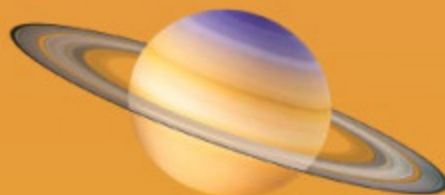
**EARTH |  $15^{\circ}\text{C}$**



**MARS |  $-65^{\circ}\text{C}$**



**JUPITER |  $-110^{\circ}\text{C}$**



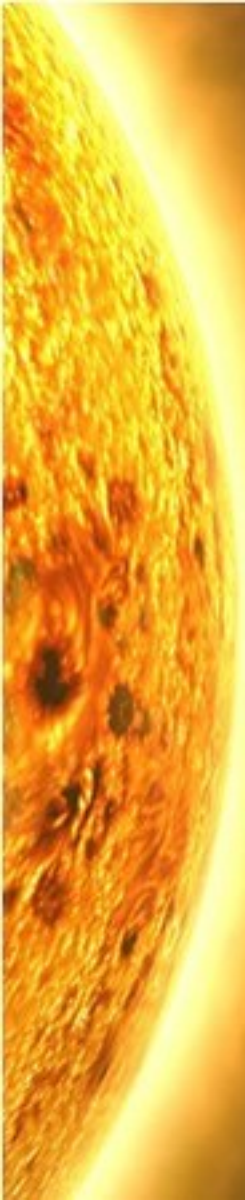
**SATURN |  $-140^{\circ}\text{C}$**



**URANUS |  $-195^{\circ}\text{C}$**



**NEPTUNE |  $-200^{\circ}\text{C}$**



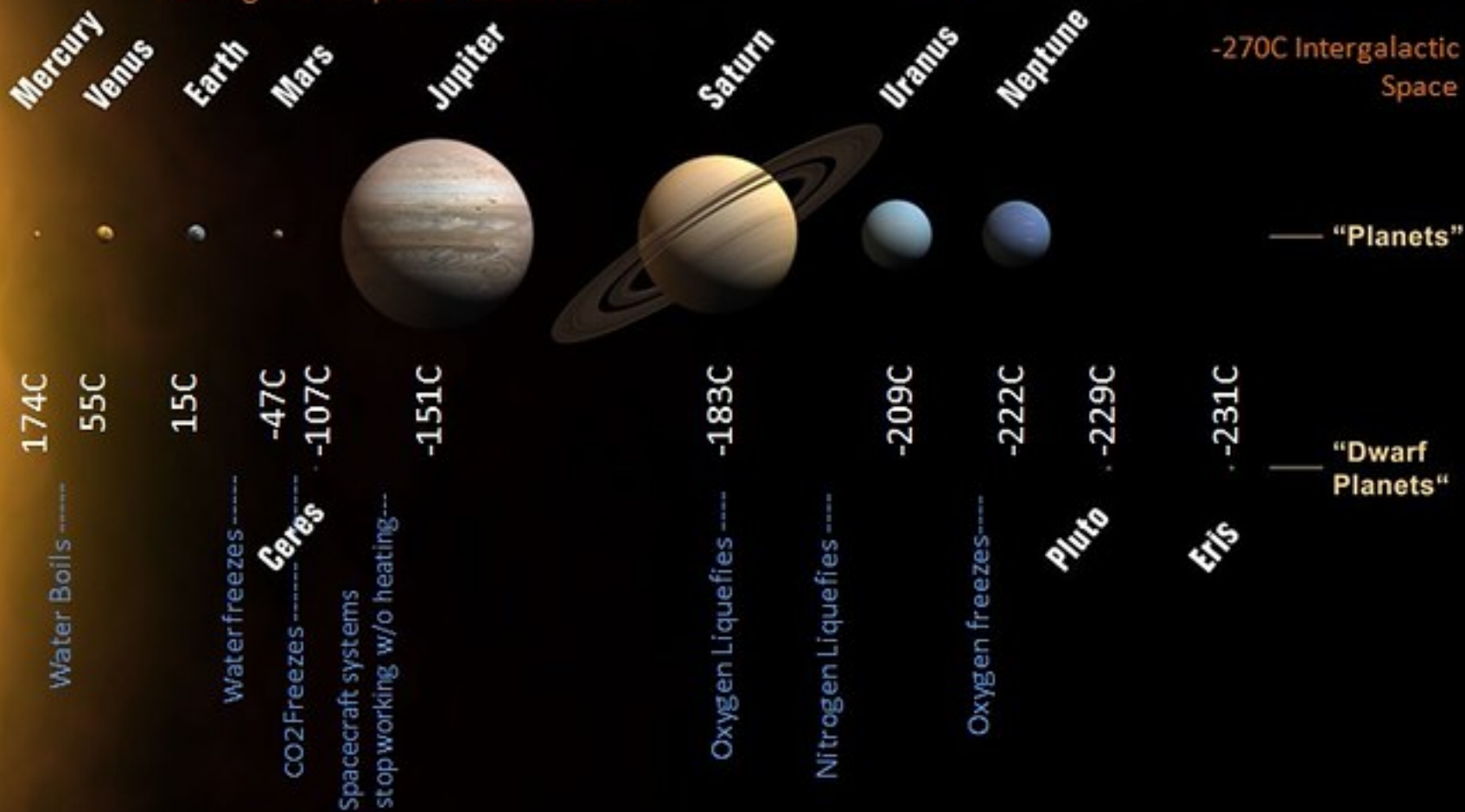
186C Surface temp of Venus

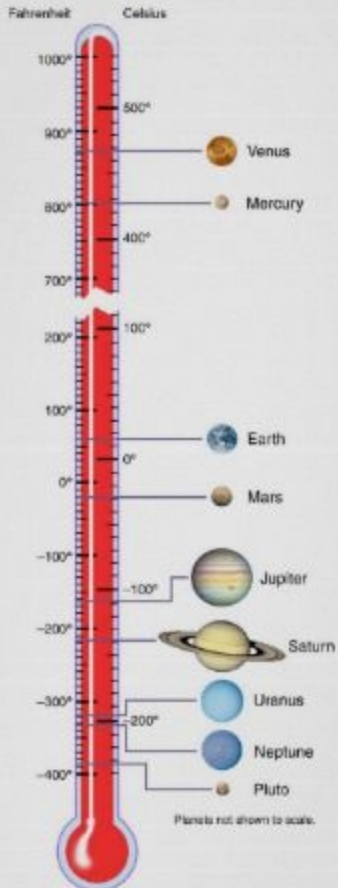
-89C Lowest temp recorded on Earth

71C Highest temp recorded on Earth

-250C Interstellar Space

-270C Intergalactic Space





Earth

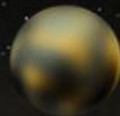


**+15°C**

*Average Global  
Temperature*



Pluto



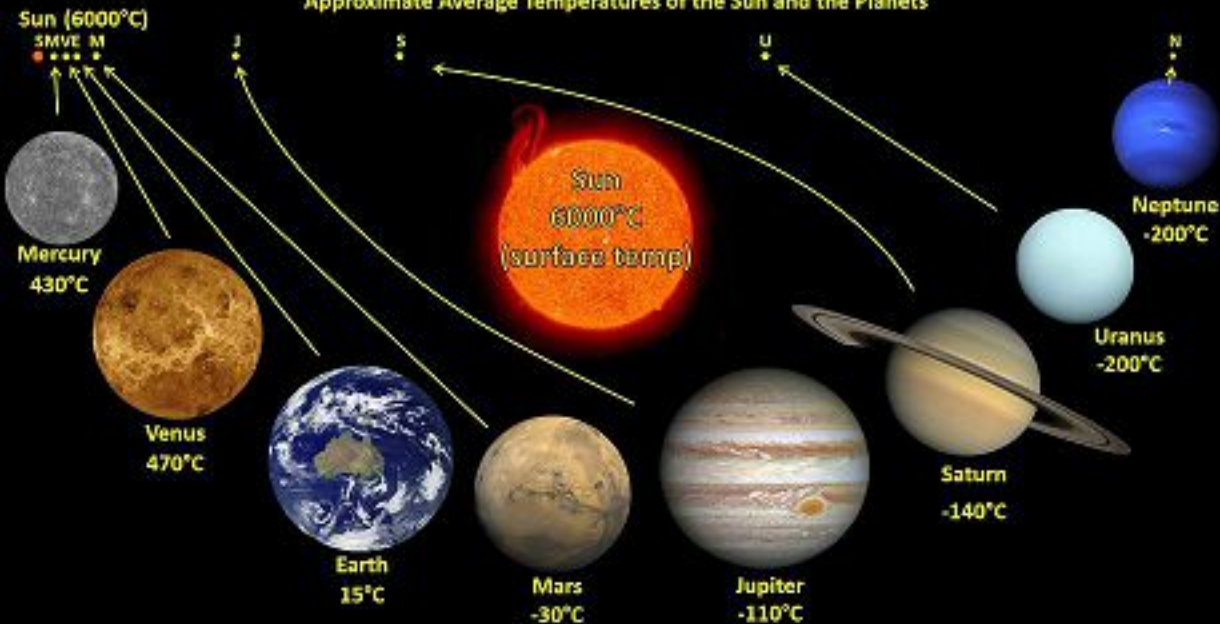
**-230°C**

*Average Global  
Temperature*





# Approximate Average Temperatures of the Sun and the Planets



**Planet**

Mercury



Venus



Earth



Mars

Distance from sun  
(millions of km)

57.9

108.2

149.6

227.9

Insolation ( $\text{W}/\text{m}^2$ )

2290

662

342

145

Albedo

0.10

0.75

0.30

0.25

 $T_{\text{predicted}}$  ( $^{\circ}\text{C}$ )

163

-41

-18

-64

 $T_{\text{observed}}$  ( $^{\circ}\text{C}$ )

167

462

15

-58