**Mercury:**

Named after Hermes – Mercury. He’s fast, he can fly – winged shoes.

Orbits the sun quickly – 88 days (revolution)

Surface features: caloris impact basin

Diameter: 4880 Km – the radius is 2/5th compared to the sun.   
So small because it is too close to the sun.

Distance to sun: .4 AU

Gravity: 2.8

Axis tilt: 0

Density: 5.42 g/cm3

Rotation: 59 days

Revolution: 88 days

Mass: 1/20th that of Earths

No Satellites

3/2 Spin Orbit resonance: For every 3 days, you have 2 years.  
slow rotation: mercury makes only 3 rotations every 2 orbits.   
One solar day on Mercury is 176 Earth days.   
So 2 years for every 1 day----  
This is an example of spin orbit resonance.

Lots and lots and lots of craters

Orbital inclination: 7 degrees

Surface pressure= 0 degrees (pretty much no atmosphere)

Temperature: has the greatest temp change of any planet

Min – Max

100 – 700 K

173 – 427 C

279 – 801 F

Why doesn’t Mercury have an atmosphere? – As a gas gets hot, it moves faster and faster. Easier for a hot gas to escape than a cold gas.   
Also--- Mercury is small, low mass—gasses escape into space.  
 42% He, 42% sodium, 15% oxygen, 1% other

Mercury is known as a being a morning and evening star- right before sunrise and right after sunset.  
Mercury has phases like our moon.

Monday, May 9th – Transit of Mercury   
Happens every 7 years.

Surface Features:   
Impact craters  
Scarps (Cliffs)  
Almost no atmosphere  
Crater Rays  
Coloris Impact Basin

Magnetic Field:   
Needs: Rotate really fast, and Metal Core

Mercury has metal core but slow rotation--- has a weak magnetic field.

Probes:   
1973: Mariner 10   
Could never orbit around the planet—

2011: Messenger  
Is still giving us information today.