

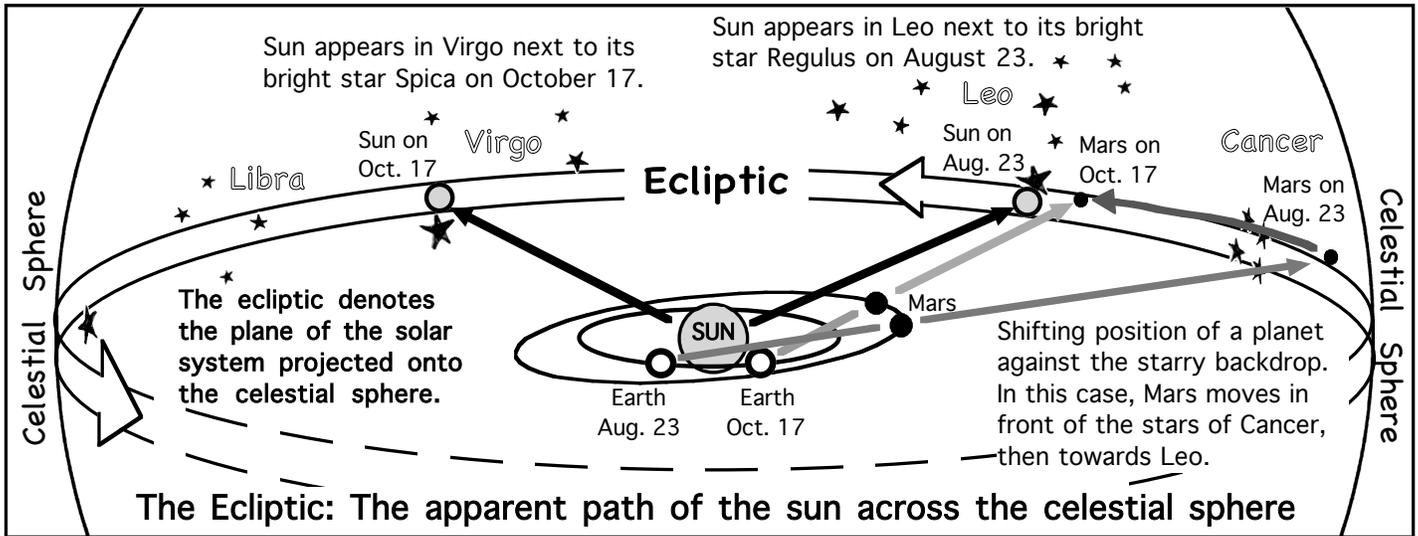
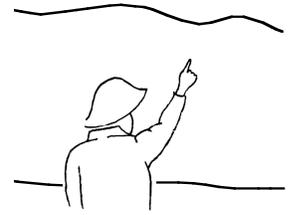


# Is that a planet or a star?



## Three tell tale visual characteristics of a planet:

1. A planet shines with a steady light, unless it is very close to the horizon. It doesn't "twinkle," while a star does.
2. A planet is always located near the ecliptic.
3. A planet slowly shifts its position nightly with respect to the background stars.



### Mercury

- Either low above the western horizon in the evening, or low above the eastern horizon in the morning.
- A challenge to spot.

### Venus

- Either above the western horizon in the evening, or rising above the eastern horizon in the morning.
- Dazzling white object.
- Very easy to see.

### Mars

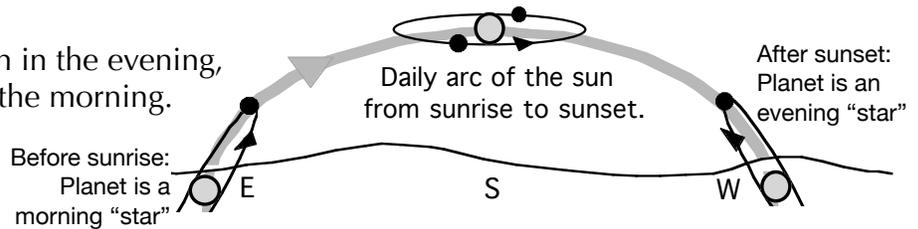
When it is close to Earth, Mars is a bright red-orange object in the east after sunset, high in the sky near midnight, and in the west before sunrise.

### Jupiter

When it is not positioned near the sun, Jupiter is always seen as a very bright pale yellow object.

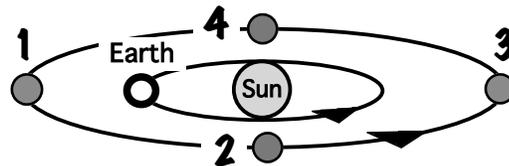
### Saturn

When it does not appear close to the sun, Saturn is seen as a bright creamy starlike object.



## The Inner Planets: Mercury and Venus

## The Outer Planets: Mars, Jupiter, and Saturn



- 1 When the planet is opposite the sun, it rises near sunset and is visible all night. It is closest to the Earth and shines at its brightest.
- 2 When the planet lies ahead of the Earth in their orbits, it is seen high in the east before sunrise. It is often said to be a "Morning Star" in the east.
- 3 When the planet moves on the far side of the sun, it appears in the day sky near the sun and can't be seen.
- 4 When the Earth lies ahead of the planet in their orbits, it is seen high in the west after sunset and sets around midnight. It is often said to be an "Evening Star" in the west.

