

How is the metric system defined?

Why is the metric system better than other measurement methods?

How is temperature defined?

What happens at 0 kelvin?

Can you do basic algebra with scientific notation?

How does parallax work?

What is the scientific method?

How do we know the Earth is round?

What is precession and how do we measure it on Earth?

Ptolemy's Geocentric model

- Why did it work?

- Where did it fail?

What are retrograde orbits?

Copernicus's heliocentric model

- Why did it work?

- Why did it fail?

What observations did Galileo make that helped support the heliocentric model?

What did Tycho Brahe do?

Kepler's three laws

- how did Kepler improve the heliocentric model?

Newton's three laws

- how did Newton improve the heliocentric model?

How does gravity work?

How do stable orbits work?

Finding Exoplanets with Doppler shift

Difference between mass and weight

How do the seasons happen?

What is a solstice on Earth?

What is an Equinox on Earth?

Solar versus Sidereal day?

Phases of the moon

What causes tides?

Solar versus Lunar eclipse

Why don't eclipses happen about every month?

What is the wavelength of light?

Short electromagnetic waves by wavelength (x-ray versus radio)

Blackbody radiation versus surface temperature

What is an atom made of? Where are the electrons, protons, and neutrons

What are emission lines and how are they created?

What are absorption lines and how are they created?

Why does the sky look blue?

Doppler effect

Why do we choose reflector telescopes or refractor telescopes?

What impacts the resolution of a telescope?

What does a longer exposure time do for an image?

Why does the size of the mirror matter?

Why are radio telescopes so big?