1) The major observational problem in the geocentric model was this type of motion __________________________________________. This could be described as a __________________________________________. Which appears to _______________ and then_________________________ before ____________________________. In order to resolve this complication Geocentric created _______________ inside the previously designed orbits of the planets. The first scientist who challenged this viewpoint was ____________________. This scientist championed the __________________________ model which placed the ________ at the center of the universe. He defended his views in various ways in regards to the lack of a strong wind by stating that_______________________________. He also stated that the daily motion of the Sun, moon and stars was caused by the ______________________________. He also stated that all the planets _________________________ in the _______________________________ but at ___________________________ with the closest planets traveling ___________________________. His greatest mistake was believing the _______________________. A scientist who shared many of these ideas almost 2 centuries earlier was ___________________________. Copernicus’s theory were mostly ignored due to what reasons 1) ___________________________ 2) ___________________________ and 3) ___________________________.
2) The invention of the ________ would revolutionize ____________. The man credited with its invention in Europe was ________________ a Dutch merchant. This invention was used by what Italian astronomer to reexamine the heavens? _______________. Using this tool Galileo was able to see that the moon was not __________ but was able to see ___________ and _______________ as well what he thought were _______________ but was actually _______________.

When he viewed the planet _______________ he saw __ small objects _______________ around it. What he actually saw was the 4 _______________ now known as ______, ________, ________, and _____________. He also looked at the planet _______________ and was surprised to see it had _______________ which were in actuality its _______. When he viewed the Sun he saw that it was not _______________ but was covered in _____________ which we call _______________. He also observed that _______ had ____________ just like our moon.

Deep in his journals Galileo mentions the movements of a faint star which we believe to be the first recorded observation of the planet which we now call _______________. All of these observations put Galileo at odds with the ________ which charged him with _______________ and eventually _______________ him. This penalty was lifted until __________ by _______________.

3) At the same time as the above mentioned astronomer the great Dutch observer _______________ was making detailed observation of the movement’s of _______ as well as the appearance of ___________ and ___________. He was a great observer but unfortunately needed _______________ help from his assistant.
who differed from him in almost every way. Using

data for the planet ___________, ___________ created his __ Laws of
Planetary Motion the 1st Law states that


The Second law states that


While the 3rd states


4) The Great English astronomer and mathematician whose ideas unified the earth and heavens

was ________________ He created ___ laws of Motion and ___ Law of___________________________. His 1st Law of Motion states that


While the 2nd Law is the familiar _________________. Finally the third law

states______________________________


His law of________________ states that __________ is a force that exists between any 2
objects with ____________ separated by a ________. In his opinion gravity was
_____________; this was a critical flaw of his theory.

5) The Austrian Physicist who challenged Newton was named
_________________________________________________________. He began his work by studying the
behavior of ________ and was able to calculate it’s__________________ at approximately
_____________. This challenged ________________ as shown by the solar catastrophe
example. Explain this example __________________________________________________________
________________________________________________________
__________________________ __________________________________________________________
__________________________ . According to _____________ gravity is
just___________ in the __________________________________ caused by any object with
_______. The more ____________ the bigger the ________________. This theory is known
as the concept of__________________________________________________ An outgrowth of
this theory is concept of ________________________, which are created by
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________
________________________________________________________.

5) __________________________ is one of the most recognizable modern Physicists.
His research is centered on the study of ___________________ which unify the fields of
_________________ and _______________________. He was able to figure that
are really and actually energy in the form of . This lead to an expansion of the concept of the the other scientist whose observations helped develop the was . He observed " " when he discovered which changed in Luminosity. He used these to calculate the to these and figured out they were not" but actually. As he studied these he realized that distant light was more in color/wavelength thus the galaxies were moving from us. This meant the universe was