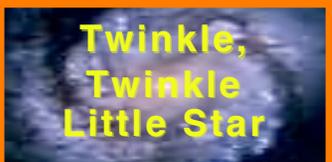
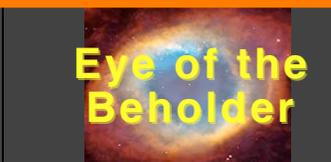


Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Answers for the Galactic Brain Buster Game Tally Sheet

Point Value					
<b>10</b>	What kind of galaxies has a set of arms winding out from a bulge in the middle? <b>spiral galaxies</b>	What is the name of these massive stars, which usually are surrounded by out-flowing gas clouds? <b>Wolf-Rayet stars</b>	Which astronomer first saw a nebula's spiral shape in 1845? <b>William Parsons</b>	What is 149,598,000 kilometers in astronomical terms? <b>An Astronomical unit or AU</b>	What term is commonly used to describe how the universe began? <b>The Big Bang</b>
<b>20</b>	What type of galaxy has a disk plus a bulge in the middle with a bar? <b>barred spiral galaxy</b>	What type of a star has a discernable change in luminosity often accompanied by other physical changes? <b>A variable star</b>	Who saw the vast universe beyond the Milky Way and then found the first evidences that the universe began with a Big Bang? <b>Edwin Hubble</b>	What is the astronomical term for red shift, blue shift? <b>The Doppler effect</b>	What is the non-luminous matter in the universe, that can't be clearly detected by observing any form of electromagnetic radiation? <b>dark matter</b>
<b>30</b>	What kind of galaxy is all bulge, has an elliptical form, has no disk, and has stars but no gas? <b>an elliptical galaxy</b>	What type of star has the mass of our Sun and the radius of the Earth but it doesn't emit enough light or other radiation to be easily detected? <b>A white dwarf star</b>	Who was the Polish astronomer and mathematician who advocated that the Earth turned daily about its axis and yearly around our stationary Sun? <b>Copernicus</b>	What was Einstein's most famous equation? <b><math>E=mc^2</math></b>	What is the term that refers to a surface around a black hole encompassing the region where nothing can escape? <b>The event horizon</b>
<b>40</b>	What type of galaxies have shapes that don't fit into the Hubble classification for galaxies because they are neither spiral or elliptical in shape? <b>irregular galaxies</b>	What is the rare astronomical event involving the explosion of the majority of the material in a star, which results in an extremely bright, short-lived object that gives off vast quantities of energy? <b>A supernova</b>	Who was the Italian scientist who studied falling objects and discovered four moons orbiting Jupiter? <b>Galileo</b>	What is the name of this equation? Total livable Planets x Probability of Evolution = Planets with evolved life <b>Drake's Equation</b>	What is another name of the galaxy the Greeks called "galaxies kuklos"? <b>The Milky Way</b>
<b>50</b>	What is the name for colliding galaxies, which occurs because one galaxy's gravity disturbs another galaxy? <b>interacting galaxies</b>	What type of neutron star emits quick and recurring pulses of radiation? <b>A pulsar</b>	What was the name of the theorist who combined general relativity with quantum theory to predict that black holes should give off radiation and dissipate? <b>Stephen Hawking</b>	What is the ratio that expresses the rate of apparent expansion of the universe, equal to the velocity at which a typical galaxy is receding from Earth and is divided by its distance from Earth? <b>Hubble's Constant</b>	Latin for white, what is the word that means how much light a surface will reflect? <b>albedo</b>