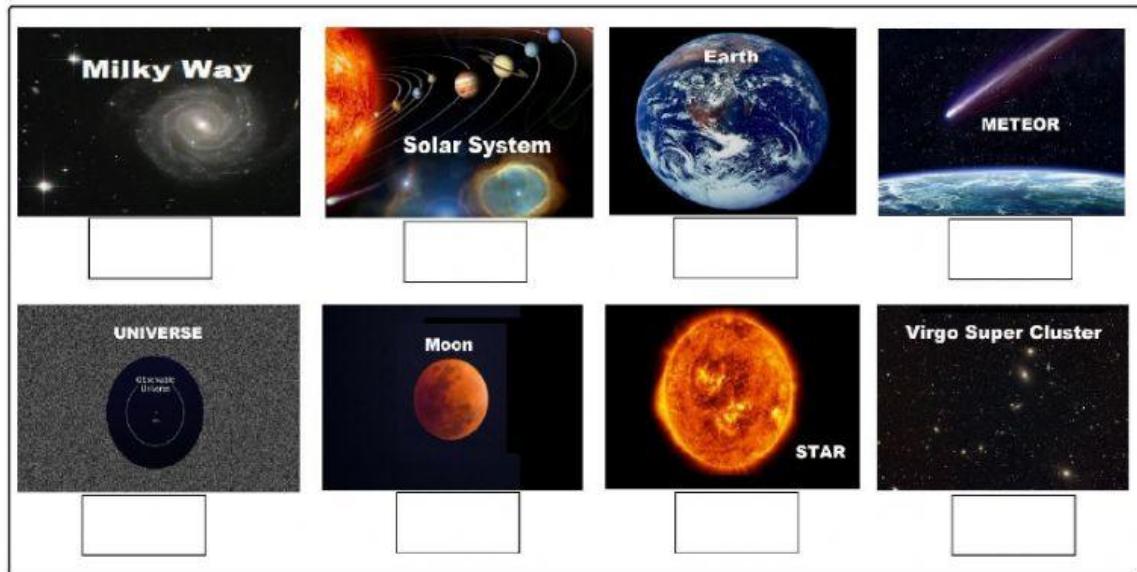


## LIVE WORKSHEET

### Space

#### Hierarchy of the Universe

Rank from largest to smallest. 8 (largest) 1 (smallest)



#### Law of Gravity

Compare the gravitational force between the objects.

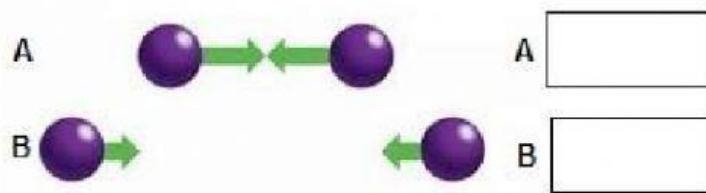
##### Gravitational Force Depends on Mass

The gravitational force between objects **INCREASES** as the masses of the objects **INCREASES**.



##### Gravitational Force Depends on Distance

The gravitational force between objects **DECREASES** as the distance between objects **INCREASES**.



## Mass vs Weight in Space

Click the [space calculator](#) to determine the correct answer.

<p>Mass = 120 pounds Weight = 120 pounds</p>  <p>Earth</p>	<p>Mass = <input type="text"/></p> <p>Weight = <input type="text"/></p>  <p>Mars</p>
<p><b>Gravity affects weight NOT mass!</b></p>	

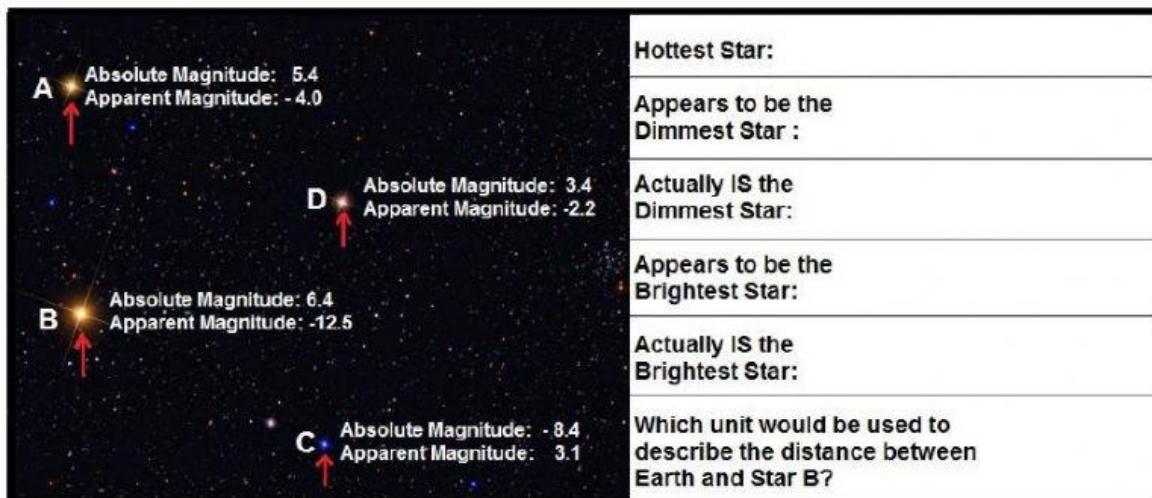
## Distance in Space

Compare astronomical units and lightyears.

<p>5.9 Trillion Miles</p>	<p>Sun-Earth Distance</p>	<p>Used for vast distances between stars and galaxies</p>
<p>93 Million Miles</p>	<p>Used for distances between objects in a solar system</p>	<p>Distance light travels in ONE year</p>

## Apparent Magnitude vs Absolute Magnitude

- Apparent Magnitude: how bright a star appears from Earth
- Absolute Magnitude: the actual brightness of a star at a standard distance of 10 parsecs
- Negative values represent brightest stars; positive values represent dimmest stars



## Star Classification

### The Hertzsprung–Russell Diagram

