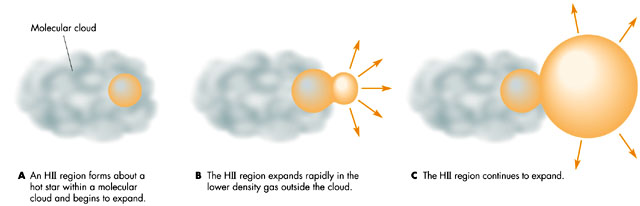
**The Milky Way Galaxy Fill in Notes NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

A galaxy is a collection of \_\_\_\_\_\_, \_\_\_\_\_\_, and \_\_\_\_\_\_\_\_ bound together by \_\_\_\_\_\_\_\_\_\_\_.



Our galaxy is filled with interstellar gas and dust, which makes it hard to see through our galaxy

* Light hits the dust and can produce
* 1. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ (if dust blocks/scatters lots of light)
* 2. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ (if dust is close to stars--reddish)
* 3. \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ (if dust is far from stars--bluish)

What can you see through dust?

* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ waves pass through easier
* Lets \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_through gas and dust clouds (and 21 cm radiation)
* Previous experiments about size and shape of the Milky Way were off because they didn’t account for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_ and \_\_\_\_\_\_\_\_\_.

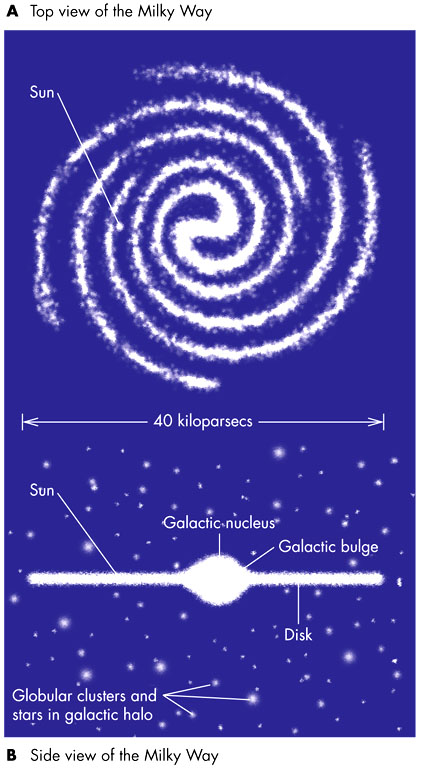
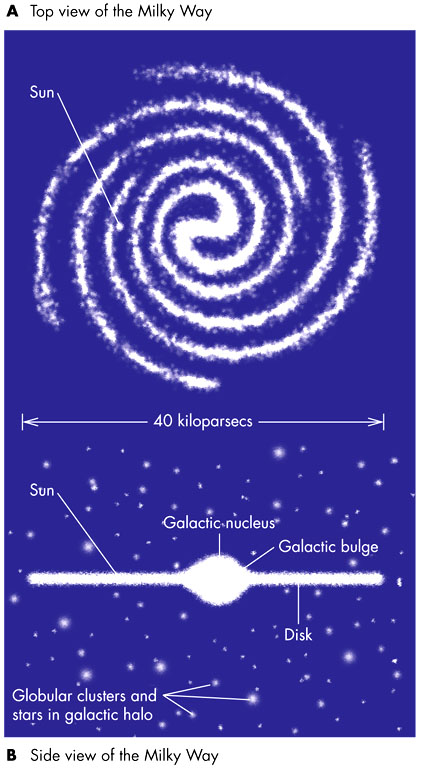
**Where are we? How do we know?**

* We initially look at distributions of \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ to see where they’re centered
* We look at \_\_\_\_ cm radiation to map the milky way
* Plot the \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ locations (just x and y coordinates)
* After you plot them, mark a star (\*) where you think the center of the galaxy is

(where is the center of the clusters?)

**The Distribution of Globular Clusters in the Galaxy**

* Sun is \_\_\_\_\_\_\_\_\_\_\_ \_\_\_ from the center
* about \_\_\_\_\_\_ Globular Clusters in Milky Way
* globular clusters are \_\_\_\_\_\_\_\_\_ clusters of stars found in \_\_\_\_\_ around galaxy
* globular clusters contain **\_\_\_\_\_\_\_\_\_,** \_\_\_\_\_\_\_\_ stars
* Spiral arms contain \_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_ stars

**The Milky Way**

* \_\_\_\_\_\_\_\_\_\_\_ light years thick
* \_\_\_\_\_\_\_\_\_\_\_\_light years across
* We are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the center
* Contains \_\_\_\_\_\_\_\_\_\_ billion stars
* Total mass = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_solar masses
* \_\_\_\_\_\_\_\_\_\_\_\_\_ structure
* Supermassive black hole of \_\_\_ \_\_\_\_\_\_\_\_\_\_ solar masses at center
* Missing Mass = \_\_\_\_\_\_\_\_\_ (dark matter)
* **Q: What is dark matter?**
* A:
* **Q: How do we know there is dark matter?**
* A: