Discover: Galaxies

Use the 'Galaxies' App to navigate through and answer the following questions. Be sure to watch all videos and read all sections. Be sure to click on any ⊕ icons, they often contain additional information!

Section 1: Star Studded Galaxies

What Galaxy do we live in? Where in this galaxy do we live?

What is a galaxy?

What is the nearest star to our Sun, and how far away is it?

> **Edwin Hubble** recognized that there were other galaxies other than our own, and that these galaxies were moving away from each other.

The most distant object the human eye can see is the

_____. We're seeing this galaxy as it was _____

years ago.

Section 2: The Milky Way Merry Go Round

> Because of our current position, as well as stars and gas clouds that block our view, it is impossible for us to definitively tell what our galaxy looks like.

The Milky Way is constantly spinning. One complete circle of the Milky Way takes _____ years.

Describe the shape of the Milky Way:

What celestial body can be seen in the southern hemisphere?

> **Johannes Kepler** was the first to recognize that the orbits of the planets were ellipses, not circles.

A nebula is:

Our Earth, Sun, and our entire solar system is located near a small partial arm called the _____.

Section 3: Exotic Galaxies

Stars, and therefore the majority of galaxies, emit mostly visible light. However, some galaxies show very powerful emissions in the form of _____.

Quasars are celestial bodies that emit large amounts of radio waves. One quasar emits the light of about _____ combined.

A black hole is:

Section 4: Through the Looking Glass

One of the largest obstacles to making observations in distant galaxies is air. Why is this?

Why are many telescopes located on mountaintops?

The Hubble Telescope has discovered phenomena like the hottest star observed, evidence of a black hole, the wreckage of a galaxy collision, and a super storm on Saturn's surface.

The Hubble Space telescope went into orbit in _____.

Since then, we use a variety of telescopes to see different types of objects.

•_____ and _____ telescopes study the hottest most explosive objects in space.

• _____ telescopes study the areas where stars are born.

• _____ study very hot stars.

Maria Mitchell discovered the first comet not visible to the naked eye.

SETI stands for _____ for_____ _____ _____.

They use giant radio telescopes to help listen for alien messages.

How many stars can you see in an urban area?   With a telescope?

Section 5: A Galaxy is Born
Fill in the following table outlining how galaxies are born:

Step 1	
Step 2	
Step 3	

How do galaxies get their shapes?

Elliptical galaxies are a result of:

Spiral galaxies are a result of:

The galaxy that got it's shape as a result of a head-on collision

is the _____.

Section 7: Clusters of Galaxies
Most galaxies are isolated. However, some galaxies gather

together in clusters. At the centre is often a giant elliptical

galaxy called a _____ _____. These galaxies seem to grow bigger

by _____ other galaxies.

In 2012, astronomers discovered the most massive galaxy cluster ever seen and nicknamed it "El Gordo"

We live in a small cluster of galaxies called the _____ _____.

Use the following table to describe galaxy shapes

Spiral	
Barred	
Irregular	
Dwarf	
Elliptical	

Sky View Scavenger Hunt

Use the app SkyView to locate the following celestial bodies. You will need to be locked onto the celestial body to read information about it. Once they are located read the information under the (i) icon. Tap the icon to read additional information and find the answer to the clue.

Ursa Major can be seen during _____

Libra has _____ first magnitude stars.

Saturn: A day on Saturn is about _____.

Mars: A day on Mars is about _____.

The **International Space Station** will be at it's highest point at _____.

The **Hubble Space Telescope** will be at it's highest point at _____.

The star **Polaris** is in the constellation _____.

One **Moon** day is about _____ Earth days.

One **Jupiter** day is about _____.

One day on **Mercury** is about _____ Earth days.