

## Your Passport on your tour of the telescopes

Is the light from the object you are seeing in the telescope coming from:

**Our Solar System?**

**Our Milky Way Galaxy?**

**Or the Universe outside of our Galaxy?**

**Light travels 186,000 miles each second !**

**Consider how long that light was traveling before it reached your eye.**

**Keep a log of each object you see on your tour!**



NASA has powerful telescopes discovering the secrets of the Universe—looking back to the beginnings of the Universe over 13 billion years ago.

Find out more about NASA missions probing the depths of the Universe:

<http://cfa-www.harvard.edu/seuforum>

<http://origins.stsci.edu>

## Tour Completed!

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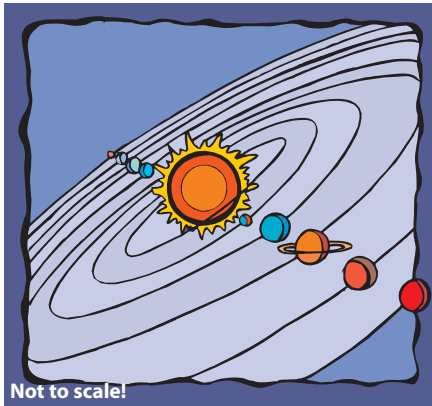
## Passport Through Time



Looking through a telescope is like jumping into a time machine.

The light we see from most objects out in space has been traveling from a few minutes to millions or even billions of years.

# Solar System



**Most light we see from objects in the solar system has traveled for minutes or hours.**



Moonlight takes less than 2 seconds to reach you. Sunlight takes about 8 minutes. Light from Saturn has traveled for over an hour. Light from Pluto's surface has traveled over 5 hours.

Where were you when the light from the planet you saw tonight started on its way to your eye?

## What I saw in our Solar System:

- Sun: \_\_\_\_\_
- Moon: \_\_\_\_\_
- Planet: \_\_\_\_\_
- Satellite: \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

# Milky Way Galaxy

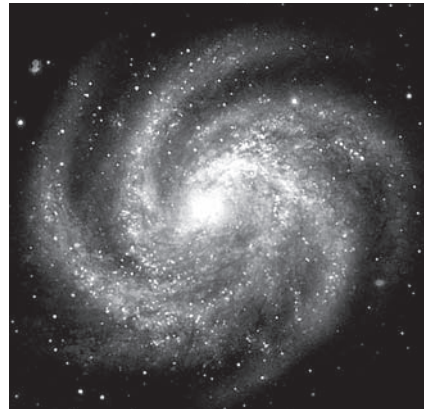


Image Credit: NASA

**Light from objects in our Galaxy has traveled a few years to thousands of years.**



All the individual stars you see when you look up at the sky, or through the telescope are in our Milky Way Galaxy.

Some of the light you see began its journey before your grandfather was born, before Columbus came to America, or even before the Great Pyramid was built.

## What I saw in our Milky Way Galaxy:

- Star Nursery: \_\_\_\_\_
- Young star cluster: \_\_\_\_\_
- Dying or exploded star: \_\_\_\_\_
- Old star cluster: \_\_\_\_\_
- Double star: \_\_\_\_\_
- \_\_\_\_\_

# A Universe of Galaxies



Photo Credit: NASA, ESA, S. Beckwith (STScI)

**Most light from other galaxies has traveled millions to billions of years.**



As we look past the stars in our Milky Way Galaxy, we can peek out and see other galaxies in the rest of the Universe.

Some of the light started its journey before modern humans were on Earth, some before the time of the dinosaurs, and some even before the Earth existed!

## What I saw outside of our Galaxy:

- Galaxy: \_\_\_\_\_
- Galaxy: \_\_\_\_\_
- Galaxy: \_\_\_\_\_
- Galaxy: \_\_\_\_\_