

## Astronomy Assignment: Celestial Explorers

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

Embark on a journey through the night sky using the Stellarium tool to identify celestial objects, record their characteristics, and explore the vast distances of the universe. This assignment will help you become familiar with key astronomical concepts while enjoying the beauty of the cosmos.

### Resources

- [Stellarium Web](#) - An online planetarium for observing the night sky.

### Part 1: Getting Started with Stellarium

1. **Set Your Location:** Open Stellarium and set your location to your current city or a nearby location. This will help you see the night sky as it appears from your specific spot on Earth.
2. **Familiarize Yourself:** Spend some time exploring the Stellarium interface. Learn how to navigate the sky, zoom in on objects, and access information about them.

### Part 2: Identifying Celestial Objects

Choose a clear night when the stars are visible, and find an open space to get the widest view possible. Use the Stellarium tool to help you locate visible objects in the sky.

#### The North Star (Polaris)

1. **Find Polaris:** Use Stellarium to help locate the North Star, Polaris.
2. **Record the following information from Stellarium:**
  - Right Ascension (RA): \_\_\_\_\_
  - Declination (Dec): \_\_\_\_\_
  - Distance from Earth (light-years): \_\_\_\_\_
3. **Calculate Light Travel Time:** Using the distance, calculate how many years into the past you are seeing when you observe Polaris.

Light Travel Time: \_\_\_\_\_

### Visible Planets

**4. Identify Visible Planets:** Use Stellarium to help you identify at least two planets visible in the night sky.

**5. Record the following information:**

a. Planet 1:

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

RA: \_\_\_\_\_

Dec: \_\_\_\_\_

Distance from Earth (astronomical units): \_\_\_\_\_

Light Travel Time: \_\_\_\_\_

b. Planet 2:

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

RA: \_\_\_\_\_

Dec: \_\_\_\_\_

Distance from Earth (astronomical units): \_\_\_\_\_

Light Travel Time: \_\_\_\_\_

### Bright Stars

**6. Identify Bright Stars:** Use Stellarium to help you identify at least two bright stars in the night sky.

**7. Record the following information:**

a. Star 1:

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

- RA: \_\_\_\_\_

- Dec: \_\_\_\_\_

- Distance from Earth (light-years): \_\_\_\_\_

- Light Travel Time: \_\_\_\_\_

b. Star 2:

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

- RA: \_\_\_\_\_

- Dec: \_\_\_\_\_

- Distance from Earth (light-years): \_\_\_\_\_

- Light Travel Time: \_\_\_\_\_

