

What's Above Us? Investigating the Night Sky with a Sky Map App

Your Task

You will investigate the night sky by:

1. observing what you can actually see
2. recording your observations
3. use a star identification app to identify objects (Stellarium Mobile, Star Tonight, Night Sky, etc.)
4. checking whether the app's labels match the evidence

Important: The app gives suggestions and labels, but you are still responsible for the evidence.

Investigation Question

What celestial objects can we identify in the sky, and how confident are we in those identifications?

Field Procedure

Step 1: Observe First

Before opening the app, look carefully at the sky.

Record:

- how many bright objects you notice
- where they appear in the sky
- whether they seem isolated or part of a pattern
- whether some are brighter than others
- any visible shapes or groupings

Step 2: Record Raw Observations

Write only what you can directly observe. Try not to identify object just yet, simply describe what you see.

Examples:

- “One very bright object low in the western sky”
- “Three bright points in a curved pattern”
- “A cluster of dimmer lights near one bright star”

Step 3: Use the App

Open your star identification program and point your phone toward the same area of the sky. These apps are designed to show the sky in real time and identify stars, constellations, planets, satellites, and other visible objects as you point the device.

Record:

- what the app identifies
- which objects match your observations
- any new objects you did not notice at first

Step 4: Verify

For each identification, ask:

- Is the object in the same position I observed?
- Does the brightness match what I saw?
- Does the pattern match the shape I recorded?
- Does the app help explain the grouping I noticed?

Step 5: Assign Confidence

For each object, label it as:

- **Confirmed** = strong match between observation and app
- **Likely** = some evidence supports it
- **Uncertain** = app label does not clearly match my observations

Data Table

Location	Time	Raw Observations	App Identification	Evidence Used to Verify	Confidence

Analysis Questions

1. Which objects were easiest to identify?
2. Which identifications were most uncertain?
3. Did the app help you notice patterns you missed at first?
4. What evidence made you trust an identification?

Reflection

Answer in complete sentences:

1. How did observing first affect your use of the app?
2. When was the app most useful?
3. Why should scientists verify digital identifications instead of accepting them automatically?

Big Idea

Technology can help us notice and interpret patterns in nature, but scientific conclusions still depend on careful observation and evidence.