

How to Play



Scan the QR Code above to read the rules and learn how to play.

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Target Types



Galaxy

A huge collection of gas, dust, and billions of stars all held together by gravity.



Star

Giant spheres of hot plasma, mostly made of hydrogen and helium.



Nebula

Giant clouds of dust and gas in space.



Planet

A celestial body that orbits around a star.

Data Types



Image

A picture captured through a telescope.



Spectrum

The brightness of an object as measured over a range of wavelengths (colors).



Timeseries

A series of measurements which shows how an astronomical object changes over time.



Catalog

A large table of calculations and other properties taken from astronomical data.

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GALEX

- SPACE TELESCOPE -



Ultraviolet Telescope

Hubble

- SPACE TELESCOPE -



Ultraviolet Telescope

Optical Telescope

James Webb

- SPACE TELESCOPE -



Infrared Telescope

Kepler

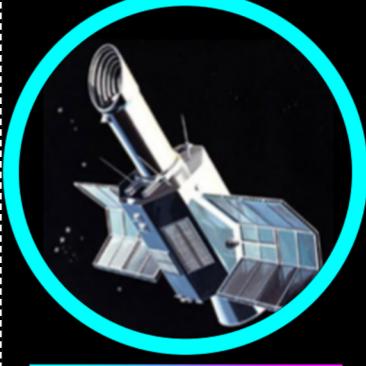
- SPACE TELESCOPE -



Optical Telescope

IUE

- SPACE TELESCOPE -



Ultraviolet Telescope

TESS

- SPACE TELESCOPE -



Optical Telescope

Spitzer

- SPACE TELESCOPE -



Infrared Telescope

Roman

- SPACE TELESCOPE -



Optical Telescope

Infrared Telescope

Exoplanet Kepler-16b

TW Hydrae

Stephan's Quintet



B

C

2021



Butterfly Nebula

Andromeda Galaxy

Horsehead Nebula



Pillars of Creation

Dark Nebula

Apep Star System



Tarantula Nebula

Exoplanet GJ-386b

Cassiopeia A



Westerlund 2

Andromeda Galaxy

Hercules Cluster



Sombrero Galaxy

Neptune

Ring Nebula



Herbig-Haro Object



Moons of Jupiter



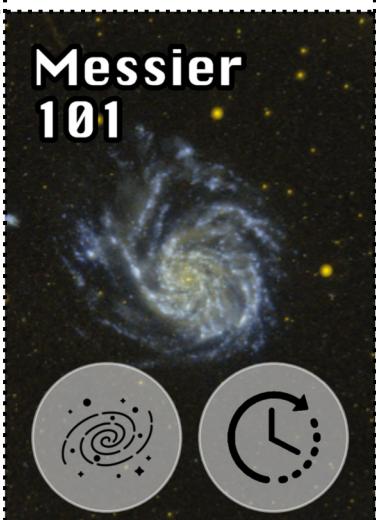
CW Leonis



Cat's Eye Nebula



Messier 101



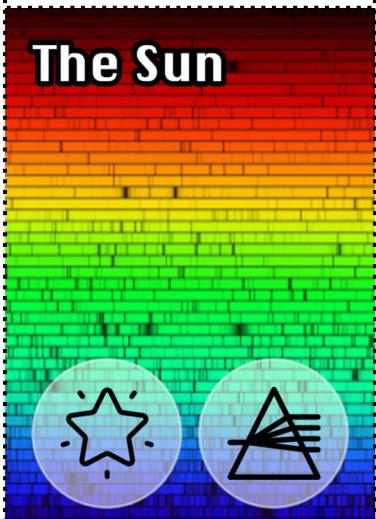
Deep Field



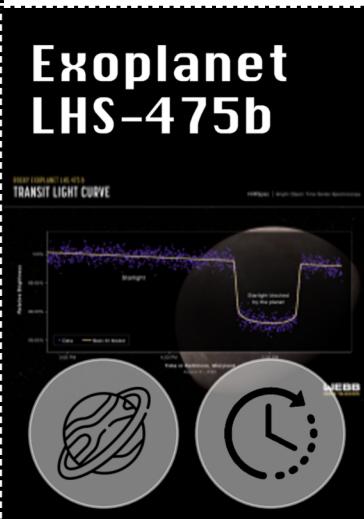
AG Carinae



The Sun



Exoplanet LHS-475b



NGC 1087

Crab Nebula

Bullet Cluster



M81 and M82

MACS-0416

Carina Nebula



Exoplanet Catalog

Cepheid Variable

Exoplanet WASP-39b



WASP-39b & ATMOSPHERE COMPOSITION



Shoemaker Levy



Jupiter



Bubble Nebula



Alien Weather Report

Ultraviolet Science Goal

Measure the composition of an exoplanet's atmosphere

4



Binary Stars

Optical Science Goal

Study a binary star system with a star's spectrum and light curves

4



Photometry

Optical Science Goal

Take a lot of images!

6



The Stars Are Born

Infrared Science Goal

Observe ongoing star formation inside of four different nebula to research star formation

6



Optical Sky Survey

Optical Science Goal

Collect one of each object type to win 3 science points

3



Optical Data Archive

Optical Science Goal

Collect one of each data type to win 3 science points

3



Asteroid Impact

Ultraviolet Science Goal

Observe an meteoroid hitting a planet with time series data of our Solar System

5



Exoplanet Hunter

Optical Science Goal

Collect time series data to detect exoplanets around a star

4



Source Catalogs

Ultraviolet Science Goal

Make a lot of catalogs!

6



Galactic Hotspots

Ultraviolet Science Goal

Find Where Stars Are Forming
In A Nearby Galaxy

4



Ultraviolet Data Archive

Ultraviolet Science Goal

Collect one of each data type to
win 3 science points

3



Stellar Jets

Ultraviolet Science Goal

Observe the jets thrown off by
young stellar objects

5



Stellar Graveyard

Optical Science Goal

Characterize different types of
supernova by observing the
remnants of dead stars in
nebulae

5



Ultraviolet Sky Survey

Ultraviolet Science Goal

Collect one of each object type
to win 3 science points

3



Spectroscopy

Infrared Science Goal

Take a lot of spectra!

6



Astereoseismology

Optical Science Goal

Collect two star time series to
study different types of variable
stars

5



Stellar Populations

Ultraviolet Science Goal

Observe four different stars to
measure their properties and
learn about stellar populations

6



Gravitational Lensing

Infrared Science Goal

Use Gravitational Lenses To
Study A Distant Galaxy's
Properties

5



Black Hole Indigestion

Ultraviolet Science Goal

Monitor A tidal disruption event near the center of a galaxy

5



Solar System

Optical Science Goal

Observe four different planets to research how the Solar System was formed

6



Galaxy Mergers

Optical Science Goal

Study two galaxies that are merging together

5



The First Stars

Optical Science Goal

Find the oldest stars in the galaxy to understand the history of the Milky Way

5



Dust Maps

Infrared Science Goal

Catalog different nebula to determine where the dust is in the Milky Way

5



Eye of The Storm

Ultraviolet Science Goal

Find out what's at the center of a planetary nebula

5



High Redshift

Infrared Science Goal

Observe four different galaxies to study the history of the Universe.

6



Cosmic Web

Infrared Science Goal

Study the large scale structure of the Universe with catalogs of galaxies

5



Messier Catalog

Optical Science Goal

Build a list of Messier objects by taking images and cataloging nebula

4



Infrared Sky Survey

Infrared Science Goal

Collect one of each object type to win 3 science points

3



Infrared Data Archive

Infrared Science Goal

Collect one of each data type to win 3 science points

3



Interstellar Dust

Infrared Science Goal

Study the gas between galaxies by observing galaxies and nebula

4



Build-a-Galaxy

Ultraviolet Science Goal

Study the star formation history of a galaxy by determining what kinds of stars it is made of

4



Brown Dwarfs

Infrared Science Goal

Study star formation inside nebulae to characterize brown dwarfs - are they planets or stars?

4



Drake Equation

Optical Science Goal

Estimate The Number of Habitable Earth-like Planets In The Milky Way by cataloging planets

5



Mapping the Galaxy

Infrared Science Goal

Map the Milky Way with large catalogs of stars

5



Light Curves

Optical Science Goal

Take a lot of light curves!

6



The Dark Side

Infrared Science Goal

Darkness here and nothing more. Study massive, cold dark nebulas.

5



Methane Clouds

Infrared Science Goal

Cloudy with a chance of Methane! Study the chemical composition of clouds on other planets

5



Planet Formation

Ultraviolet Science Goal

Study planet formation by observing planets in our solar system

5



Deprecated Code

Play Later

When another player tries to collect an Observation Card, play this card to immediately make them discard it. They do not get any points for that Observation Card, and must still return the Telescope they used to the Telescope Row.

Micrometeoroid Strike

Play Immediately

A telescope's mirror was just hit by a micrometeoroid! Place this card on top of one of the telescopes in the Telescope Row. No one can use this telescope until this card is discarded, which happens at the end of your next turn.

Servicing Mission

Play Later

Your telescope gets an upgrade! When you play this card during an Observing Action, you can pick two cards from the Observation Row instead of one

Long Exposure

Play Later

When you play this card, choose two observations from the visible sky row using the same telescope, and then skip your next turn.

Not Enough Coffee

Play Immediately

nan

Conference Meeting

Play Later

Choose a card from another players observation row and replace it with one of your own

Jupyter Notebook

Play Immediately

Choose one of your science goals, and place this card on top. You need one less card than usual to complete this science goal. For example, if you need 4 cards to complete the goal, you now only need 3.

Proposal Deadline

Play Immediately

A big observing proposal is due this week! You skip your next turn. Keep this card in front of you as a reminder, and discard it at the end of your next turn.

Target of Opportunity

Play Immediately

This card is a wildcard. Treat this as any target type, data type, and wavelength, and immediately play it towards one of your science goals.



Press Release

Play Later

Host a press release to tell the world about your new result! When you complete your next science goal, reveal this card to immediately score an additional 2 points.

A large black number '2' is centered inside a light blue circle with a thin black outline.

2

Public Data

Play Later

Steal any observation card from another player. You can play the new card on any of your Science Goals Immediately, regardless of wavelength.

Corrupted Data

Play Later

When another player tries to collect an Observation Card, play this card to immediately make them discard it. They do not get any points for that Observation Card, and must still return the Telescope they used to the Telescope Row.

All-Nighter

Play Later

You decide to sacrifice sleep to get extra work done. Play this card at the beginning of one of your turns. You may take one additional action on your turn, for a total of two actions."

Cloud Computing

Play Later

Thanks to the power of Cloud Computing, you are able to complete your research more quickly. All of your Science Goals are now worth one additional point.

A light blue circle containing a black plus sign followed by a black '1'.

+ 1

Nobel Prize

Play Immediately

You win the Nobel Prize for your research. When you play this card, immediately score 5 points.

A large black number '5' is centered inside a light blue circle with a thin black outline.

5

Code Doesn't Compile

Play Immediately

Choose one of your science goals, and place this card on top. You need one more card than usual to complete this science goal (for example, if you need 4 cards to complete the goal, you now need 5)

Dual Telescopes

Play Later

On your next turn, choose two telescopes. You may use both for observations for the duration of that turn. Discard this card.

Grant Funding Ending

Play Immediately

Your grant funding runs out, forcing you to start on a new project. Discard one science goal of your choice (and any observation cards linked to it), and draw a new Science Goal to replace it.

Proprietary Data

Play Immediately

Look through the Observation Card draw pile and choose any card you would like. Play it towards any one of your science goals, but hide it underneath this card so the other players can't tell what it is. Re-shuffle the deck once you're done

Open Source Collaboration

Play Later

Mirror an opponent's card (?)

Hire a Student

Play Later

Hire a graduate student to get more work done! Look through the draw pile and choose any card you want. Add the selected card to one of your science goals, and then discard this card and reshuffle the draw pile.

Too many tabs open

Play Immediately

You have too many tabs open and can't find where you saved your data! Choose one observation card from any of your science goals, and return that card to the bottom of the deck.

High Solar Winds

Play Immediately

High radiation causes your observation to fail; skip your next turn. Keep this card in front of you as a reminder, and discard it at the end of your next turn.

Guiding Failure

Play Later

The telescope failed to acquire guide star. If you have a telescope card currently in play, return it to the telescope row immediately.

Telescope Malfunction

Play Immediately

If you have a telescope card, return it to the Telescope Row now without collecting any observations.