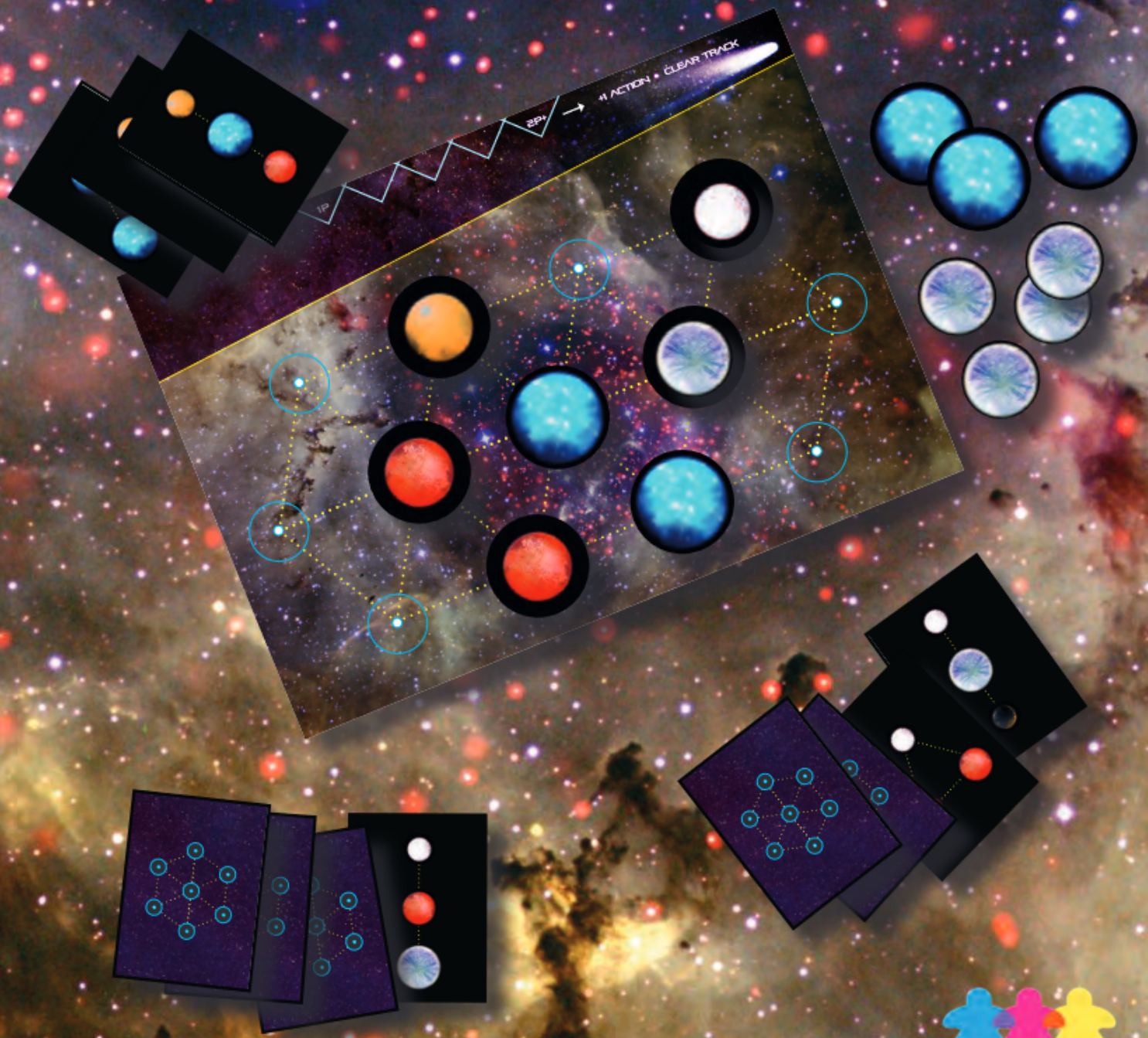


A game about star evolution and discovery for 1-4 players

Age 7+ • Map a galaxy in 30 mins

NEBULA



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HOW TO PLAY

OBJECTIVE

A previously unidentified area of space has been mapped by a deep space telescope. As astronomers, your goal is to be the first to identify the stars forming in the new nebula.

Players draft their discovery cards and take turns evolving stars to form new combinations.

Be the first player to discover and discard all of your constellation cards!

BOARD & TOKEN SET-UP

- Create the token supply by laying out all of the star tokens with either the New Star or Supernova side face up.
- Lay one random New Star token in the centre space of the board.

COMPONENTS:

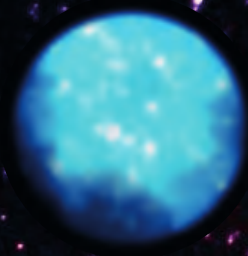
- 1 game board
- 12 large Blue/Red/Yellow star tokens
- 12 small Supernova/Neutron Star/Black Hole tokens
- 48 Constellation cards

PLAYER DECKS

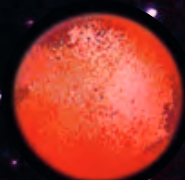
- Shuffle the Constellation Cards and deal them into 4 sets of 8 cards.
- Each player takes 1 set of cards, any remaining sets are discarded.
- Each player looks at the set in their hands and selects 1 card to keep, then passes the remaining cards clockwise to the next player.
- Players repeat this process until each player has a hand of 8 selected cards.
- As play proceeds, each player will try to complete their unique Constellation Card arrangements and discard them.

STAR TOKEN SEQUENCE:

NEW STAR



RED GIANT



YELLOW STAR

ON YOUR TURN

Players take turns (clockwise) to take one of the following 4 actions:

- Choose a New Star Token (*you may look at the underside to help choose the one you want*) and place it on an empty space.
- Flip a New Star on the board to reveal a Yellow Star or a Red Giant
- Choose a Supernova Token (*you may look at the underside to help choose the one you want*) and place it on a Yellow Star or Red Giant.
- Flip a Supernova on the board to reveal a Neutron Star or a Black Hole.

Black Hole!

- If a Black Hole is revealed allow everyone to check their remaining Constellation Cards for matches.
- Then remove the Black Hole Tokens and all tokens (single and stacked) from every adjacent space. Return all removed tokens to the token supply ensuring that they are New Star or Supernova side up.

COMPLETING CONSTELLATIONS

At any time, if a player notices one of their Constellation Cards has been completed they show that card to everyone and immediately discard it. It doesn't matter who laid the star tokens or whose turn it is.

LIGHT SPEED

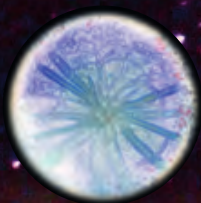
As constellations cards are discarded, place them on a space on the Comet Track at the top of the board.

- When the Comet Track is full (8 cards) each player now takes +1 action per turn, starting with the current player if they discarded the 8th card. Remove all cards from Comet Track to reset it.
- The Comet Track triggers +1 action per turn each time it is filled. After 8 discards each player has 2 actions; after 16 discards, each player has 3 actions; etc.

WINNING

The first player to complete and discard all of their Constellation Cards maps the nebula and wins the game!

SUPERNOVA



FLIP



BLACK HOLE

REMOVE BLACK HOLE AND ALL ADJACENT TOKENS



NEUTRON STAR



SOLO MODE

Nebula can be played as a single player against an AI (alien intelligence) opponent. Set up the token supply and board as usual. The player will always go first. Use the following changes to set-up and play:

Build the Solo Player Deck

- Using the 4 sets of cards as in normal set-up, draft your Discovery Deck. Starting with the 1st set, draft one card according to the list below then move to the next deck. If at any time you cannot draft a card from that set, move to the next set:
 - Draft 1 card with a Blue Star
 - Draft 1 card with a Yellow Star
 - Draft 1 card with a Red Star
 - Draft 1 card with a Supernova
 - Draft 1 card with a Neutron Star
 - Draft 1 card with a Black Hole
 - Draft card of choice
 - Draft card of choice

AI Sequence

- Select 6 Blue Star and 6 Supernova tokens at random. Shuffle with mixed sides up and lay in a row above the game board - this is the AI action sequence.
- The AI will place each token in order from left to right as its action.
- The AI places tokens only on legal spaces, and places on top of Blue Stars or Supernovas rather than flipping.

- The AI will place tokens with the following priority:
 1. On the centre space
 2. Create a triangle of 3 different stars
 3. Place red and yellow stars next to each other (preferring a triangle)
 4. Centre row nearest the centre space
 5. On the row with the least tokens, on the rightmost space

If there is ever a tie for placement, move to the next priority.

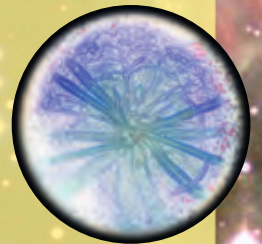
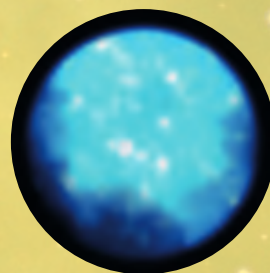
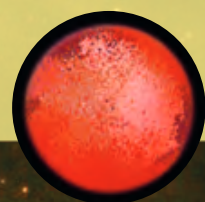
If the AI cannot place a token it takes no further action and must wait for another turn to try and place its leftmost token. For example, if the AI has a Supernova token and no Yellow or Red Stars are visible then it must skip its turn.

Comet Track

- The Comet Track fills and resets after 4 discards in solo mode.

Winning

- Discard all your Discovery Cards and map the galaxy before the Alien Intelligence places all its tokens!



THE LIVES OF STARS

LEARN MORE

STARS ARE BORN IN NEBULAS

Clouds of gas and dust in space. When an area of dust and gas grows large enough, increasing in mass, gravity takes over. The materials can come together until they're so compressed they become a protostar.

PROTOSTARS EVOLVE INTO NEW STARS

NEW STARS EVOLVE INTO DIFFERENT COLOURS ON THE LIFELINE OF STARS. known as the Hertzsprung–Russell diagram. Different colours of stars reflect their luminosity (brightness) and temperature.

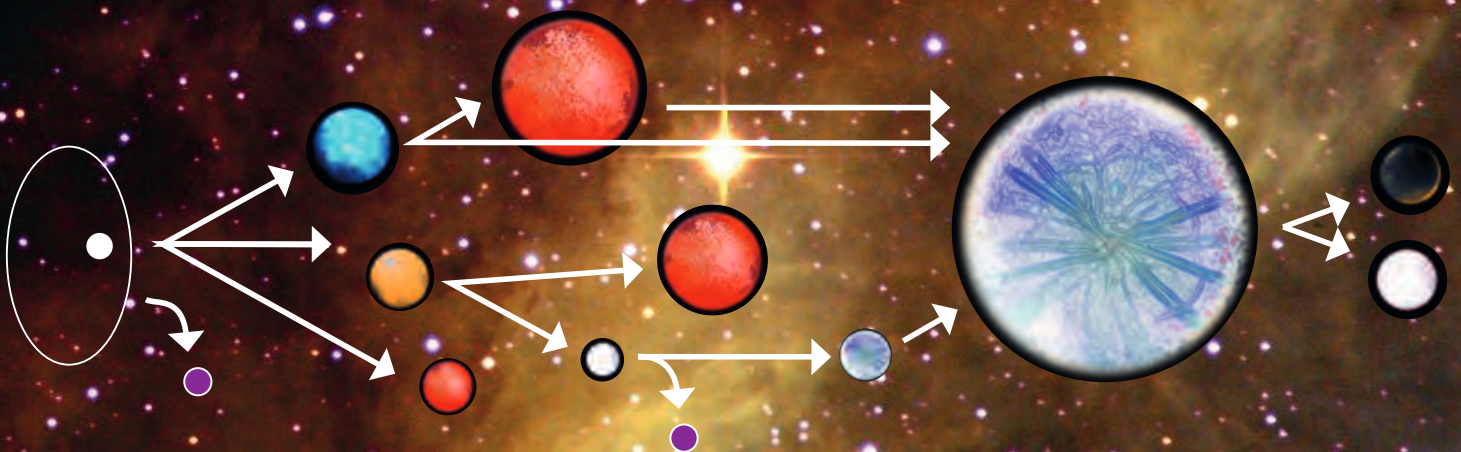
MOST STARS GROW UP ALONG THE "MAIN SEQUENCE" of the H-R diagram. On that path some stars, like our Sun, evolve to become white or yellow stars and sit in the middle of the sequence. Other might burn at higher temperatures and become red dwarfs or might have cooler temperatures and become blue giants.

While the bright colourful stars are great for stargazing, some stars though never quite burn enough and become pale cool brown dwarfs.

THE NEXT STAGE OF LIFE

White and yellow stars on the Main Sequence may evolve into red giants, and blue giants may evolve into supergiants.

"Nebula" starts with blue new stars evolving into high-mass yellow or red giant stars. These limited choices create a fast moving game of changing tokens. Real stars have a wider range of evolutionary paths



EVENTUALLY ALL STARS EVOLVE TOWARDS THEIR DEATH

This is when the star has used up all the fuel in its core. The nuclear fusion stops and there's no pressure from the energetic nuclear reactions to support the materials in the star. The core collapses! Sometimes this creates enough pressure to reignite new nuclear reactions, but eventually fuel and pressure will run out.

THE STAR LOSES ITS OUTER LAYERS

Stars like our Sun can also become white dwarfs. White dwarfs aren't included in "Nebula" but can have interesting lives of their own. They are dim stars as they have nothing left to burn, and can eventually just fade away when all their heat is gone.

Some white dwarfs end up near other active stars. These are called Binary or Multiple star systems. The stars orbit each other and the white dwarf can slowly 'steal' materials from their nearby star! If they steal enough new materials they'll start to burn again and brighten, we call these stars Novae because astronomers once thought these were brand new stars.

WHAT ABOUT OTHER SIZE STARS ON THE MAIN SEQUENCE?

Large stars evolve in a huge explosions - supernovae! Supernovae are huge explosions and the cores of the stars are left behind. Imagine the sphere of the supernova as wide as the length of the Great Wall of China suddenly shrinking to a core the size of Chicago.

END OF LIFE

Depending on its mass, a supernova will end as a neutron star or a black hole. Neutron stars are super heavy small stars. They can steal material from nearby stars like white dwarfs do, and also can emit energy. Energy emitting neutron stars are called *pulsars*. Black holes are even more super massive and so dense they pull in everything from around them, even light.

THEN IT ALL STARTS AGAIN..

The rich materials from stellar explosions spread into space and become potential new star materials.

LEARN MORE:

H-R Diagram: <https://www.schoolsobservatory.org/learn/astro/stars/class/hrdiagram>

NASA Image the Universe: <https://image.gsfc.nasa.gov/science/objects/stars1.html>

Free OpenLearn class "Comparing Stars" (Intermediate level): <https://www.open.edu/openlearn/science-maths-technology/comparing-stars>

Free OpenLearn course "Galaxies, Stars and Planets" (Introductory level): <https://www.open.edu/openlearn/science-maths-technology/galaxies-stars-and-planets>

National School Observatory, Life Cycle of a Star: <https://www.schoolsobservatory.org/learn/astro/stars/cycle>