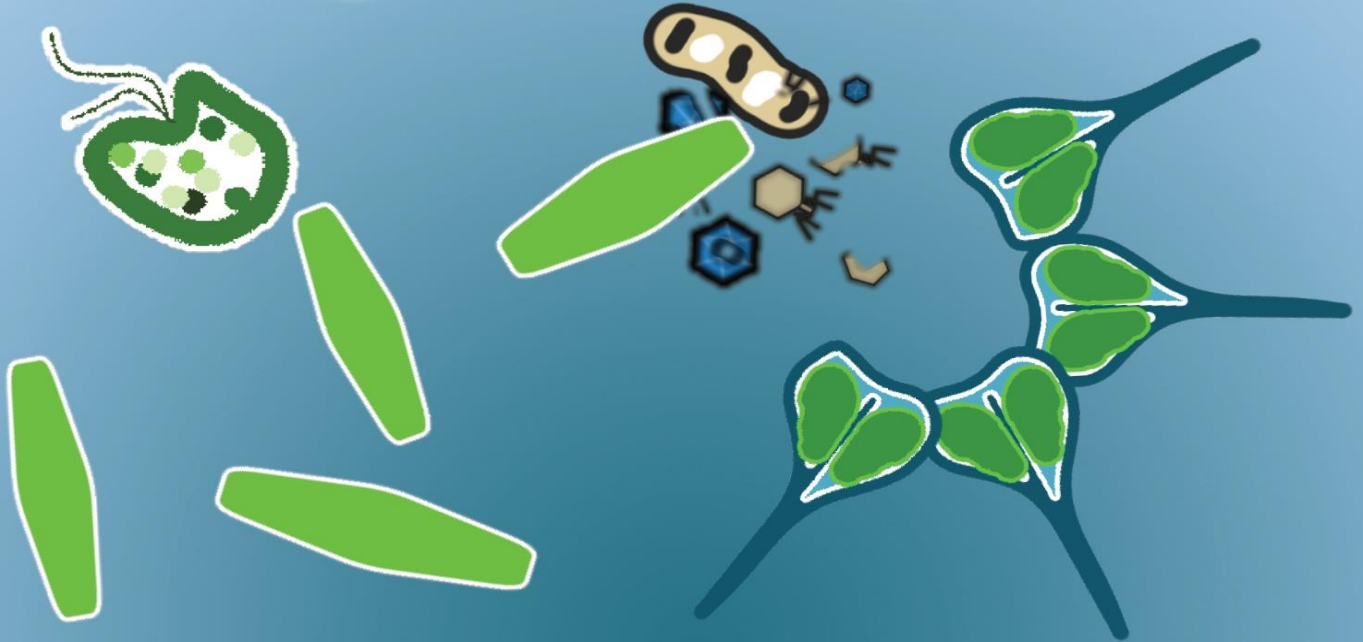


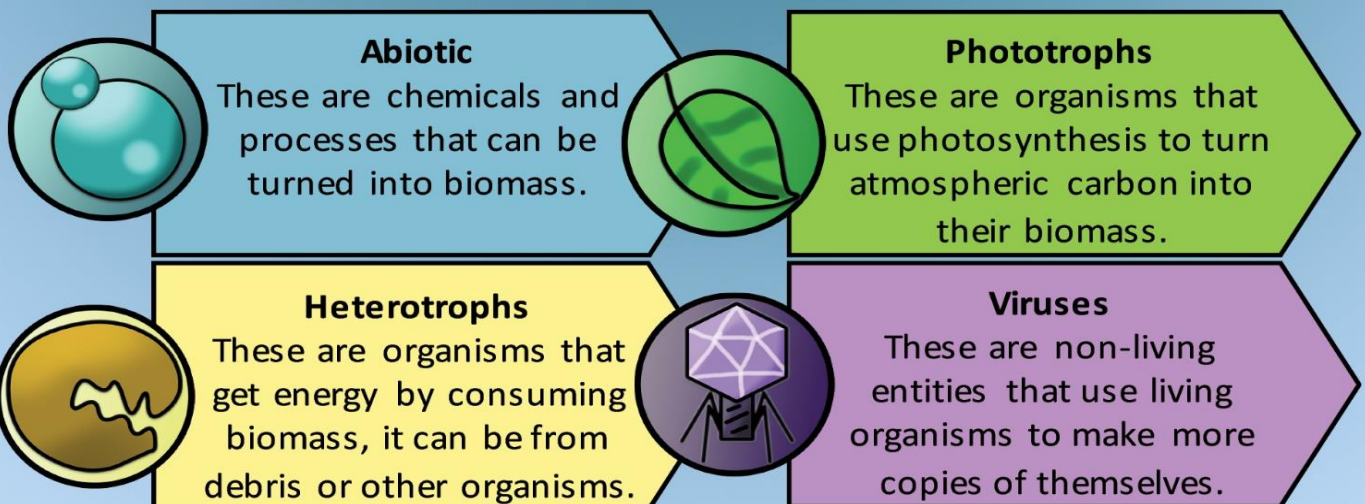
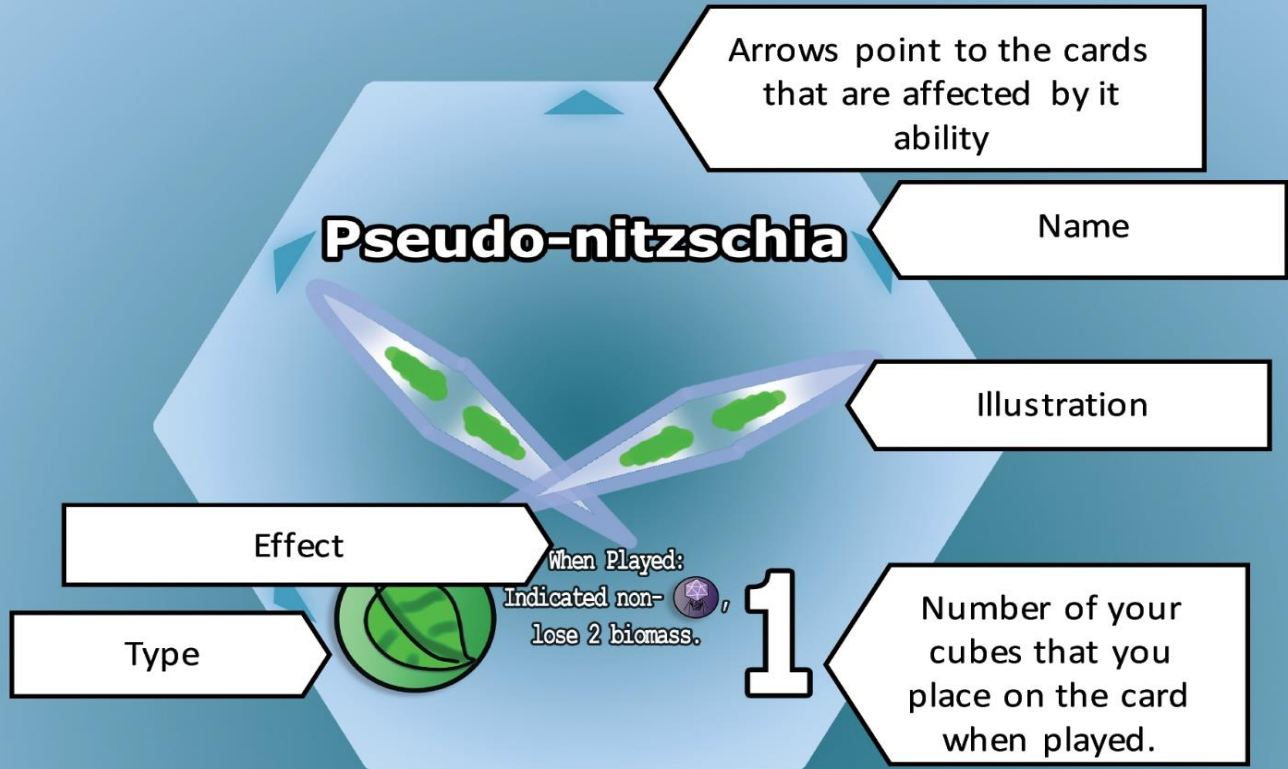
Oligotrophic



Marine microbes form the basis of life in the ocean and perform 50% of earth's photosynthesis. But they live extraordinary lives of their own; fraught with danger and opportunity.

Oligotrophic is a fast-to-learn, strategic tile placement game where players compete to place biomass the fastest. In the game players will select and play hexagonal cards based on actual microorganisms to accumulate biomass, often getting bonuses, hurting, or taking biomass from the other organisms they encounter.

Cards:

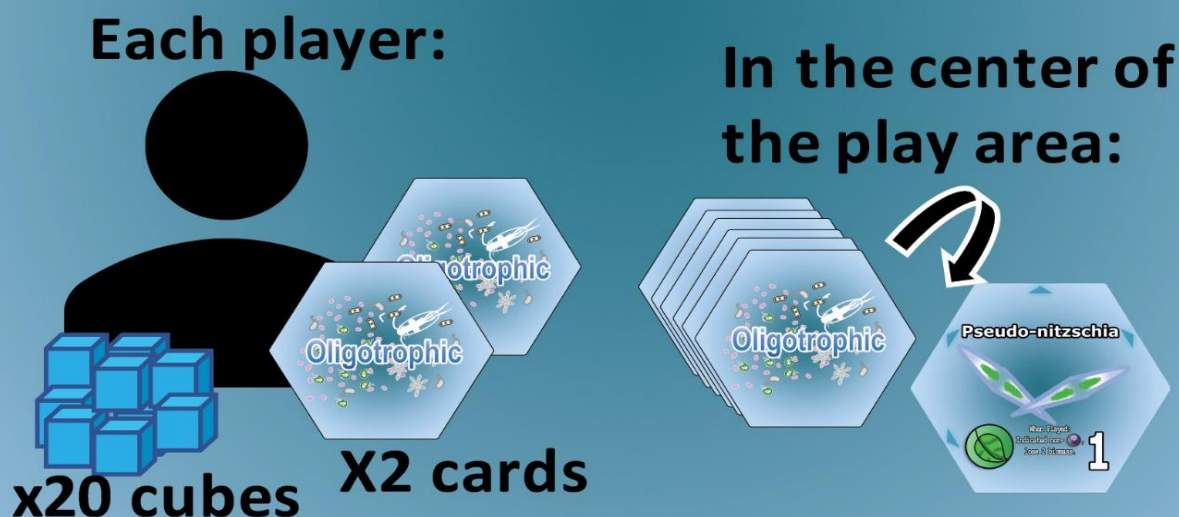


How to win the game:

At the start of your turn have 5 or less biomass (cubes) that are not on the board.

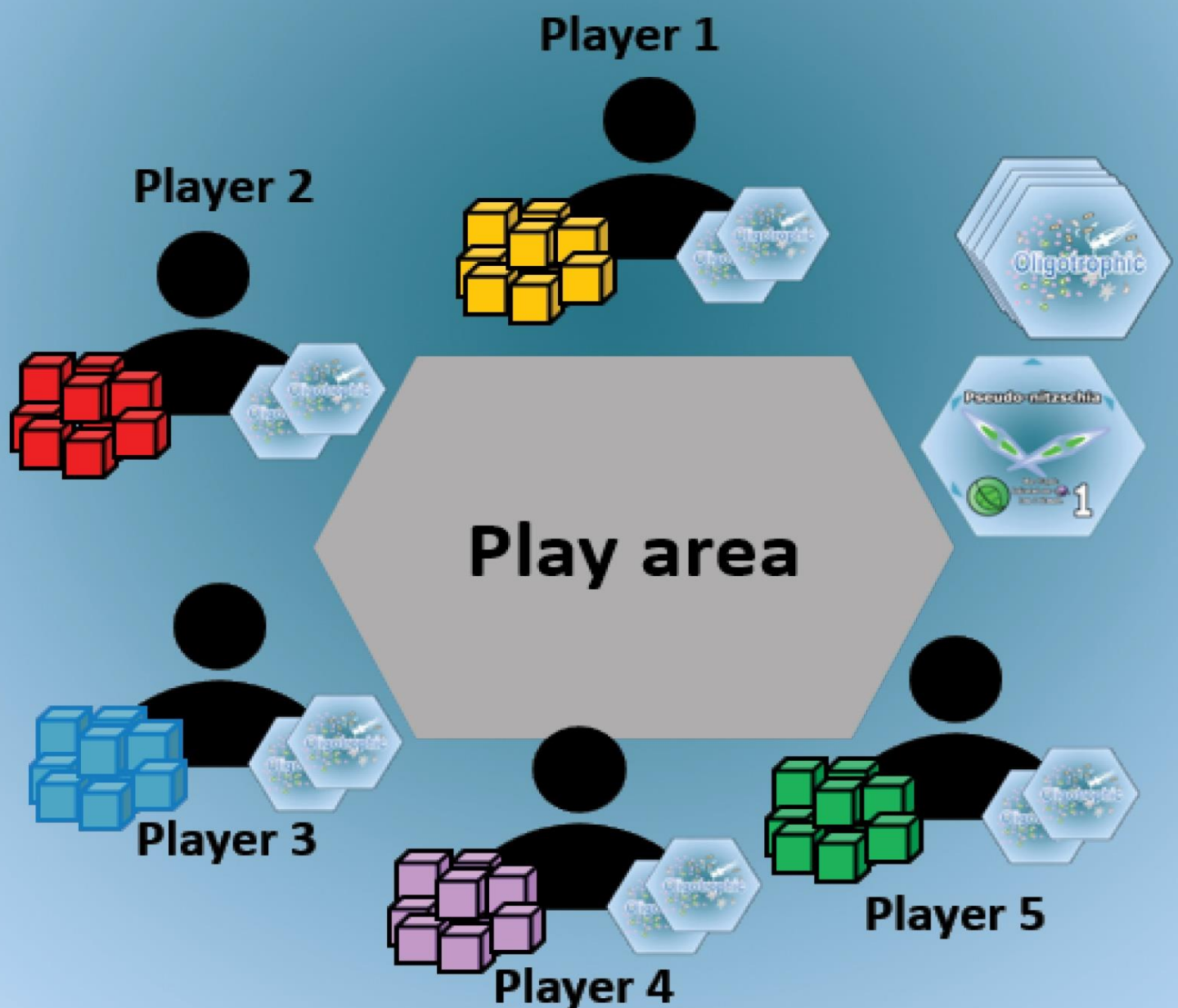
Game Setup:

- Give each player 20 cubes in a color of their choice.
- Shuffle all of the cards and place them face down, forming a deck.
- Set the top card of the deck face up next to the deck.
- Deal each player 2 cards.



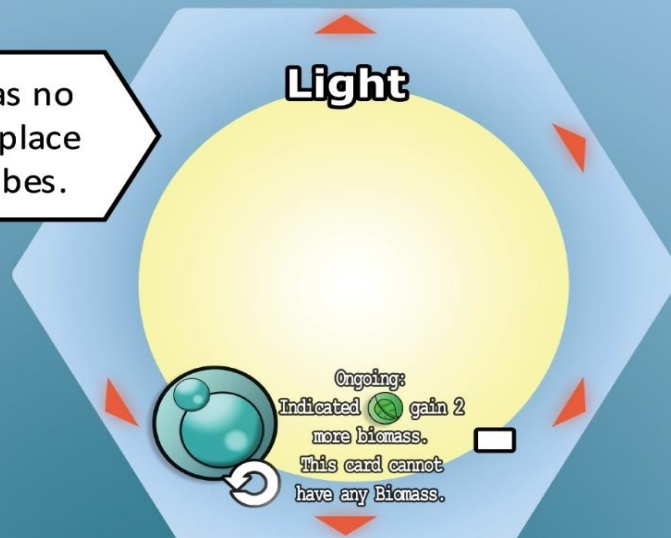
Then choose a starting player! You can do this randomly, but I like starting with the last person who has done something related to microbes or visited the ocean!

The play area should look something like this before you begin:

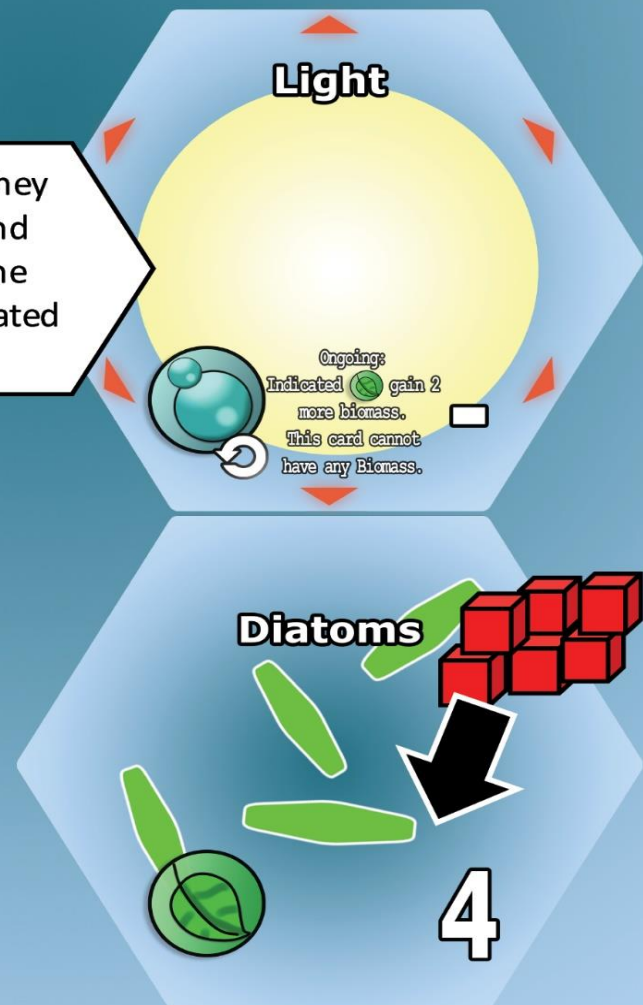


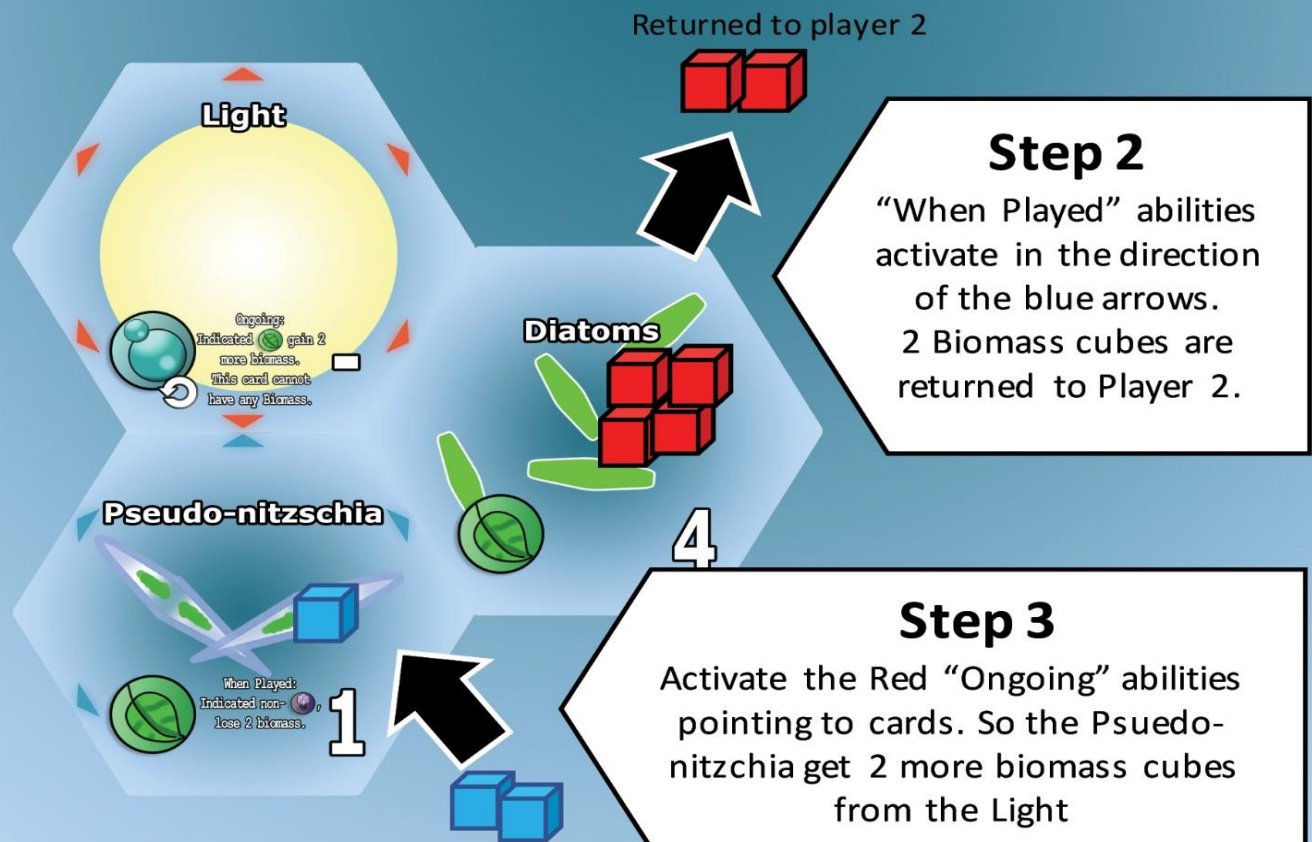
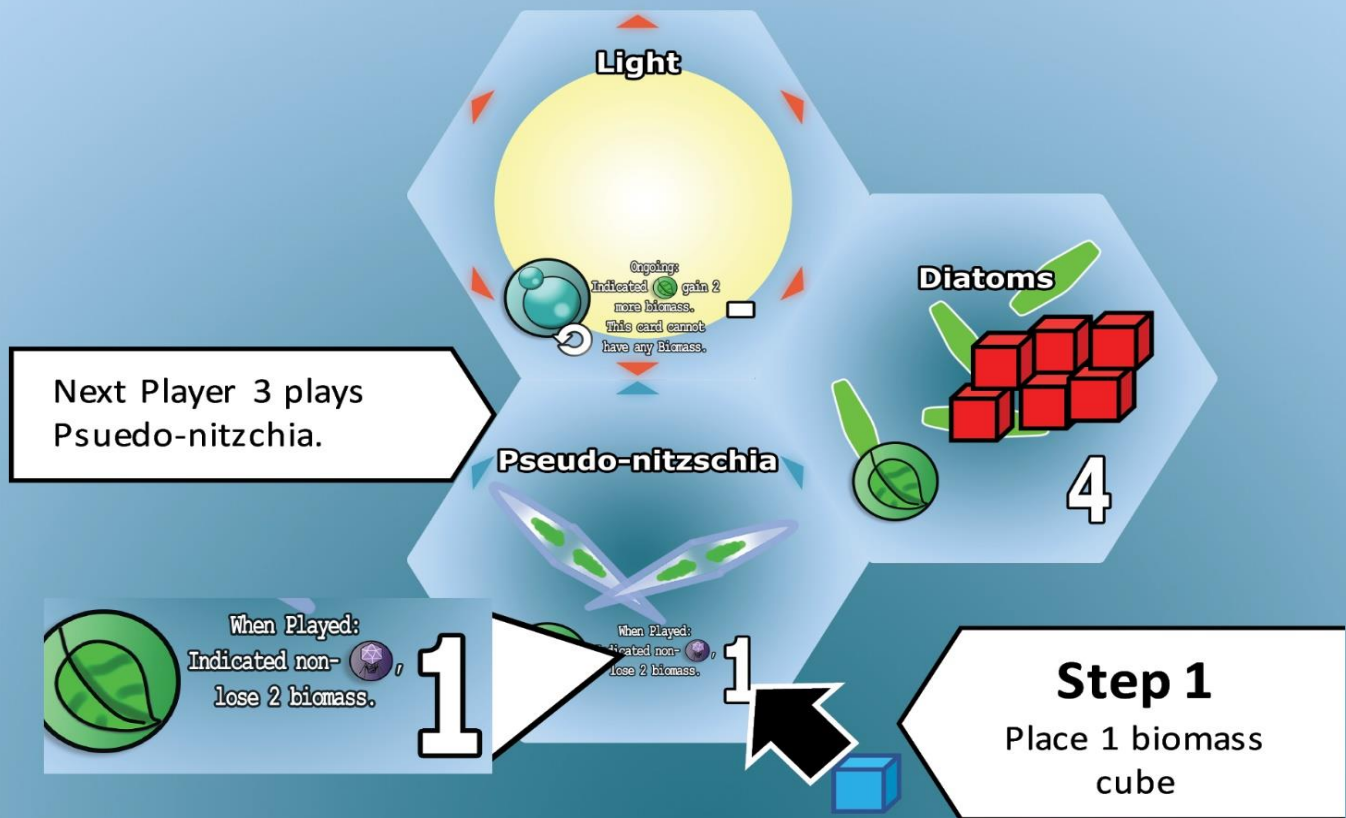
Example of how to play:

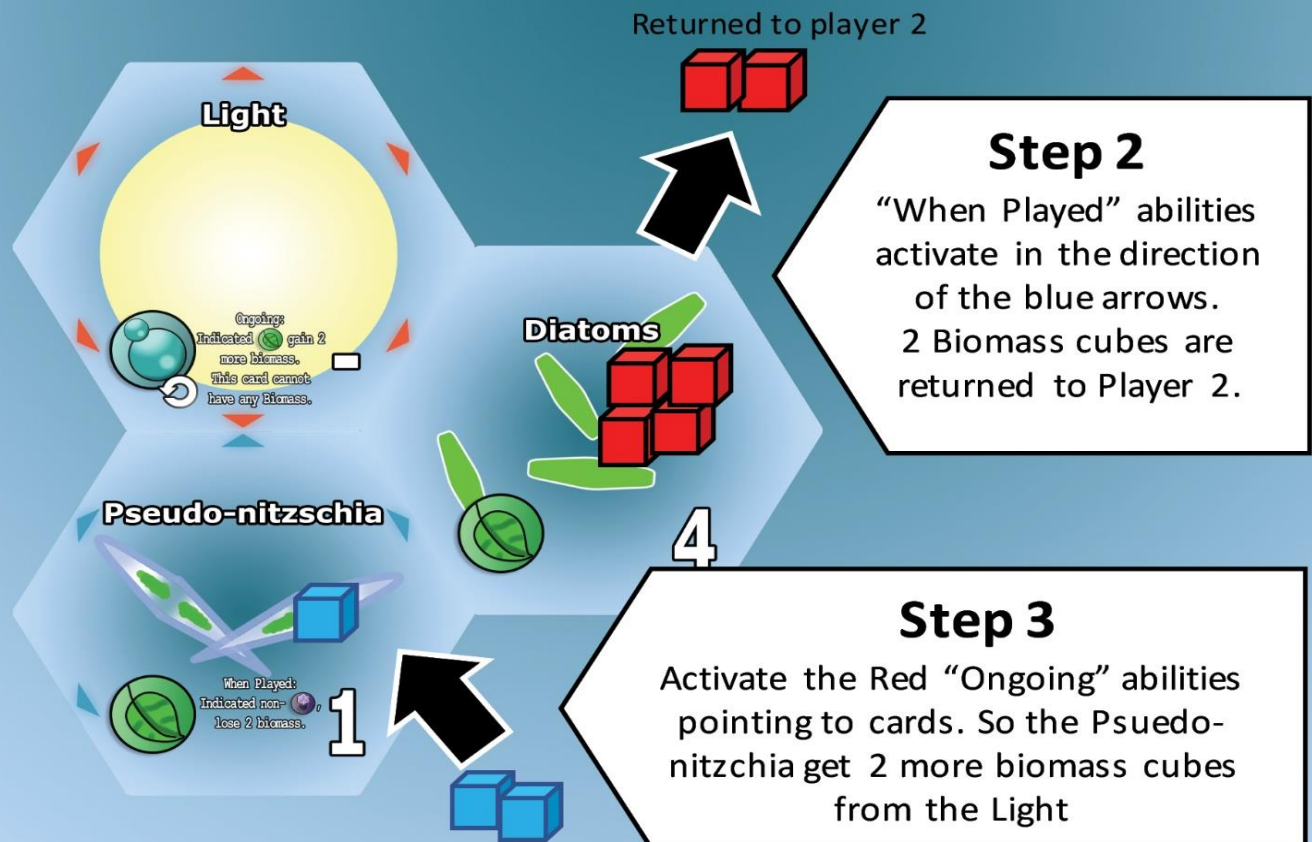
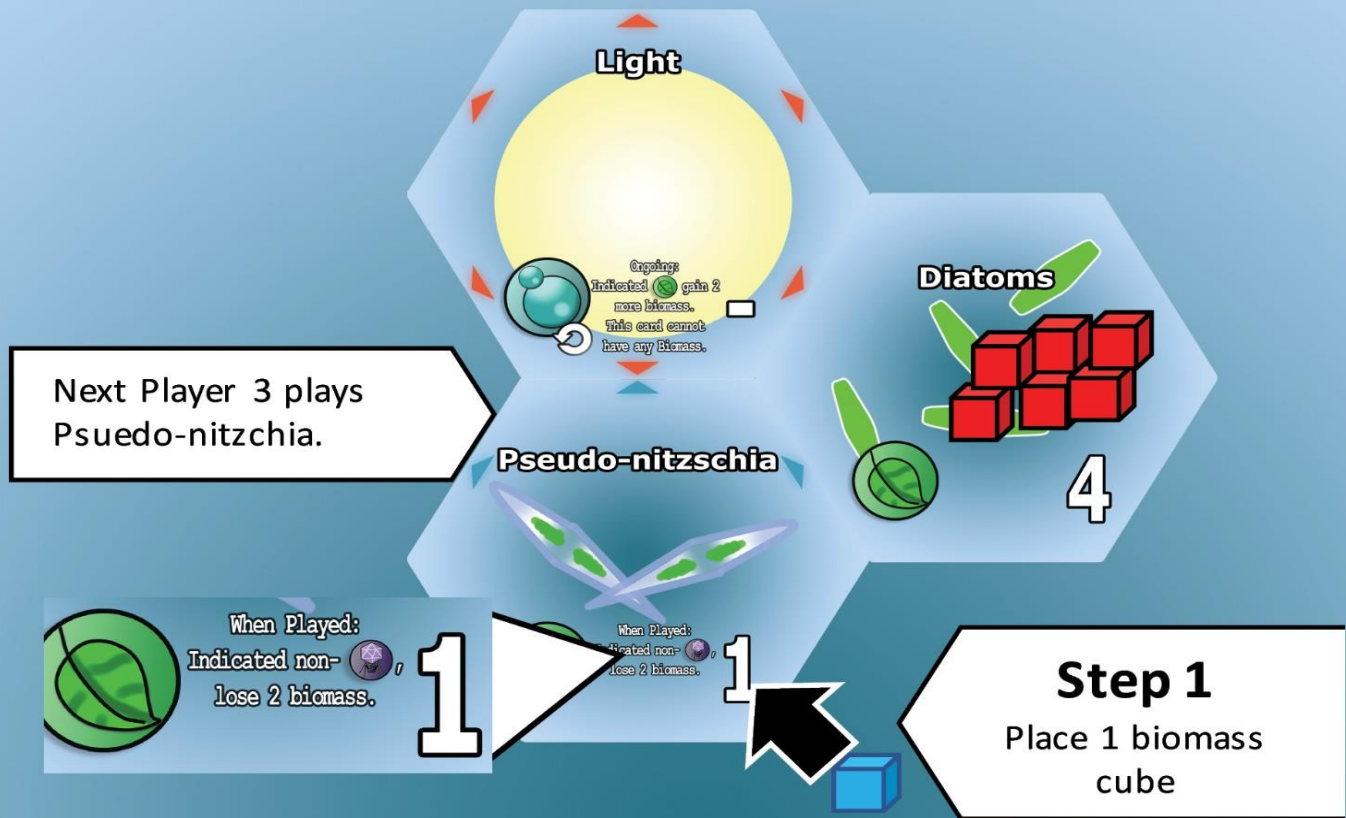
Player 1 plays light. It has no biomass so they do not place any of their biomass cubes.

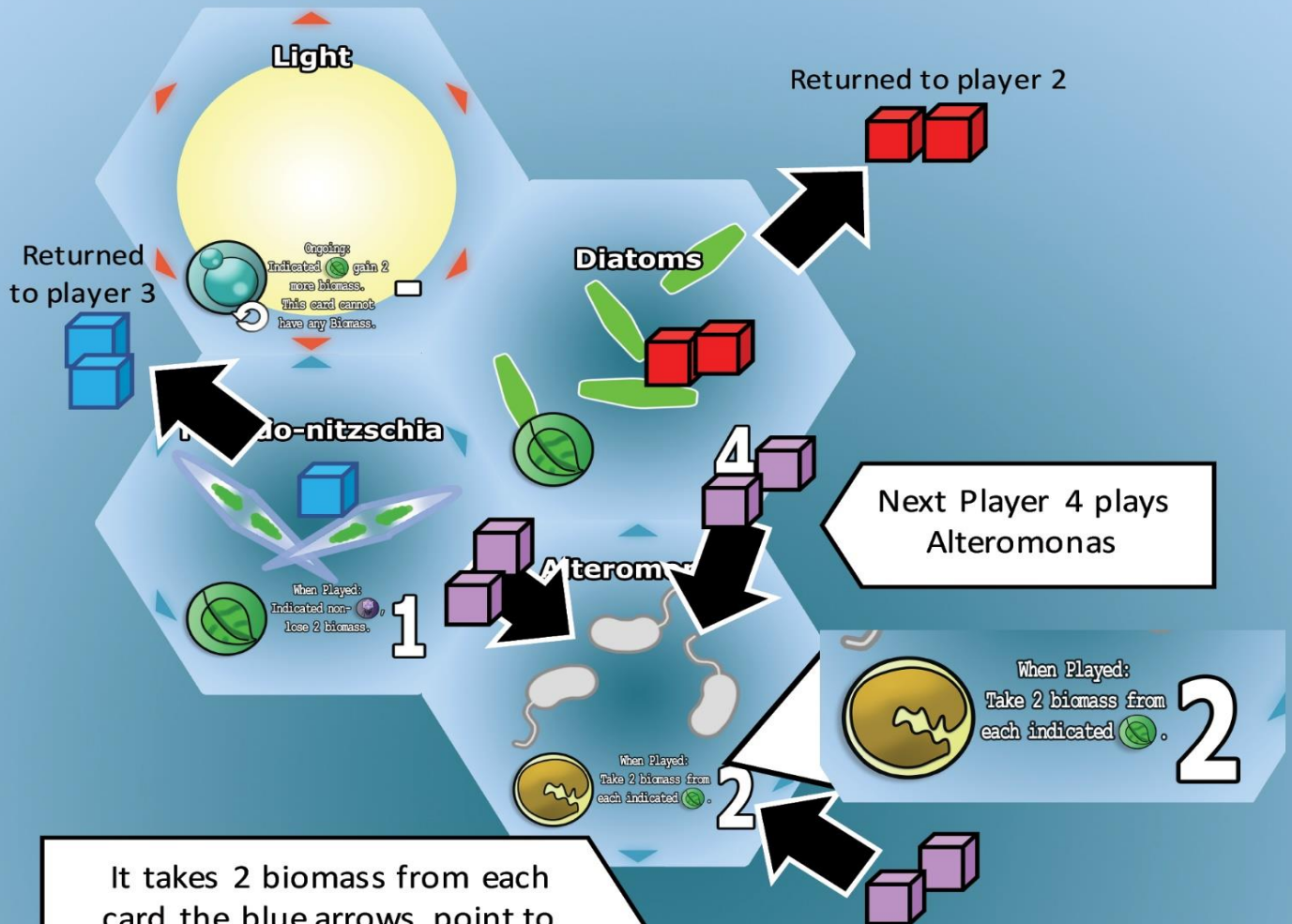


Next, Player 2 plays Diatoms. They place 4 biomass on Diatoms and then add 2 more because of the ongoing effect of sunlight (indicated by the red arrows)



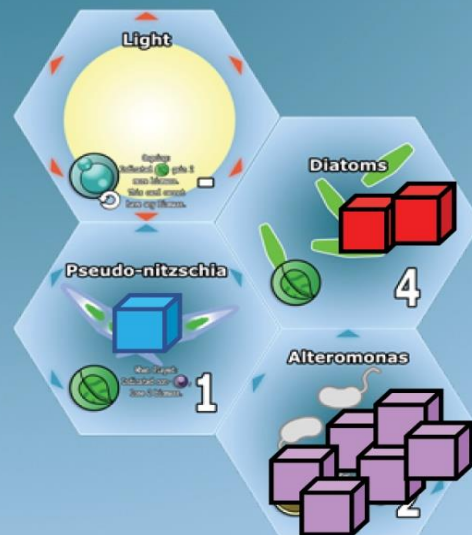


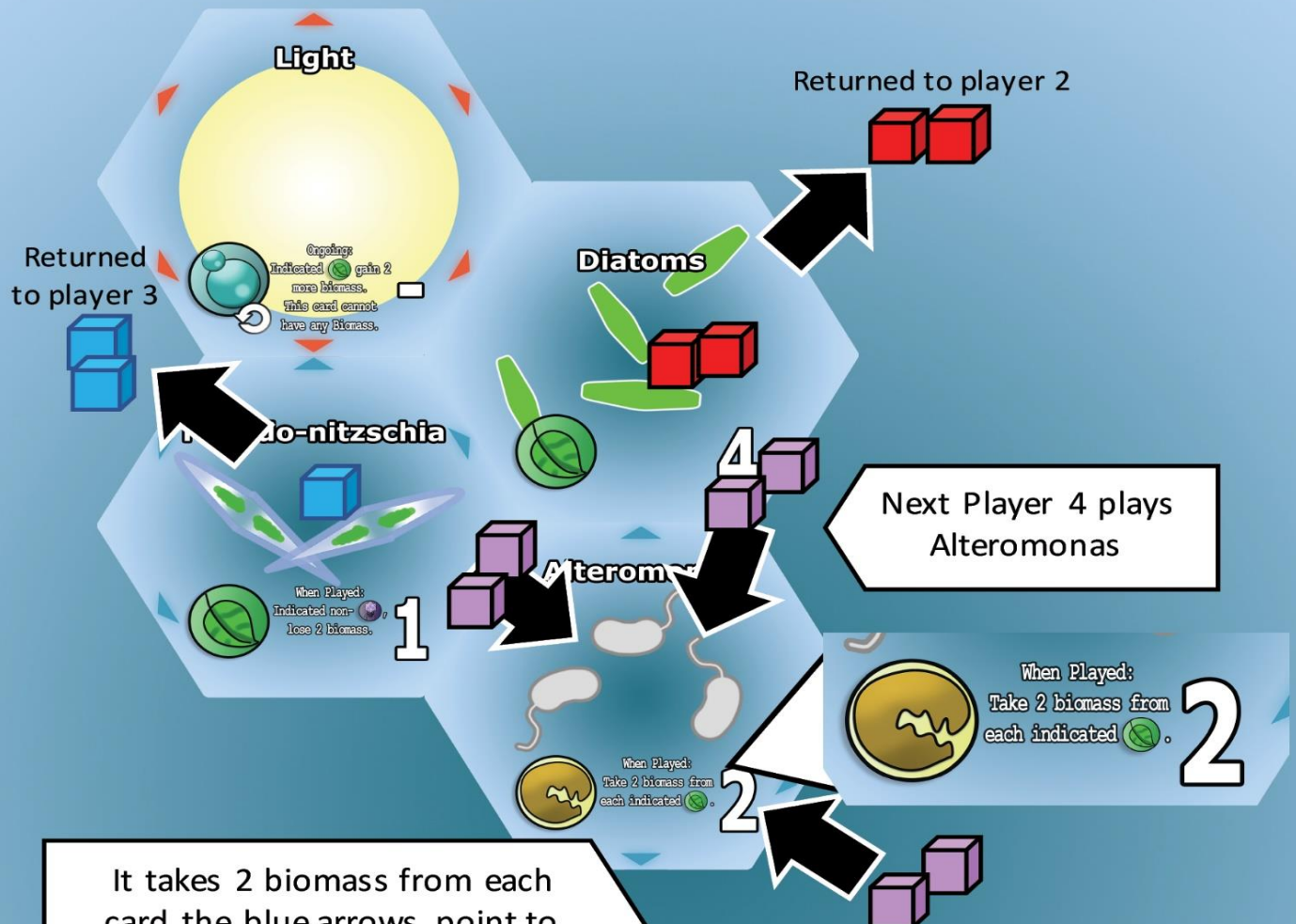




It takes 2 biomass from each card the blue arrows point to. When a card takes biomass, replace the biomass cubes with your color before you move them to your card.

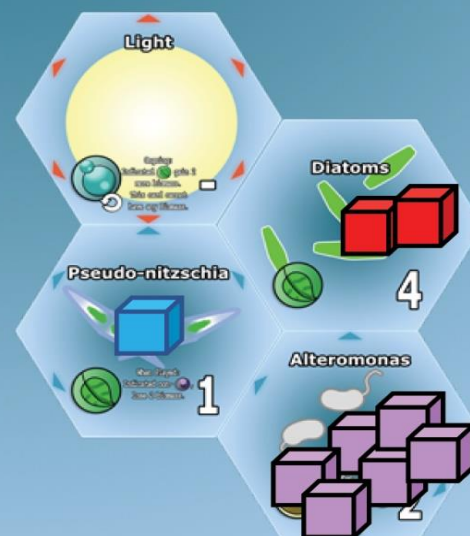
It is now the next players turn!





It takes 2 biomass from each card the blue arrows point to. When a card takes biomass, replace the biomass cubes with your color before you move them to your card.

It is now the next players turn!



Here's what you do on your turn: 10

Check to see if you have 5 or less biomass cubes in front of you, if you do you win!

1. Replace the card you took, either from your hand or the face up card by the deck.
2. Play the card so at least one of it's edges is touching another card that is in play. (Ignore this rule if it is first card to be played).
3. Place cubes on the card equal to it's starting biomass.
4. Blue arrows indicate which adjacent cards are effected by "When Played effects" . These take effect only when the card is first played. When a player takes biomass, they exchange the cube they take with their own
5. Red arrows indicate which adjacent cards are effected by "Ongoing." These take effect anytime and adjacent card it is pointing to gains any biomass. This may result in a chain of ongoing abilities activating.
6. The next player takes their turn.

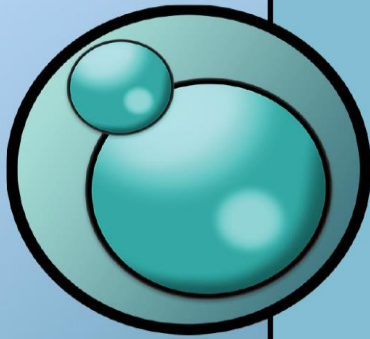
Below are is a variant suggested, especially to teachers:

Begin the game with the Light in the center of the play area and play as normal.

This helps to demonstrate that in the upper ocean light is central to biomass and better demonstrates a trophic cascade of carbon throughout the marine ecosystem.

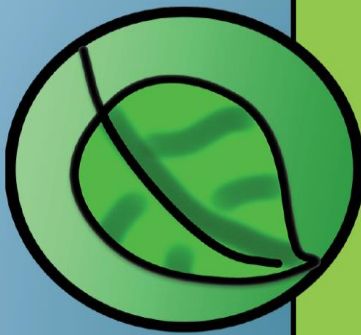
Notes:

While I did the best I could to keep the game as accurate as possible to fact, there are some minor discrepancies in the interactions of certain cards. This was done to allow me to show greater biodiversity than would have been otherwise possible.



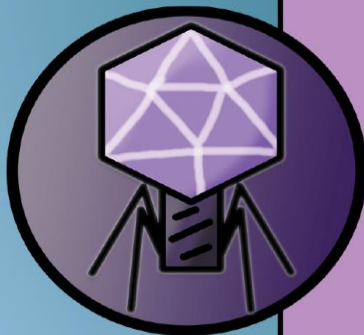
Abiotic

These are chemicals and processes that can be turned into biomass.



Phototrophs

These are organisms that use photosynthesis to turn atmospheric carbon into their biomass.



Viruses

These are non-living entities that use living organisms to make more copies of themselves.



Heterotrophs

These are organisms that get energy by consuming biomass, it can be from debris or other organisms.