Population Shuffle
Directions

Goal

This is a game about predator-prey relationships, and the balance and flux that occurs in ecosystems. Each player represents a species that is part of one team/habitat within an ecosystem. Players are divided into two teams/habitats. The goal is to make sure that you and the other members of your team keep your population sizes from getting too big or too small.

Getting Started

- Before you begin, think about how different levels of an ecosystem are connected and rely upon each other. When populations in an ecosystem are connected, things that affect one population might affect other populations too. Keep this in mind as you play.
- The players are six different species/populations living in the same ecosystem, and they're separated into two teams:

	Carnivores		Herbivores		Primary Producers
1. **Water team/habitat**:	**Herons** →	eat →	**Minnows** →	eat →	**Algae**
2. **Land team/habitat**:	**Hawks** →	eat →	**Mice** →	eat →	**Wheat**

- On each team, there is a **carnivore**, an **herbivore**, and a **primary producer.** The carnivores (**Herons and Hawks**) eat the herbivores (**Minnows and Mice**), and the herbivores eat the primary producers (**Algae and Wheat**).
- The board has 24 squares, labeled from 5 to 120. These numbers represent the "size" of your population. (In real ecosystems, there aren't the same numbers across species. There would be many more wheat than mice, and many more mice than hawks. So the real number for square 25 would be more like 25 x 1000 = 2500 wheat, and 25 x 20 = 500 mice, and 25 x 1= 25 herons.) The board is divided into three zones:
  1. **The "safe population zone":** The **green** middle part of the board, from **25 to 100**. When you are in this area, your population size is stable and the rest of your team can be stable too.
  2. **The "high danger zone":** The **red** top of the board, from **105 to 120.** When your population size goes above 100, your population is in danger of overpopulating and unbalancing the ecosystem.
  3. **The "low danger zone":** The **blue** bottom of the board, from **0 to 20**. When your population size goes below 25, your population is in danger of becoming extinct and unbalancing the ecosystem.
- The goal is for <u>all members of your team</u> to stay in the "safe population zone" for as many turns as possible. As soon as any member of the ecosystem over-populates (above 120) or goes extinct (below 5), their team is <u>out</u>, and the other team wins.

Playing the Game

1. Moving clockwise from the person whose birthday is closest to the winter solstice, December 21st, each player picks a species to be in the game.
2. Each player gets: a game piece; a "population card" with a picture of their organism on it; and a pile of cards with the name of their organism on the back.
3. Identify the other members of your team, and make sure you all understand the relationships between your populations.
4. All players start in the green "safe zone" of the board. Each player picks the number that she or he wants to start on.
5. More than one person can share a number at any time.
6. Make sure the different cards are all shuffled and put in the right spots on the board. Each player's cards should be in front of them. Red "Too high!" and blue "Too low!" cards on the left of the board
7. The person whose birthday is closest to the summer solstice, June 21st, gets to start. After the first person, play goes clockwise.
8. When it's your turn, draw a card from your pile. The cards tell you about things that happen that affect the populations of your team. Follow the directions for your population and the other populations on your team, and then put the card back at the bottom of the pile.
9. If you end up in the **red danger zone**, follow the directions on the game board. Then draw a card from the **red pile** on your next turn. Keep taking cards from the **red pile** on your turns until you return to the green "safe population zone" or get out.
10. If you end up in the **blue danger zone**, follow the directions on the game board. Then draw a card from the **blue pile** on your next turn. Keep taking cards from the **blue pile** on your turns until you return to the green "safe population zone" or get out.

Questions to Think About

1. Where is the “best” place on the board to start so you don't overpopulate or go extinct?
2. Is the “best” place to start different or the same for different populations?
3. Are there “good” or “bad” events in this game? What makes an event “good” or “bad”? What does it depend on? Does it matter what the size of your population is?
4. Do some species stay in the “safe population zone” better than others? Why or why not?