Card Game Instructions

Dear Teachers and other Readers,

Once you've read Sky & Scrub's adventures to your young listeners, you can help them apply their knowledge with a simple, fun game, using the gamecards that come with the story booklet. You, dear Readers, will be the Game Narrator who guides players on a mission to save the alpine ecosystems!

What you need to play the game:

- Three players,
- The gameboard found at the end of the booklet,
- A printer and scissors for printing and cutting out the gamecards at the end of these Instructions.

Background

It's the year 2050 and the Alps are facing various threats and challenges. In the past, people didn't always consider the consequences of their choices for the environment. Now, with climate change underway, the alpine ecosystems are suffering. This means that the ecosystem services that help us live well and thrive are in danger, and so are our alpine communities! You three are a team of ecological experts. Your task is to confront the environmental problems in an alpine valley and improve its ecosystem services. Are you ready for your mission?

Object of the Game

Players must save the alpine landscape from the negative impacts of climate change and overuse of natural resources.

How?

Players choose the best green infrastructure strategies from the cards in their hand to counter the threats that arise during the game, improve alpine ecosystems, and restore the ecosystem services that are critical for our survival.

This is a collaborative game in which players work together to win. Encourage them to cooperate and talk with each other to decide on the best strategy. They may also exchange cards during the game. Alternatively, multiple teams of players may compete against each other. At the end of the game, the team that has improved the most ecosystem services wins.

Game Materials

One gameboard featuring four rectangular outlines, at the end of the story booklet. The rectangles represent different areas (urban, agricultural, etc.) in the alpine valley that are facing challenges and where you will place Problem Cards according to the issue they describe.

Problem Cards (P) (6)

These cards represent negative events that happen in different areas of the gameboard. They may be effects of climate change or the result of overusing natural resources.

Green Infrastructure (GI) Cards (6)

The GI Cards represent possible green infrastructure strategies. Players can use GI Cards to respond to Problem Cards. Every GI Card has two different green infrastructure options to choose from. When playing a GI Card, players state which of the two green infrastructure strategies they are using.

Ecosystem Services (ES) Cards (6)

These cards represent the different ecosystem services that players can connect to the GI Card used to address a Problem Card. Every ES Card has two different ecosystem services, and each ecosystem service has different icons for the possible benefits to choose from. When playing an ES Card, players state which ecosystem service they are choosing to link to the GI Card underneath it.

Setting up the Game

Print the Problem Cards (for a longer game, print two sets). The Game Narrator keeps the Problem Card deck.

Print four copies of the GI Cards for 24 total cards. Keep this deck separate from the others.

Print three copies of the ES Cards for 18 total cards. Keep this deck separate from the others.

Playing the Game

The Game Narrator draws four Problem Cards from the deck. These represent the negative events that are about to occur in the valley. The three Ecologists in each player team will combat these ecological challenges.

Read the problems aloud to the players, then place each Problem Card in the appropriate rectangle area (country/city/river/forest) related to the problem described on the card.

After shuffling the GI and ES decks separately, deal two GI Cards and one ES Card to each player.

Play begins with the player who most recently went for a walk in nature (woods, mountains, a park).

On their turn, each player may play one card, choosing the best card to address the effects of a Problem Card. The first player must play a GI Card, after which the next player can choose to play:

▎ a GI Card that responds to a different Problem Card on the gameboard,

▎ a GI Card that links to an ES Card their teammate has played,

▎ an ES Card on a GI Card that it relates to, or

▎ an ES Card on another ES Card that it depends on.

Note

Since each card has two options, every player must state which half of the card they are playing. To make this clear, they should insert the card they are playing under the Problem Card so that only the side being played shows.

If, at the start of the game, the first player does not have a GI Card that can respond to one of the Problem Cards on the gameboard, they should ask to exchange a GI Card with another player, then proceed to play that card.

Play continues as each player plays one card from their hand, with the goal of resolving all the Problem Cards.

After placing a card on the gameboard, players draw from the GI deck or ES deck to replace the card type played. Players should always have three cards in their hand. If a deck finishes before the game ends, players will have fewer than three cards and play continues until they have no cards left to play and the game ends.

How to beat a Problem Card: Problem Cards can be reversed with a combination of GI and ES Cards. A green infrastructure solution (GI Card) can begin to address the challenge on a Problem Card, but not entirely. One or more ES Cards are needed to overcome the problem.

Only a GI Card can be played first on a Problem Card. Depending on

the GI Card, players can choose which ES Card to add to it. After the first ES Card has been placed, they can choose whether to play another GI Card or an ES card, but they must pay attention to the sequence.

Not all ES Cards can connect to each other. See below for the possible sequences.

If playing with only four Problem Cards, play continues until all possible GI and ES Cards have been played. If playing with all six Problem Cards, play continues until all Problem Cards and all GI and ES cards have been played.

How to Connect Ecosystem Services Cards?

ES Cards may be played:

| on a GI Card that helps promote and sustain it

| on a related ES Card (that was already played on a GI Card)

After playing a GI Card and an ES Card on one Problem Card, you can connect more ES Cards in this order:

| Supporting ES: This type of ecosystem service can be played before and connect directly to all the other types of ES Cards individually or in sequence.

| Regulating ES: This type of ecosystem service can be played after a Supporting ES (or a GI Card) or directly before Provisioning or Cultural ES Cards.

| Provisioning ES: This type of ecosystem service can be played after a Supporting or Regulating ES (or a GI Card). It can be played before a Cultural ES.

| Cultural ES: This type of ecosystem service can be played after a Supporting, Regulating, or Provisioning ES (or after a GI Card).

The Winning Team

If multiple teams are playing, the challenge is on between ecologists!

At the end of the game, the team that has succeeded in implementing the most ecosystem services wins.

An ES Card that is the only card played on a GI Card is worth 1 point. An additional 2 points are awarded if two connected ES Cards were played. If the ecologists were so skilled that they played three ES Cards in sequence, each card is worth 2 points. The team with the most points wins!
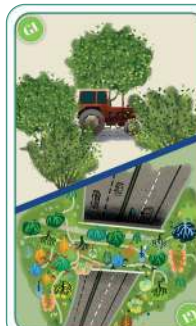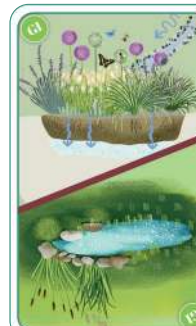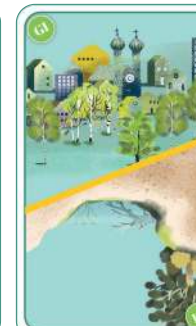
Cards

Ecosystem Services Legend

Regulating ES
> Pollination

Regulating ES
> Soil stabilization and landslide prevention

Regulating ES
> Climate mitigation and climate disaster prevention

Regulating ES
> Clean air

Supporting ES
> Photosynthesis and nutrient cycle

Supporting ES
> Habitats and biodiversity

Cultural ES
> Sports and recreation

Cultural ES
> Cultural and natural heritage, cultural identity

Provisioning ES
> Food and raw materials production

Provisioning ES
>Clean drinking water and energy

ES Cards

GI Cards

Biodiverse balconies	Amphibian tunnels / Underpasses for small animals	Hedgerows, trees, and planted strips between farm fields	Rain gardens	Reclaimed streambeds and canals	Street trees and urban parks
Fish ladders	Pollinator gardens	Wildlife crossings and corridors	Water catchment basins and wetlands	Depaving and native plants	Re-naturalized rivers

Problem Cards

More frequent and intense summer heat waves greatly reduce people's health and well-being.

More extreme, sudden rainstorms increase flash flooding in cities and near rivers.

Longer and hotter summers cause water shortages in rural areas and put agriculture at risk.

New roads fragment forests, endangering hoofed animals and pollinators attempting to cross them.

Overuse of intensive agricultural methods makes the soil dry and infertile.

Channelizing rivers to build railroads harms fish populations and makes rivers more dangerous during storms.