

# ***ON YOUR PLATE – BIODIVERSITY***

**A game about  
everyday lunch  
choices**

## **Book of Rules**



**UNIVERSITY  
OF TURKU**



**Euroopan unionin  
osarahoittama**



**ETELÄ-POHJANMAAN LIITTO**

Regional Council of South Ostrobothnia



**There are eight billion  
people on this globe, and  
every one of us needs to  
eat every day.**

**The future of the world  
depends on your food  
choices.**





# GAME SETUP (1/2)

**Important:**

**Read the rules only after the game has been set up**

## 1. OBJECTIVE OF THE GAME

Design a lunch you would eat or serve every day for the next year. Choose your lunch realistically, not idealistically. The meal should be both tasty and nutritious.

## 2. GAME SETUP

Group the food cards by color. You will return to the cards later.

Each player needs:

- a menu
- individual player board
- 400 marks of game money

Place all players' boards next to each other.

The shared board represents the planet we all share – that is, the planetary boundaries.

## 3. STARTING THE GAME – ASSEMBLING THE LUNCH

Players must:

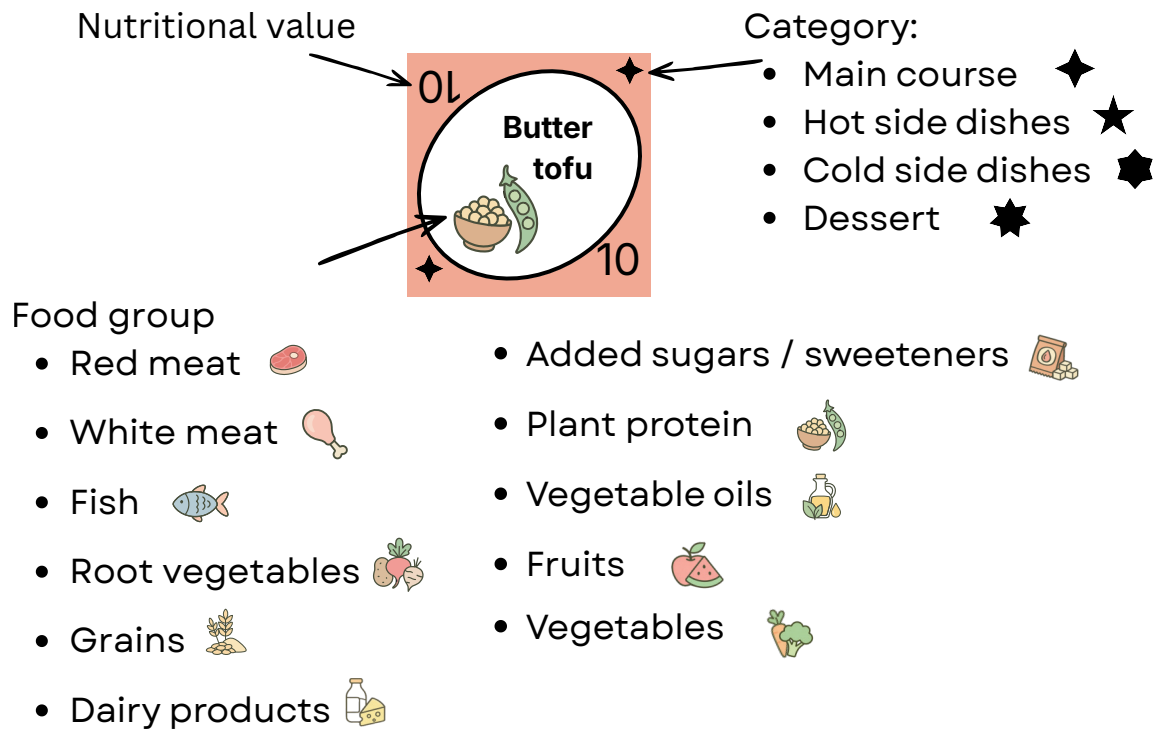
- Compose a lunch that appeals to them from the menu provided.
- Collect the corresponding food cards from the selected color deck.
- Place the food cards on their player board.  
Place all cards that fit onto the player board.  
If a card does not fit on the board, place it next to the board.  
Cards that exceed the board indicate that planetary boundaries have been exceeded.

Once everyone has placed their cards on the board, the game begins.

**Now you can continue reading!**



# GAME SETUP (2/2)



One player board per player.  
Add one more for each additional player.







# RULES (1/3)

## PLAYER ACTIONS DURING THE GAME

- To free space, you may remove one of your selected food cards from the player board. You can do this only once during the entire game.
- You may sell food cards to other players. The price is freely agreed upon between the players involved in the trade.
- You may exchange food cards with other players. The terms are agreed between you.
- You may buy food cards from the Green Food Bank.

Notes about Green Food Bank purchases:

- You may combine your money with other players.
- A purchased card belongs to only one player and replaces one card on the player board.
- The replaced card is removed from the game.

At the end of the game, the lunch may be completely different from the original lunch, which included

1 main course, 1 hot side dish, 4 cold side dishes, and 2 desserts.

At the end of the game, a player whose lunch includes items from all categories receives 4 bonus points.

There may be more than one card from the same category.

## SURVIVAL RULES

### Planetary boundaries

If the total area of all players' food exceeds the planetary boundaries on the shared board, the game ends in a deadlock. There are no winners. Exceeding the planet's limits affects everyone.

Your personal footprint may be larger than a single player board. It does not matter whether a player's food exceeds or stays within their individual board. Only the combined total area matters.

### Nutritional limits

- Each player must have at least 30 nutrition points.
- If a player has fewer than 30 points, their meal does not meet the nutritional requirements, and the player is disqualified.
- If any player falls below the nutritional threshold, the game ends for everyone.
- If a player is at risk of falling below the nutritional limit, they must inform the other players.





# RULES (2/3)

## SCAVENGING

Cards removed from the player board can be brought back into play through scavenging.

Any player may take a card discarded by another player.

Scavenged cards take up only half of their original space, but they must still fit within the planetary boundaries.

Otherwise, scavenging is not limited, and the scavenger receives all the points.

A card can only be taken and placed on the board if it fits within the boundaries of the shared board.

## DETERMINING THE WINNER

A winner is determined only if:

- The boundaries of the shared board are not exceeded.
- No player has fewer than 30 nutrition points.

If these conditions are met:

- The winner is the player with the highest number of nutrition points.
- In case of a tie, the player with the smaller total card area wins.

## IMPORTANT

This game is, above all, about discussion.

What matters is:

- how you justify your food choices,
- how you negotiate with others,
- how you respond to the needs of other players,
- what you are willing to give up,
- what you are not willing to change your mind about.

## ABOUT THE RULES

If a situation arises during the game that is not explicitly covered by the rules, the players should agree together on how to proceed.

The goal is not to exploit the game mechanics, but to better understand one's own behavior.





# POST-GAME DISCUSSION





# QUESTIONS TO SUPPORT DISCUSSION

Use these questions for discussion after the game. Choose any number of questions based on how much time you have available for reflection.

## 1. Strategy and motivation

- What was my primary goal: to win quickly / to take care of the planet / to keep other players satisfied / to avoid conflict?
- What was my motivation to win the game?
- Did my strategy change during the game? What caused the change?

## 2. Group dynamics and communication

- Did I try to persuade others or to build a solution together?
- Was I willing to change my mind?
- How actively did I participate in the discussion compared to others? Did I take space, give space, or regulate my participation?
- Did we truly understand each other's needs and desires?

## 3. Compromises and trade-offs

- How did I handle compromises when my favorite food put the whole planet at risk?
- How did we decide what to give up first?
- Which jointly made change felt good and right?

## 4. Emotions and values

- How did it feel when the game required accepting outcomes where someone's wants were not met?
- Did the game evoke frustration, guilt, irritation, competitiveness, or relief?
- What felt unfair – and why?

## 5. Gameplay situations

- What was the most challenging food item to keep within the limits?
- Was there a bottleneck in the game (meat, dairy, dessert, drinks, side dishes)?
- Would I serve the final meal(s) in a real large-scale catering setting?
- Would I eat them myself? If not, what would I change first?

## 6. Insights and next steps

- If I played again, what would be the first move I would do differently?
- What was the biggest surprise?
- What was easy? What was difficult?





# WHY THIS GAME EXISTS

“The game ”On Your Plate - Biodiversity” is a practical tool for developing food choices and food services in a more sustainable direction.

Food is an unavoidable part of life for everyone. It is part of daily routines, comfort, culture, and care. However, food does not appear out of nowhere—it is shaped by a complex system: farms, fishing, processing, transport, kitchens, and the choices made at scale.

This system matters more than many realize. It sits at the intersection of food security, human health, environmental sustainability, social justice, and societal resilience. In other words, food is not just one sustainability topic among many. Food is essential.

To improve sustainability, our food system needs to evolve. To do this fairly, we must learn to understand each other’s concerns and preferences in a changing world.

## **What needs to be considered for food to be sustainable?**

Our entire food production system relies on services provided by nature, such as pollinators and the circulation of clean water. Building a sustainable food system therefore requires a holistic approach. In addition to climate change, we must also consider biodiversity, clean water, soil health, and nutrient cycles.

Across all of these areas, we are currently operating unsustainably, exceeding planetary boundaries. Beyond physical limits, it is also important to consider equity and the right to nutritious food. Our food choices should not contribute to food scarcity elsewhere. When we talk about biodiversity-respectful food, we are referring to all of these principles that support life.

The most challenging aspect of sustainability is that everything is interconnected. Food decisions are never about just one thing. When you change a recipe, you also affect nutrition, costs, and kitchen workload.

Transforming the food system is not a task for individuals alone. The EAT–Lancet Commission emphasizes that climate, biodiversity, health, and equity crises are interconnected—and that transforming the food system is a key way to address them together, rather than as separate issues. <sup>[1,2]</sup>

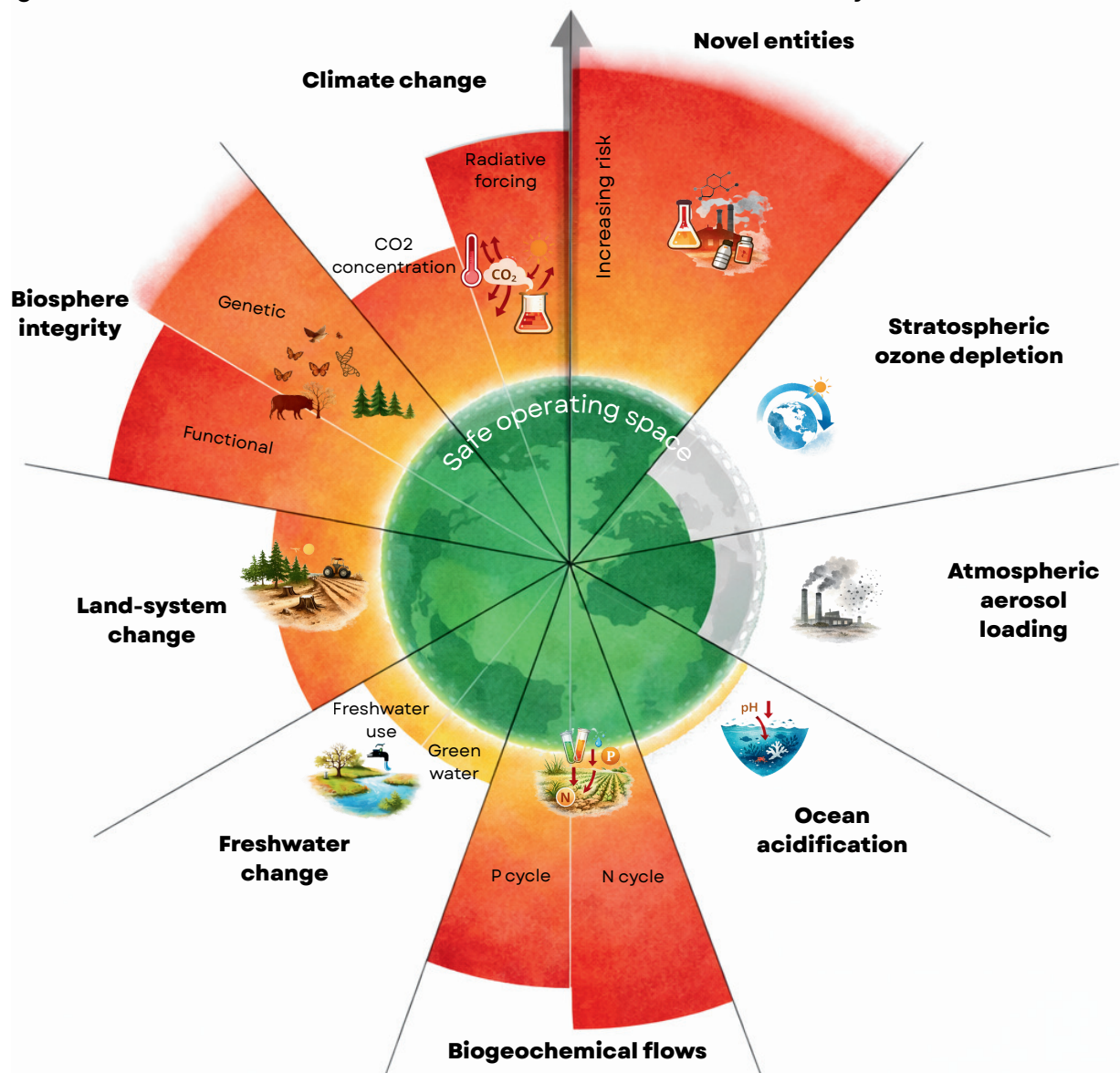
# WHY THIS GAME EXISTS

## The importance of planetary boundaries

A good food system nourishes all of humanity without exceeding planetary boundaries. A poor food system undermines its own foundations by threatening the very systems it depends on.

The EAT-Lancet Commission is an international panel of experts whose work is grounded in the concept of planetary boundaries. The planetary diet they developed places essential food production within the limits of the Earth's carrying capacity. Since food production is the single largest driver threatening the planet's habitability, it must change if we are to remain within a safe operating space.

The figure below shows how seven of these boundaries have already been exceeded.<sup>[1,2]</sup>



The goal is not to be perfect. The goal is to develop solutions that work well enough

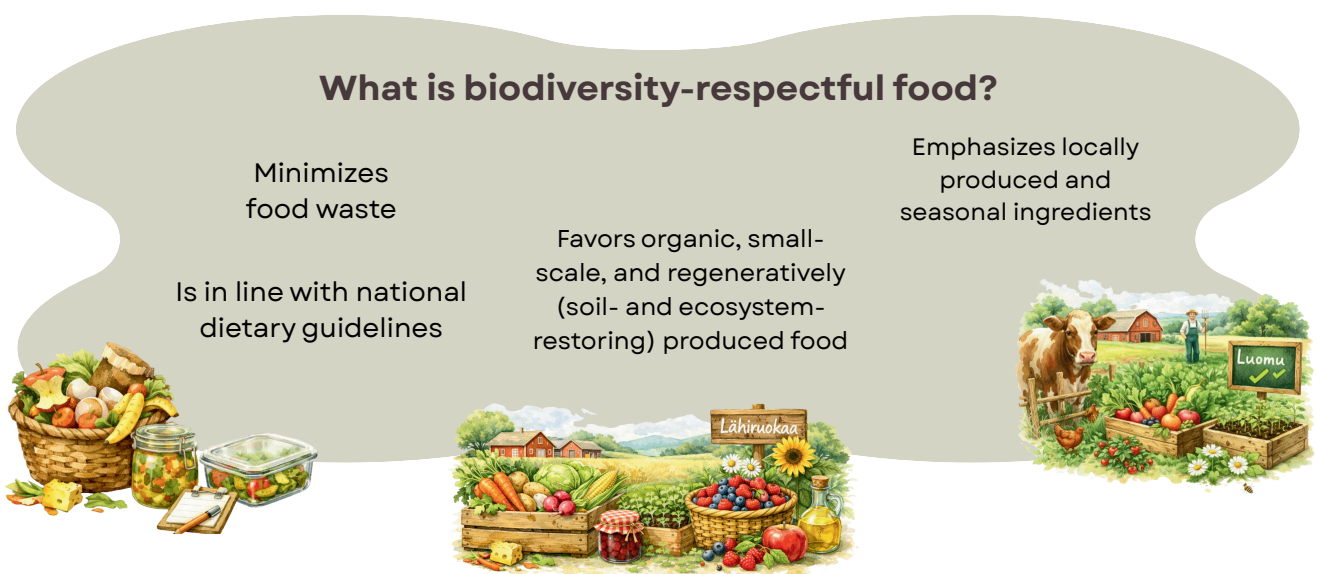
1. The EAT-Lancet Commission on healthy, sustainable, and just food systems Rockström, Johan et al. The Lancet, Volume 406, Issue 10512, 1625 - 1700 [https://doi.org/10.1016/S0140-6736\(25\)01201-2](https://doi.org/10.1016/S0140-6736(25)01201-2)  
2. <https://www.stockholmresilience.org/research/planetary-boundaries.html>



The purpose of this game is to make complex problems easier to address—and, above all, easier to discuss. To find workable solutions, we need to be able to talk about them together. Only then can we identify ways to address key challenges.

### **If we start acting now to support a more sustainable food system:**

- We can reduce pressure on ecosystems.
- We can improve the food system's ability to withstand change and strengthen its resilience.
- We can enhance the predictability and adaptability of professional kitchens in changing conditions.



### **If we do not act:**

- The food system will remain vulnerable to increasing risks and instability.
- Food availability and prices may become even less predictable.
- Professional kitchens may face growing challenges related to the availability, cost, and quality of raw materials.

### **What does biodiversity-respectful business mean in food services?**

A biodiversity-friendly kitchen or business is one that:

- makes procurement choices that reduce pressure on ecosystems
- supports production that maintains habitats and soil health
- avoids, whenever possible, cheap but destructive sourcing pathways

It also builds menus that are:

- nutritionally balanced
- operationally realistic
- appealing enough that people actually choose them.

# WHY THIS GAME EXISTS

## Nutrition points

The nutrition points used in the game are based on the Nutri-Score classification system, which was developed to represent the nutritional quality of foods. The system presents a food's nutritional profile using a five-level color scale and letters A–E, where A indicates the most nutritionally favorable and E the least favorable composition.

In Nutri-Score calculations, the nutritional content of a food is assessed per 100 g or 100 ml, taking into account both unfavorable factors (energy, sugars, saturated fats, and salt) and favorable factors (fiber, protein, and the proportion of fruits, vegetables, legumes, and nuts). <sup>[3]</sup>

For the purposes of this game, Nutri-Score results have been converted into simplified nutrition points, where more nutritionally favorable foods receive higher scores.

## Nature footprint

The nature footprint describes the impact of a food item on biodiversity. It is typically assessed using Life Cycle Assessment (LCA) methods, which examine environmental impacts across the entire production chain—from farm to consumer. This includes the effects of agriculture, transport, processing, and end use on terrestrial, marine, and freshwater ecosystems. <sup>[4]</sup>

The nature footprint values used in the game are based on calculations from a research project funded by the Maj and Tor Nessling Foundation, conducted in collaboration with a research group at LUT University.

These calculations allow for comparison of the relative impacts of different foods and ingredients on biodiversity.

## Use of points in the game

In the game, nutrition points and the nature footprint are considered together. This highlights the combined impact of nutritional quality and environmental effects, both of which must be taken into account when planning meals.

The scoring system is designed to support discussion, learning, and reflection on how food choices affect both human health and biodiversity.

3. <https://www.santepubliquefrance.fr/en/nutri-score>

4. [https://green-forum.ec.europa.eu/green-business/environmental-footprint-methods/life-cycle-assessment-ef-methods\\_en](https://green-forum.ec.europa.eu/green-business/environmental-footprint-methods/life-cycle-assessment-ef-methods_en)



# HOW THE GAME WORKS



## Boundaries + nutrition: why does the game use limits?

The game is based on the idea that food choices should operate within two types of limits: environmental boundaries and nutritional requirements.

In real life, these limits are not clear or simple. The game uses simplified values because food systems are complex. To make the game work, the rules need to be understandable and comparable.

The game does not aim to model reality perfectly. Instead, it creates a controlled setting where players can practice making compromises and negotiating.

## This game is NOT:

- A test of who is a good person.
- A requirement to eliminate any specific food group.
- A list of “correct” choices.

## This game IS:

- A tool for discussion.
- A teamwork exercise.
- A structured way to explore difficult choices.

## What you do during the game

You build meals under multiple simultaneous constraints:

- nutritional goals
- planetary boundaries
- impacts on biodiversity
- the practical need to keep the meal appealing

Players must decide together what to keep, what to change, and what to give up.

## Why is gamification used?

The game uses simplified visual rules (sizes, boundaries, points) because the goal is not to produce a perfect calculation, but to make visible:

- hidden impacts,
- conflicting priorities,
- real decision-making patterns.



# TOOLS FOR CHANGE (SCAMPER + LOTUS)

This game is not meant to end with players simply stating, “we should act like this.” The goal is to find practical ways to develop one’s own actions in a more sustainable direction.

Use SCAMPER when you need quick, feasible changes that still keep meals appealing.

Use LOTUS when progress stalls or when ideas start to become too scattered.

Key theme: “Create meals that support biodiversity” → expand into practical perspectives.

## EASY STEPS

Choose one small change you could test next week:

- replace one ingredient,
- redesign one recipe,
- make one improvement in procurement,
- make one change in communication.

## Additional materials



Define success in practical terms:

- customer satisfaction,
- costs,
- kitchen workload,
- waste,
- nutrition.

Small changes that stick are better than perfect plans that never get started.





The “On your Plate - Biodiversity” game enables actors across the food system - students, professional kitchens, product developers, and food service experts – to explore together how everyday food choices and recipe decisions affect the biodiversity footprint of our food. At the same time, the game develops skills in making compromises, setting priorities, and collaborative decision-making within a complex food system.

The game was developed as part of the LUKAKER project, which explores ways to reduce the nature footprint of the food system and to support biodiversity through practical solutions in the food chain. The material is intended as a tool for teaching, training, and professional development.

The LUKAKER project is funded by the European Regional Development Fund (ERDF). Project partners include Atria Suomi Oy, Juvenes Oy, and IntoSeinäjäjoki Oy.

The game was developed in collaboration with the BIODIFUL project and alongside a research project funded by the Maj and Tor Nessling Foundation, in cooperation with a research group at LUT University. More information about the research can be found at [www.BIODIFUL.fi](http://www.BIODIFUL.fi) and <https://biodiful.fi/lukaker/>.

Working group:

Anu Hopia

Saska Tuomasjukka

Aino Tarkkio

Julia Talvitie

Marta Stachnik



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OF TURKU



Euroopan unionin  
osarahoittama



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