



The Green Playground Tool-kit

Youth workers as architects of
eco-game experiences



What is the Green Playground?

The Green Playground was an Erasmus+ co-funded training course on **game-based learning for climate change, sustainability, and environmental action**. It was held from 16 to 22 June 2026 at La Masia La Morera, El Brull, Spain.

By combining gamification with non-formal education, the project equipped youth workers to become **Game Masters, facilitators, storytellers, and change-makers** who created engaging learning experiences.

Through games, participants explored environmental challenges, imagined **possible sustainable futures**, and were inspired to take **positive environmental action**.



What will you find in this tool-kit?



The **foundations of game-based learning**, including the differences between play, games, and gamification, as well as the main game elements that make learning engaging.

Player types and motivations, helping you design activities that engage different participants and learning styles.

Reflection on the present to imagine possible futures, exploring how games can help participants understand today's environmental challenges while envisioning hopeful, sustainable, and achievable futures.

Games and educational tools tested during the training course.

A **selection of environmental board games** and complementary activities that connect gameplay with real-world action.

Game or play?

Rules create the game's structure by defining what players can and cannot do. They can be fixed or modified to create different experiences.

- **Game** has a structure: goals, beginning: end.
- The outcome different than the starting point.
- Formula:

Players → Artificial conflict (Rules) → Outcome.

- **Play** is a free movement within a more rigid structure.
- **Play** exists with and without structures.

PLAY



We don't stop playing because we grow old; we grow old because we stop playing.

George Bernard Shaw

So what about gamification?

“Making activities more interesting through game elements. Application of game design principles in non-gaming contexts”

Gamification is the use of game-like elements in non-game activities to make them more engaging and enjoyable. It involves applying game design features (components).

**The Green
Playground:**

**Why use
Gamification
for
environmental
action?**



Why gamification?

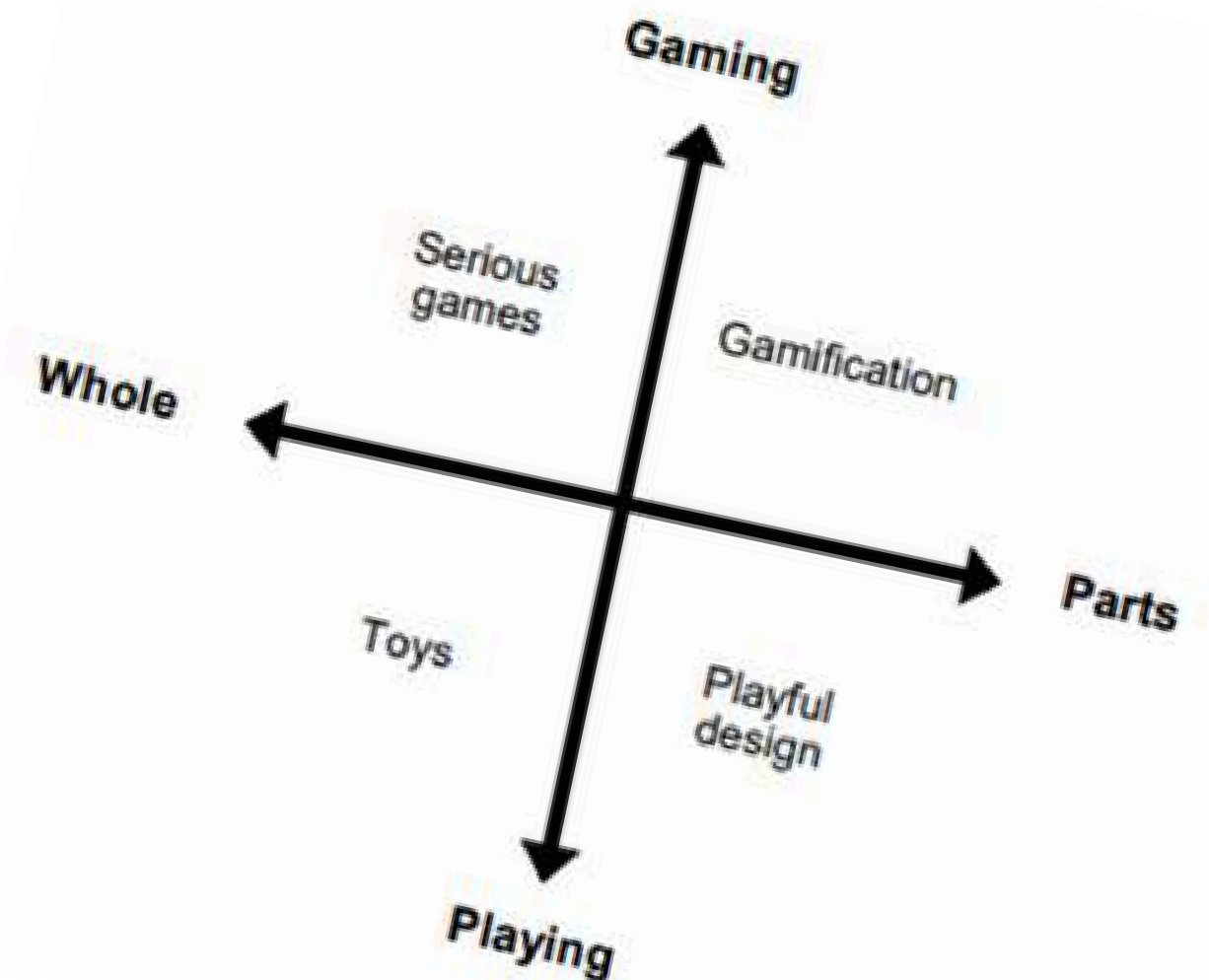
Gamification increases **motivation, engagement**, and active participation in environmental learning.

Game elements help learners feel more involved and encouraged to complete tasks.

Boosts engagement by appealing to people's natural desire for **achievement, recognition, and competition**.

Clear goals and feedback. Gamification gives learners **structured objectives**

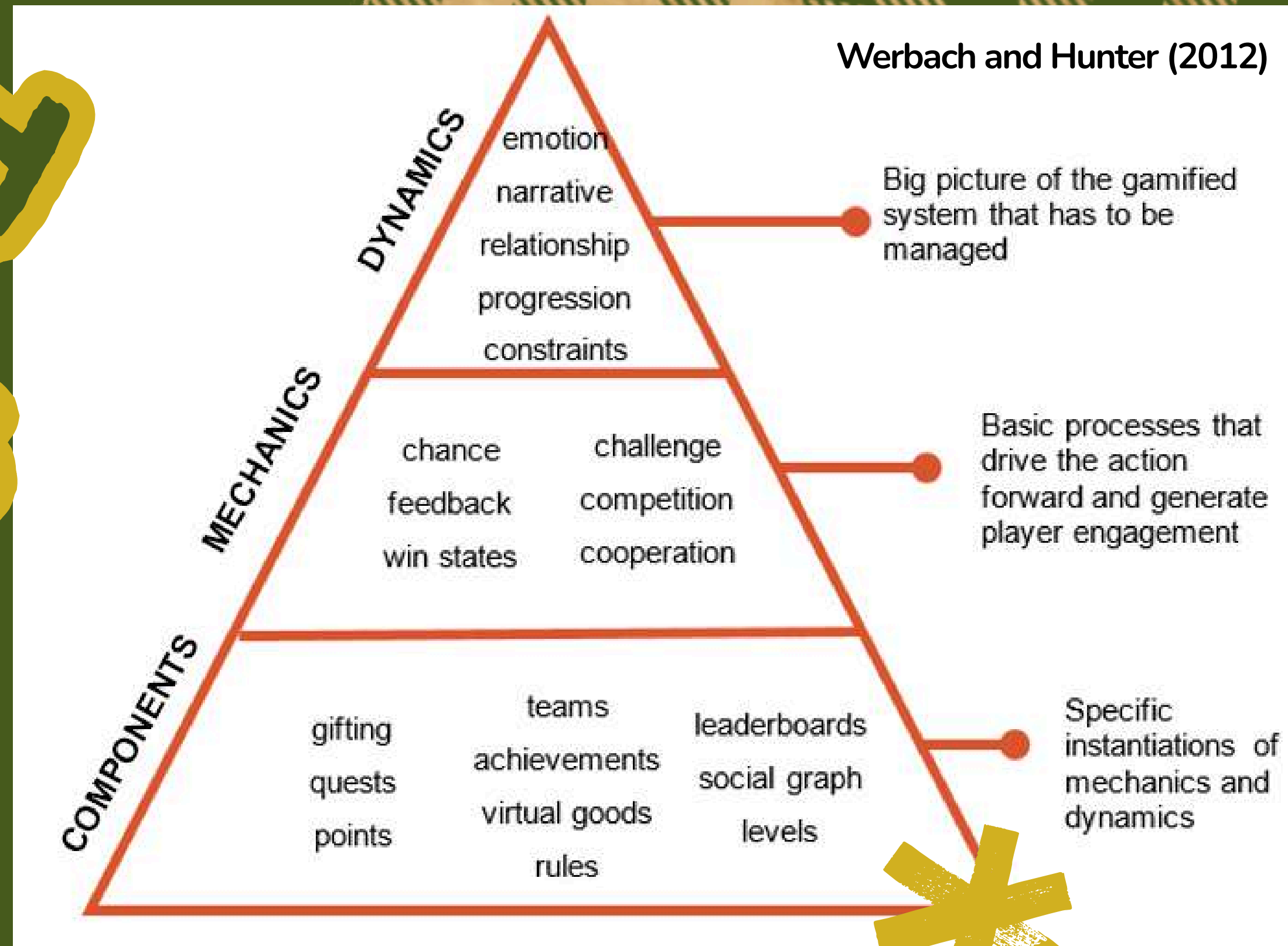
Makes learning more **enjoyable and fun** (abstract topics)



Hierarchy of Game Elements

Game design is built on different layers that work together to create the player experience.

Each layer influences the next, from the smallest design elements to the overall experience.



Game Components

* **Quests**

Little tasks that have to accomplish within the game

Quests provide clear goals, highlight the consequences of a goal and emphasize the importance of a player's action within a given situation

* **Points**

Participants earn points for completing tasks or demonstrating desired behaviors.

Immediate feedback, achievement, progress tracking.

* **Badges**

Visual rewards for accomplishing milestones or developing skills.

Recognition, status, competence, goal achievement.

* **Levels**

Participants progress through increasingly challenging stages.

Sense of growth, mastery, and long-term engagement,

* **Progress Bars**

Visual indicators showing how close a participant is to completing a task or program.

Goal orientation and persistence.



* Performance Graphs

Visual feedback showing progress compared to previous performances.

Encourages self-improvement, mastery, and personal achievement.

* Leaderboards

Ranking of players based on performance or success.

Creates competition, recognition, achievement, and can promote teamwork when team-based.

* Meaningful Stories

Narratives that provide context and purpose to activities.

Increases engagement, autonomy, emotional connection, and relevance.

* Avatars

Personalized visual representations of participants.

Supports identity, autonomy, ownership, and emotional attachment.

* Unlockable Content

New activities, tools, stories, or privileges become available after progress.

Curiosity, exploration, anticipation.

* Rewards

Virtual or real incentives given after completing activities.

Reinforcement of desired behaviors.

* Game Components

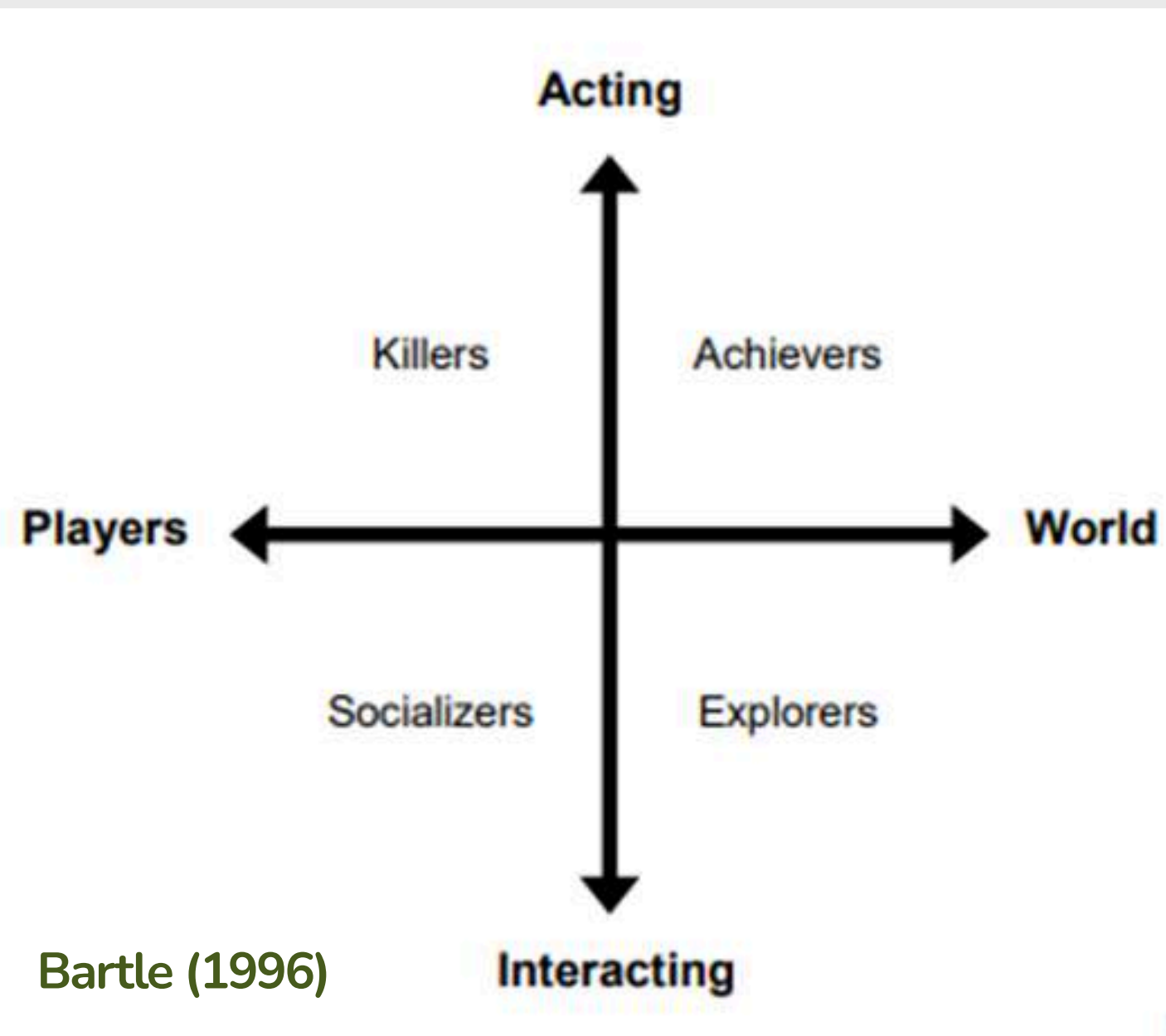


TYPES OF PLAYERS

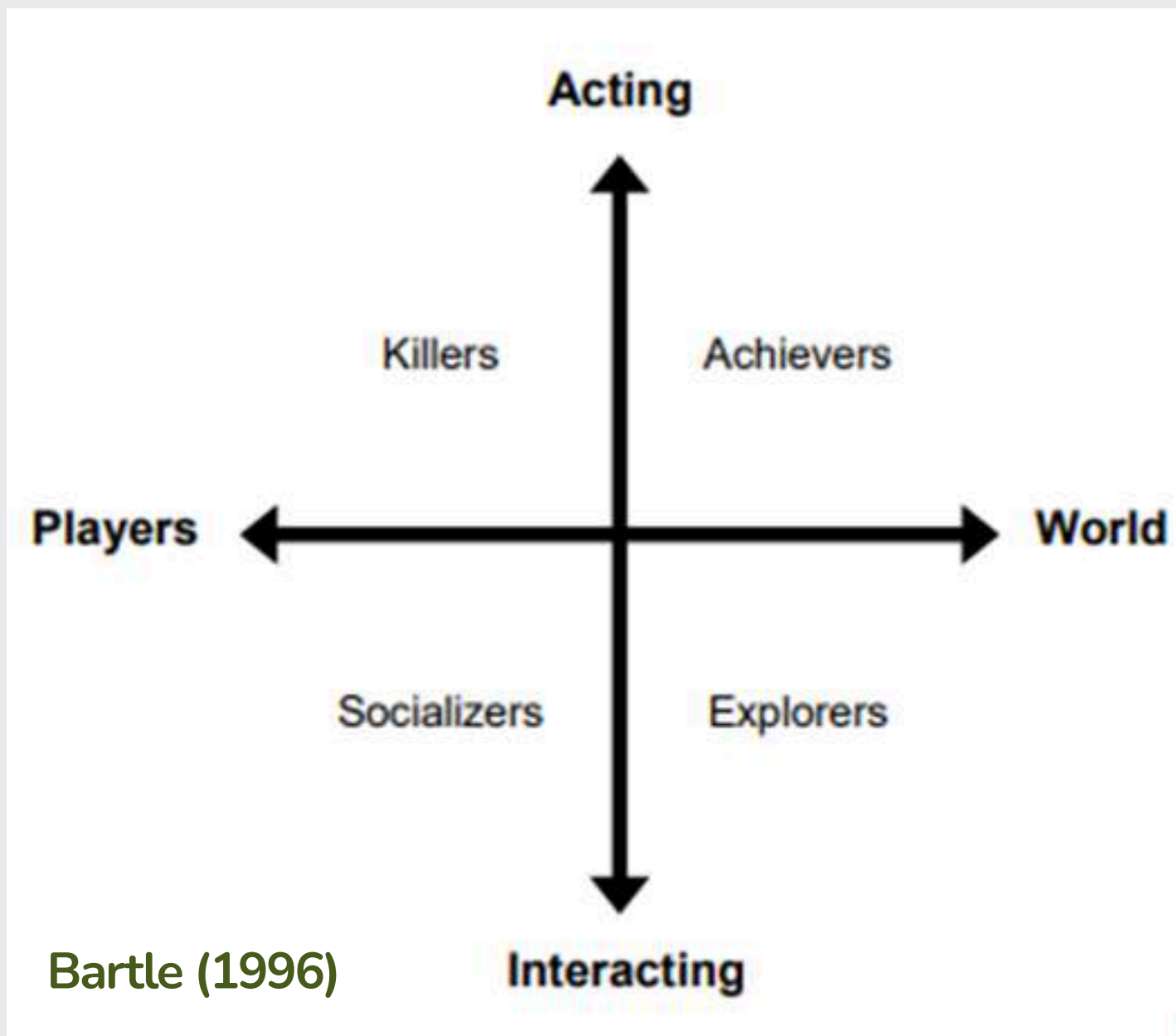
Understanding of the **target audience** help us to satisfy everyone's needs, despite their different **psychosocial characteristics**.

Schell (2008), one of today's leading Game Designers, suggests **five questions** when designing a gamified system:

- In general, what do they like?
- What don't they like? Why?
- What do they expect to find in a game?
- If I were in their shoes, what would I want to find in a game?
- What will they like and dislike about my game?



TYPES OF PLAYERS



- **Players VS. World:**

This variable defines the users' relationship with their peers and with the game itself.

Socializers or killers seek to interact with other users, Explorers and achievers prefer to interact with the system.

- **Interaction VS. Action:**

This variable indicates how users act.

Killers and achievers want to act directly on some element or user.
Socializers and explorers prefer mutual interaction.

Types of Players



Types of Players

These percentages come from Bartle's observations of MUD (Multi-User Dungeon) players and are not universal.

They should be interpreted as illustrative rather than representative of all games or gamified systems.

Bartle's Player Type



Kumar and Herger, 2013)

Bartle's (1996) observed in MUD-type games

Types of Players

Jo Kim translated traditional player types into verbs, emphasizing what players do rather than who they are.

This approach is especially useful in gamification, where users often display multiple behaviors instead of fitting into a single category.



Jo Kim (2012)

Types of Players

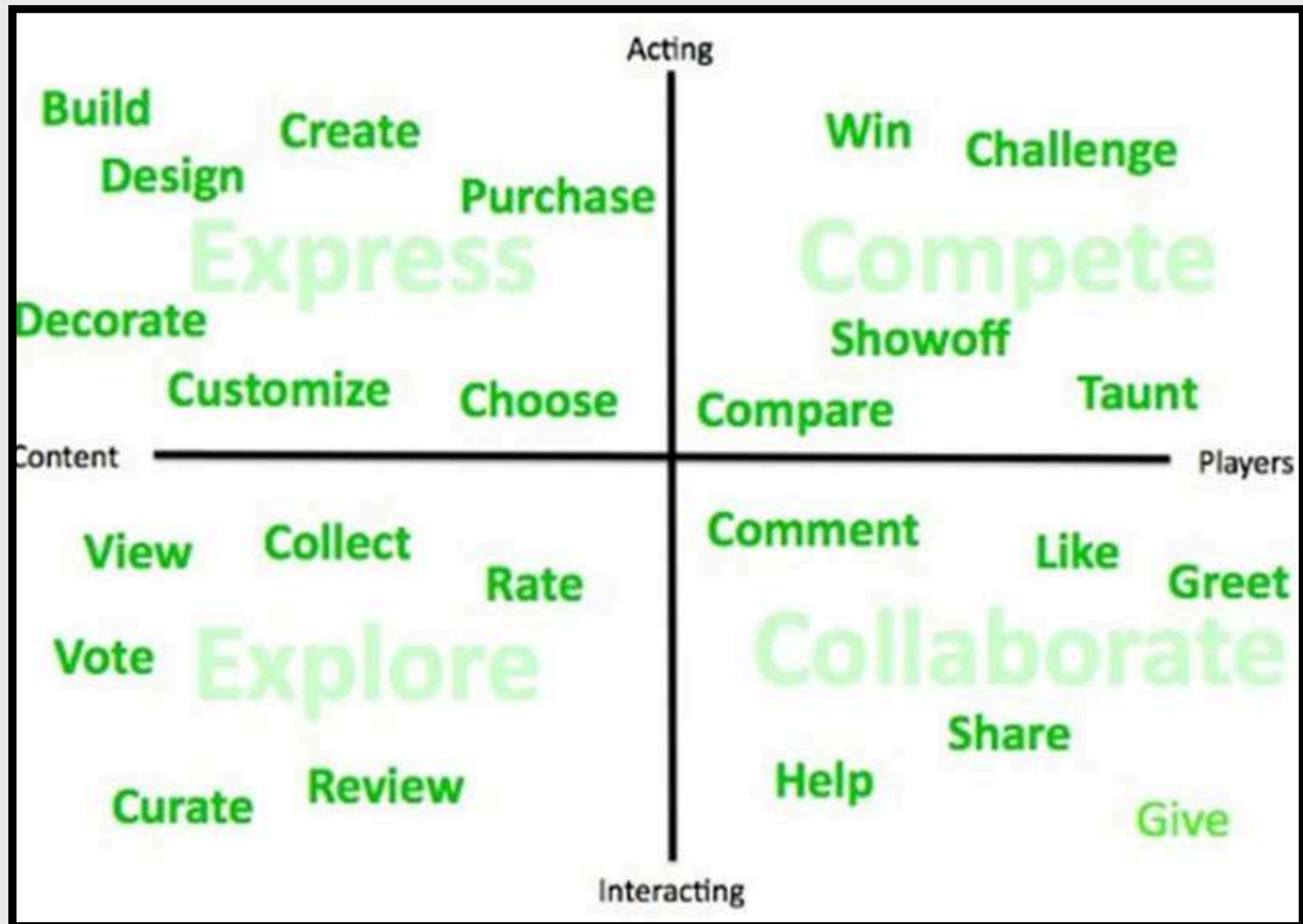
Jo Kim's model focuses on player behaviors. A single person may compete in one activity, collaborate in another, and explore or express themselves depending on the experience.



Jo Kim (2012)

- **Express (Achiever):** Developing skills and showing their creativity and
Include features like group chats, social networks, comments, ratings, and likes.
- **Compete (Killer):** Enjoy competition and winning against others. Competition is not equally appealing to everyone.
Motivated by time limits, rankings, points, and badges.
- **Collaborate (Socializer):** Prefer working with others and being part of a larger purpose.
Enjoy teamwork and roles in group activities or projects.
- **Explore (Explorer):** Motivated by discovery, knowledge, and information.
Value narrative and meaningful content, enjoy exploring systems, tools, people, and environments.

Types of Players

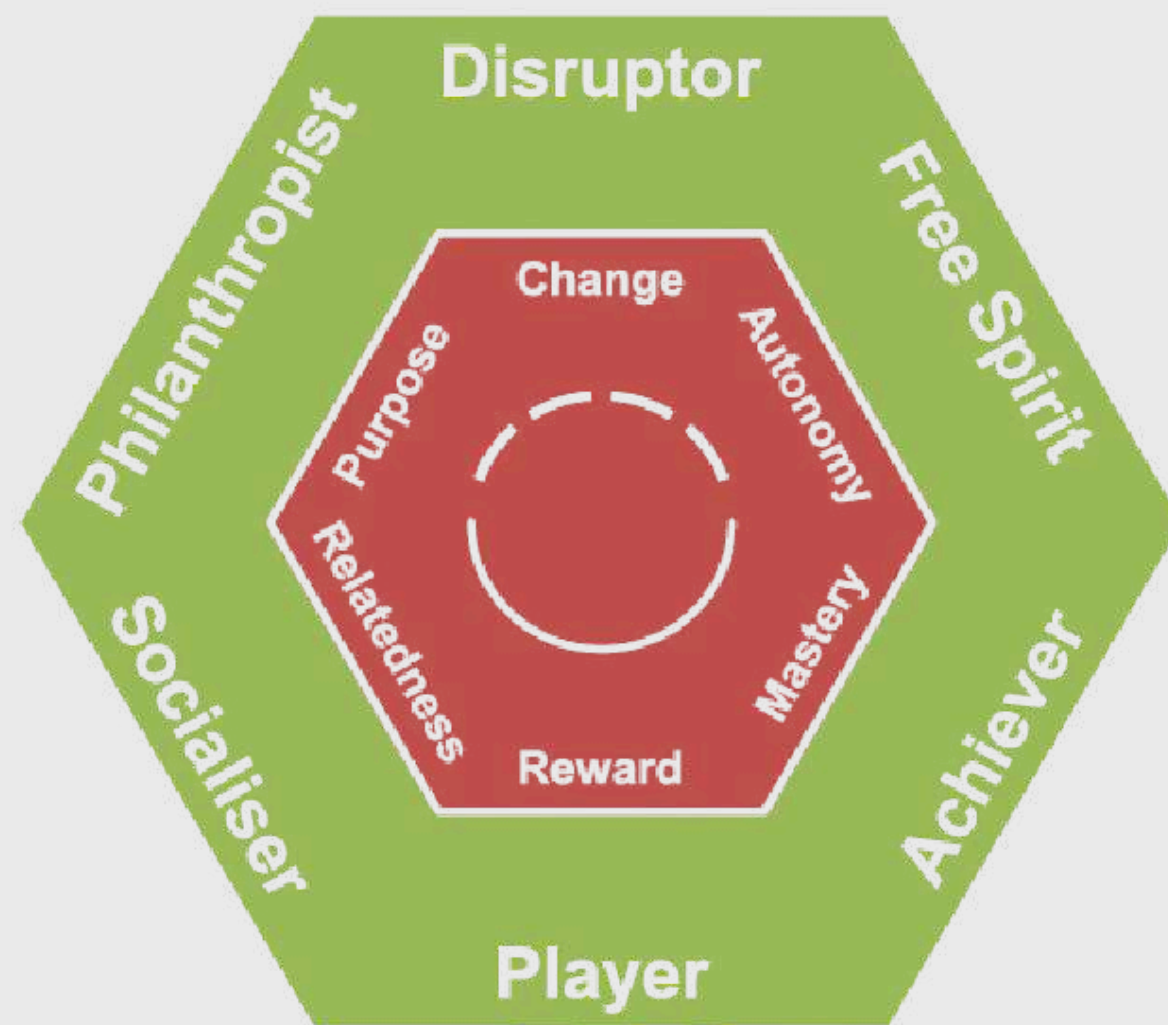


The verbs represent broad player motivations, while the actions are the concrete behaviors that gamification systems can encourage.

Designing activities around these actions increases engagement by appealing to different user motivations.

Types of Players

Marczewski (2013) introduce six user types specifically for gamification. This framework emphasizes what motivates people to participate. Understanding these motivations helps designers create experiences that engage different types of users.



- **Socializers:** motivated by **connection and affinity**. They enjoy interacting with others and building social relationships.
- **Free Spirits:** motivated by **autonomy**. They like to create, explore, and act freely.
- **Achievers:** motivated by **mastery**. They aim to learn new skills, improve continuously, complete challenges, and fully master systems.
- **Philanthropists:** motivated by **purpose**. They are altruistic and want to help and enrich others without expecting rewards.
- **Players:** motivated by **rewards**. They act mainly to gain recognition and system-based rewards for their own benefit.
- **Disruptors:** motivated by **change**. They try to challenge or disturb systems, directly or indirectly, to force change, which can be positive or negative.



**DRAW THE FUTURE
YOU DESIRE**

**Let's do an
exercice...**

**DRAW THE FUTURE
YOU SEE**

**Is there any
difference?**





The crisis of the future



We can easily imagine:

- * Climate collapse
Biodiversity loss
Resources scarcity
Social conflict caused by enviromental crisis

But we often struggle to imagine:

- * A post-fossil-fuel society.
New economic models beyond endless growth.
More equitable forms of consumption and production.
Communities organized around cooperation rather than competition.
New ways of living well with fewer resources.

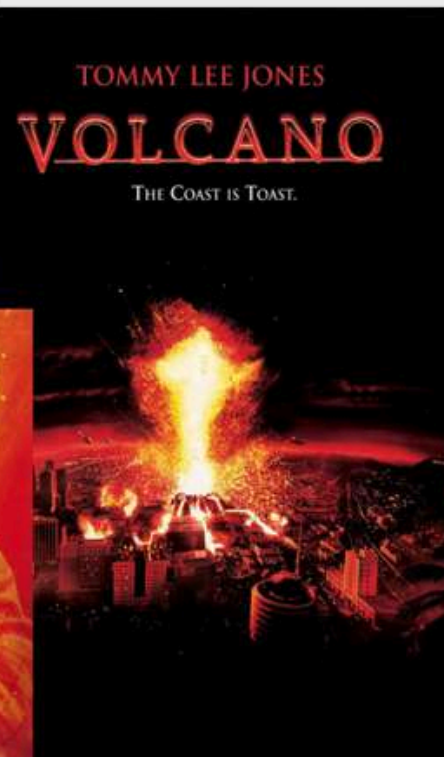
Imagine the future

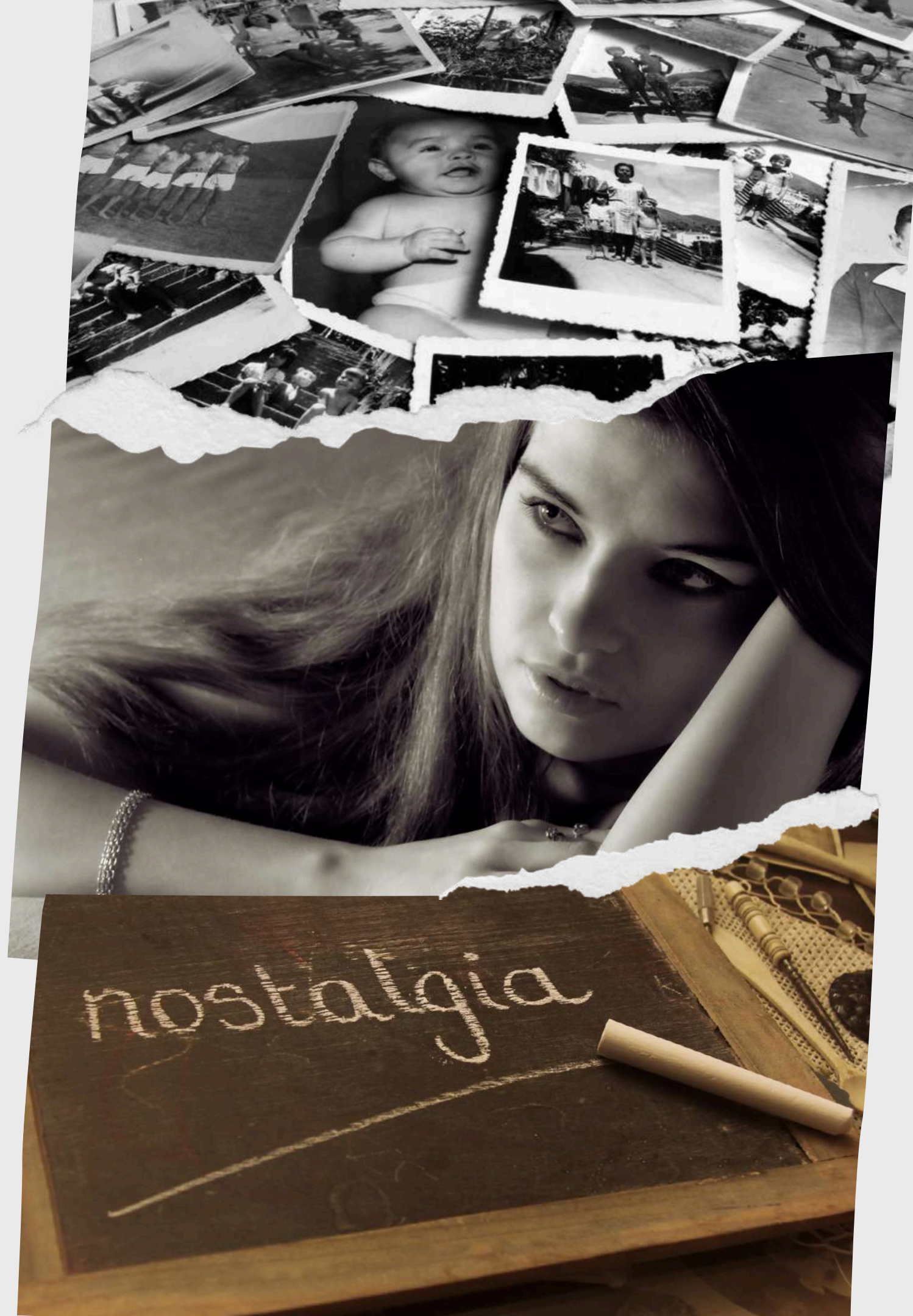
“We cannot build a future that we cannot imagine.” David Hicks



- The way we imagine the future is strongly influenced by the stories, media, and cultural products we consume.
- Dystopian culture reflects reality, but it also helps create it.
- If the future worse than the present, the present begins to seem acceptable, inevitable, or even desirable.
- When people lose the ability to imagine alternatives, they are less likely to challenge the systems that produce environmental and social problems.

Dystopian culture





Comfortable past



For much of the twentieth century, many societies shared the belief that future generations would live better than their parents. Today, that **idea of progress has weakened**.

As a result, many people seek comfort in nostalgia. Cultural products increasingly look backward instead of forward. The uncertainty of the future is replaced by the **familiarity of the past**.

But environmental transformation requires something different. It requires the **capacity to imagine futures that do not yet exist**.



**DRAW THE FUTURE
YOU DESIRE**

The future does not exist yet.
It is not a destination waiting for us.

It is something that is continuously
shaped by decisions, actions, and
collective imagination.

The stories we tell about the future influence:

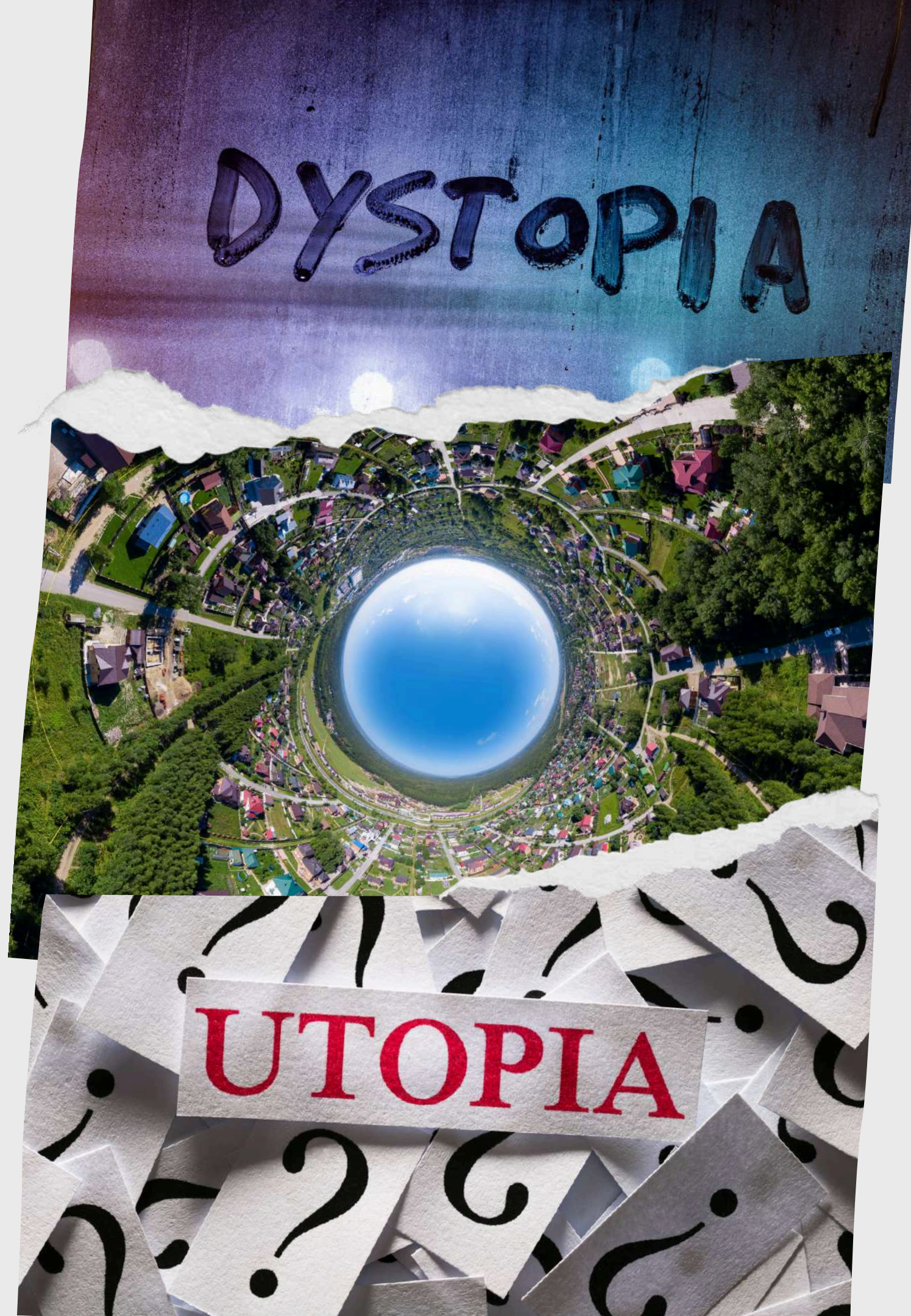
What we consider possible and desirable.
What we believe is worth fighting for.
How much control we feel we have.

**People rarely work toward futures they cannot
imagine.**

**Before social change can happen, it must first become
imaginable.**

**DRAW THE FUTURE
YOU SEE**





From dystopias to utopia



The objective of environmental gamification is not to ignore environmental crises or promote unrealistic optimism.

The goal is to expand the range of futures people can imagine.

Between blind optimism and fatalistic collapse lies a space of possibility.

Gamification helps us explore that space.

Because before people can build a better future, they must first be able to imagine it.

Why gamification?

Gamification increases motivation, engagement, and active participation in environmental learning.

Game elements help learners feel more involved and encouraged to complete tasks.

Boosts engagement by appealing to people's natural desire for achievement, recognition, and competition.

Clear goals and feedback. Gamification gives learners structured objectives

Makes learning more enjoyable and fun (abstract topics)

for possible futures

Gamification is a powerful tool for exploring possible futures because it allows people to actively engage with alternative scenarios rather than simply learning about them.

Games create safe spaces for experimentation.

Players can test ideas, explore consequences, and experience alternative realities without real-world risks.

"What will happen to us?" to asking:
"What kind of future do we want to create?"

Game-Master *

for environmental action

Facilitator and a communicator
Explaining rules or managing activities
Create a meaningful experience
Help to understand
environmental challenges
Feel motivated to take action.

Clear and accessible language.

Scientific information into examples
and actions.

Encourage participation (questions,
challenges, and discussion).

Adapt communication styles and
activities to target and needs.

Focus on solutions rather than fear
or guilt.

Communicator

Story-teller

Presenting mission or challenge.

Giving context and purpose to learning
activities.

Connect emotionally.

Creating characters, scenarios, or
communities that participants can
identify with.

Decisions have consequences and can
generate positive change.

Create safe-spaces

Feedback and recognition.

Collaboration and collective problem-
solving.

Connecting in-game actions to real-
world environmental behaviors.

Inspiring.

Change-agent



Game-Master*

for ~~environmental action~~ possible futures

Story-teller

Introduce alternative scenarios.

Challenge assumptions about what is possible.

Encourage creativity and critical thinking.

Help participants reflect on the consequences of different choices.

Transform fear into curiosity and action.

Becomes a facilitator of collective imagination.

Comunicator

Change-agent



How can gamification be
used to create positive
environmental narratives
and visions of sustainable
futures?





How gamification can
be used to increase
environmental
awareness and action?



Games, Tools & Activities

In the next pages, you will find:

- A selection of games and educational tools tested during the training course, including an overview of each resource, facilitation tips, and links to additional online information.
- A collection of environmentally themed board games, each accompanied by complementary activities designed by the training participants to deepen learning, encourage reflection, and connect gameplay with real-world environmental action.





Climate Fresk

Topic Climate Change and Sustainability

Type of Player Cooperative

Objective Link the causes and consequences of climate change to better understand the connection.

Link <https://climatefresk.org/world/>

Instructions

- Players work together in teams.
- The game is played in different rounds, each with a new set of Climate Fresk cards.
- In each round, arrange the cards in the correct order by linking the causes and consequences of climate change.
- Discuss and agree on the connections as a team.
- At the end, review the complete chain of causes, impacts, and possible actions to better understand the climate system.



Goosechase

Topic Treasure hunt, Challenges, Outdoor Discovery

Type of Player Achiever, Explorer, Cooperative and Competitive

Objective Complete interactive missions by working together and exploring your surroundings.

Link <https://goosechase.com/>

Instructions

- Design a treasure hunt, challenges with the topic you want.
- Make participants join the experience using a game code.
- Complete the missions by submitting photos, videos, text answers, or GPS check-ins.
- Each completed mission earns points.
- Work together to complete as many challenges as possible before time runs out.
- The team with the highest score wins.



Geocaching

Topic Geocaching, Outdoor Discovery

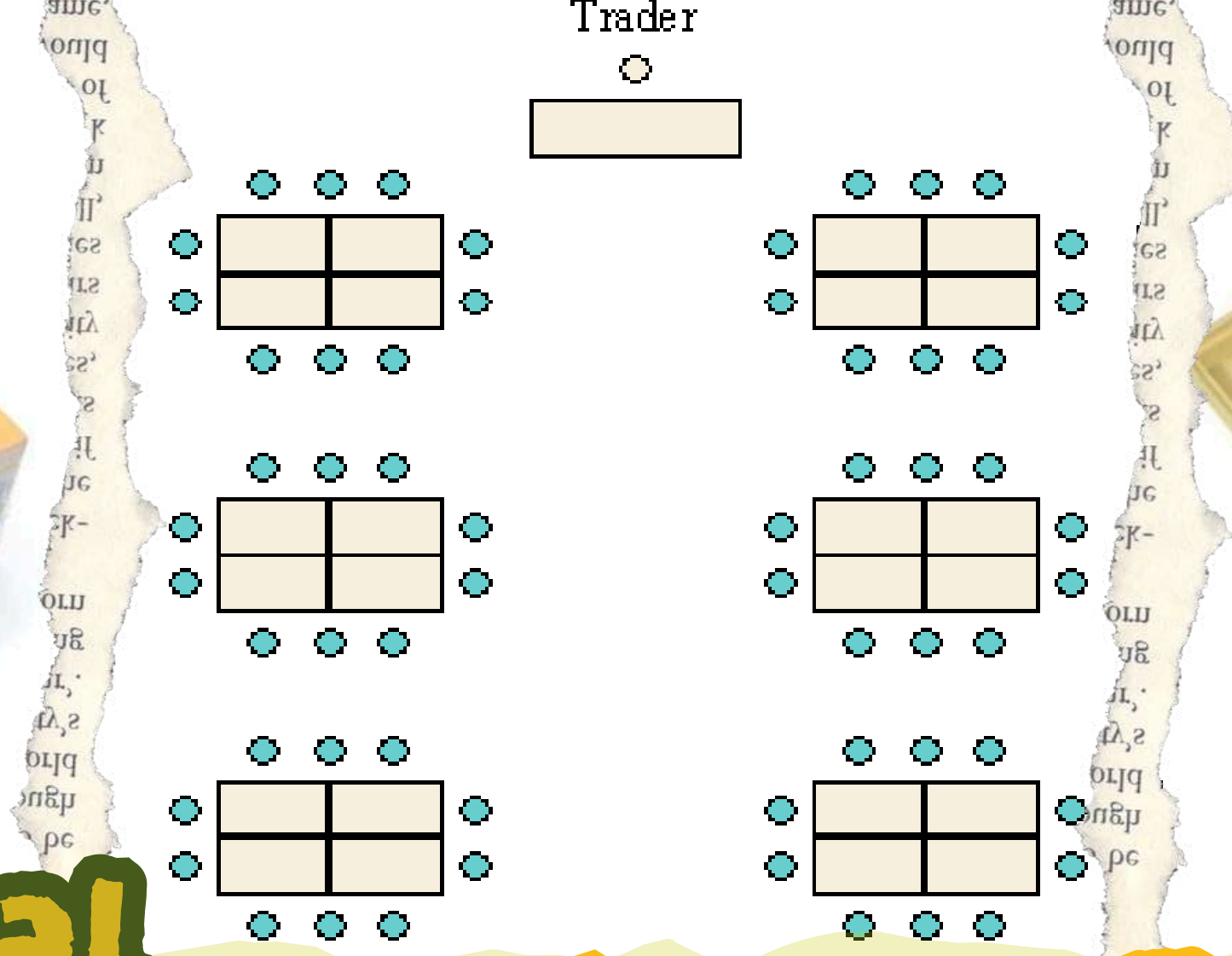
Type of Player Explorer (you can add other characteristics)

Objective Work together to find geocaches, learn about local environments, and complete the missions

Link <https://www.geocaching.com/play/search>

Instructions

- Follow GPS coordinates to find hidden geocaches.
- Complete challenges at selected caches.
- Earn points by discovering caches and successfully completing challenges.
- Cooperate with your teammates-
- Create your own geocache with an environmental or sustainability-themed challenge
- Win by completing the geocaching route, earning the most points, and promoting environmental awareness.



International trade game

Topic Global Inequality, Trade and Planetary Limits

Type of Player Competitive

Objective Make as much money as possible by producing and trading goods in a changing market.

Link https://www.economicsnetwork.ac.uk/showcase/sloman_game

Instructions

- Players are divided into teams representing countries with different income levels.
- Each country starts with different amounts of money, tools (scissors), labour (pens), and resources (paper).
- Countries use their resources to produce goods (circles, squares, and triangles).
- Teams buy, sell, and trade goods between them and in the market.
- Countries must adapt to maximize their profit.



WingSpan

Topic Birds

Type of Player Achievers, Explorers

Objective Learn about birds while developing strategic planning and resource management skills.

Link <https://stonemaiergames.com/games/wingspan/>

Instructions

- Play a Bird: Pay its food cost and place it in its matching habitat (forest, grassland, or wetland).
- Gain Food: Activate the forest to collect food tokens by rolling dice in the birdhouse dice tower.
- Lay Eggs: Activate the grassland to place eggs, which are used to play more birds and are worth victory points.
- Draw Bird Cards: Activate the wetland to draw more bird cards into your hand.

Reflection activity

Wing Span

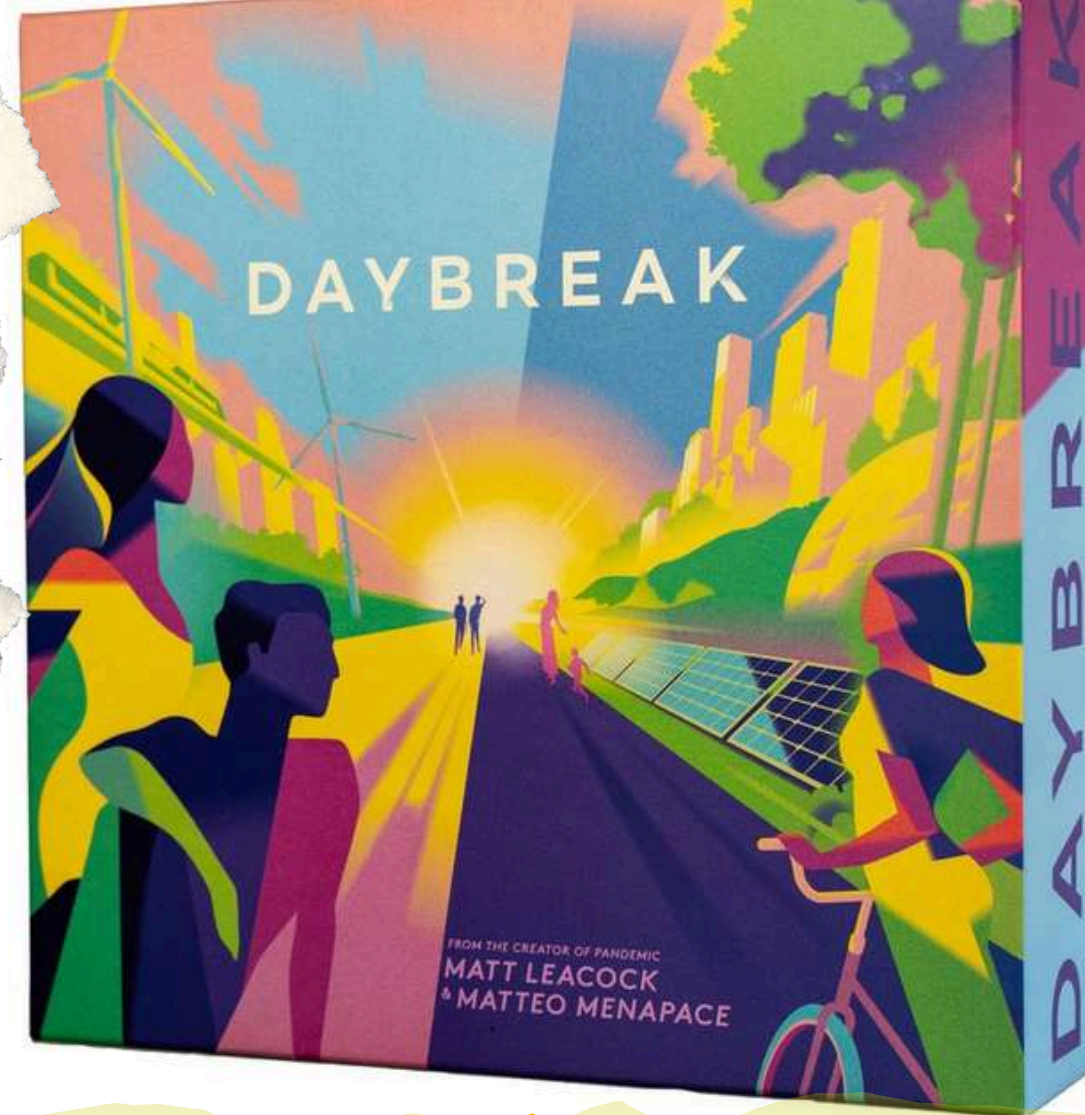


Title Bird Reflection

Type Reflection and emotional expression.

Objective Encourage reflection by connecting personal feelings with birds

Description Spread all the bird cards on the floor or a table. Ask participants to choose the bird that best represents how they are feeling and explain why they selected it.



DayBreak

Topic Climate change and sustainability

Type of Player Cooperative

Objective Work together to reduce global emissions, build resilient societies, and prevent temperature rising.

Link <https://www.daybreakgame.org/>

Instructions

- Choose a world region to represent.
- Play cards to develop clean technologies and reduce emissions.
- Work together to respond to climate disasters and protect communities.
- Achieve the global climate goals before emissions and global warming become too high.

Preparation activity

Daybreak



Title Discovery Cards

Type Preparation activity

Objective Introduce participants to key climate change topics through research, creativity, and group discussion

Description Participants receive three Daybreak Local Project cards, scan the QR codes to read short climate-related resources, create a simple drawing to represent what they learned, and share it with the group before starting the game.



Earth

Topic Biodiversity, ecosystems, and nature

Type of Player Explorers, achievers

Objective Build a thriving ecosystem by strategically placing plants, animals, and habitats to create the highest-scoring natural environment.

Link <https://insideupgames.com/our-games/earth-board-game/>

Instructions

- Choose an action each turn to develop your ecosystem,
- Place flora, fauna, ecosystem, and terrain cards strategically to expand your natural environment.
- Create synergies between cards to gain resources, grow vegetation, and activate special abilities.
- Complete ecosystem objectives
- Score points by creating your ecosystem.

Reflection activity

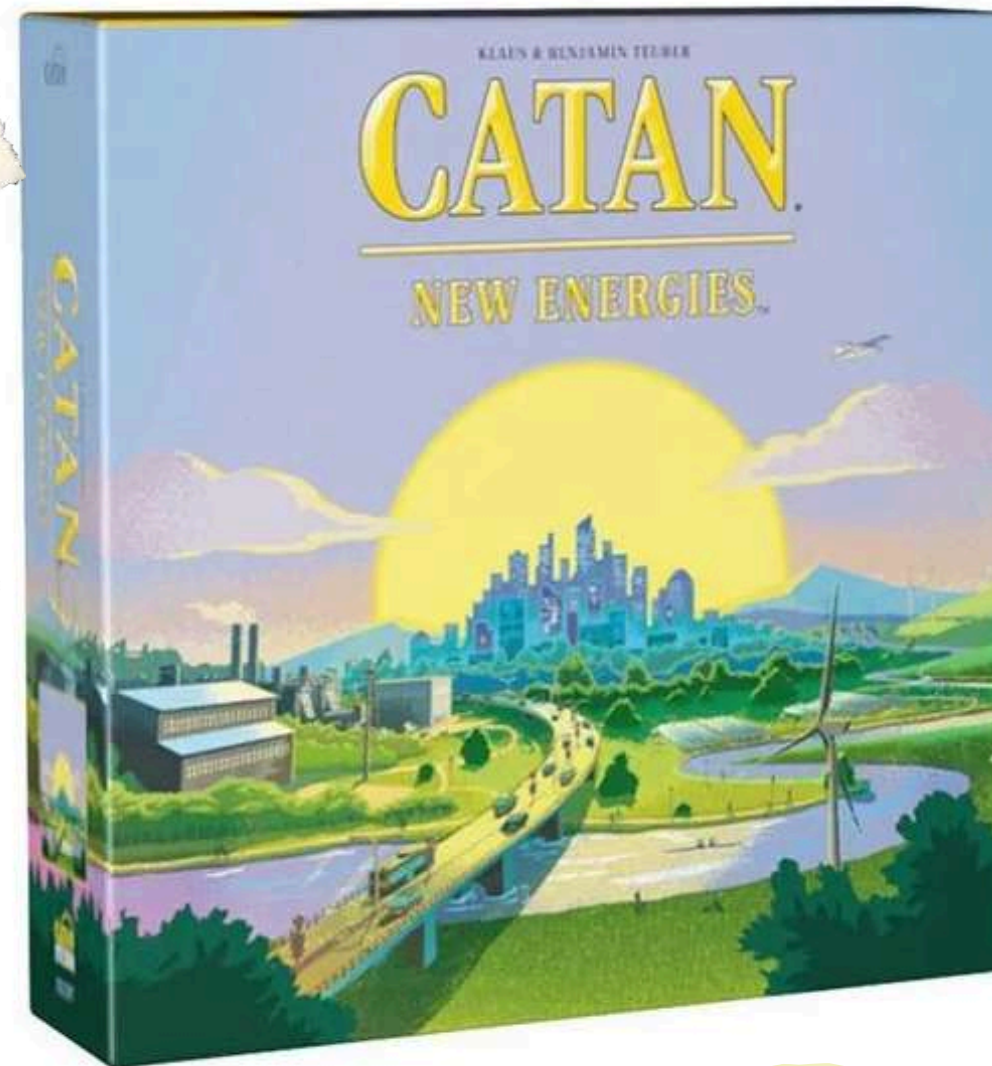


Title Gratitude for Nature

Type Reflection activity

Objective Introduce the relationship with biodiversity by observing a single living organism and reflecting on its role within an ecosystem

Description Choose one plant, tree, insect, bird, or fungus to observe for several minutes. Describe what you notice, reflect on its role in the ecosystem, and consider how it contributes to biodiversity and ecosystem health.



Catan New Energies

Topic Renewable energy and energy transition.

Type of Player Competitive, achiever, socializer

Objective Build a sustainable energy system by managing resources and investing in renewable technologies to achieve the highest score.

Link <https://www.catan.com/new-energies>

Instructions

- Collect resources to produce and supply energy.
- Build and expand your energy infrastructure.
- Invest in renewable technologies to create a more sustainable energy system.
- Balance economic growth and environmental impact while meeting energy demands.
- Earn the highest score through efficient resource management and sustainable development.

Preparation activity

Catan New Energies



Title From Climate Fresk to Catan: Energies

Type Preparation activity

Objective Connect the concepts learned in the Climate Fresk with the energy decisions players will make in Catan: Energies.

Description Review the Climate Fresk cards related to energy and climate change. Discuss the impact of different energy sources. Predict which strategies will be most sustainable in the game. Introduce Catan: Energies as a simulation of real-world energy trade-offs, where players must balance resource management, economic growth, and environmental impact to succeed.



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Thank you

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Fundacja Recovery24 — Poland

OBA DOGA VE EGITIM DERNEGI — Türkiye

We hope this toolkit inspires you to create meaningful learning experiences where games become a pathway to environmental awareness, collective action, and more sustainable futures.

