EXPLORERS OUR OCEAN OUR FUTURE | Marine Spatial Planning for Kids

Lesson Plan 4: EXPLORERS MARINE SPATIAL PLANNING – CREATE A GAME

Class Discussion / Presentation / Activities: (class project over extended period – approx. 4 lessons)
DESIGN OUR OCEAN OUR FUTURE – A MARINE SPATIAL PLANNING GAME

Subject: Cross curricular – Science, Geography, Language, Arts,
Class: 10-12 years
Time: Approx 90 - 120 min (Extended time required for filming project)
Materials & Resources:

- PowerPoint Presentation: Marine Spatial Planning – Our Ocean Our Future
- A Real Map of Ireland – showing the Boundaries of Ireland's National Marine Planning Framework area.
- Pictures and short film clips of marine activities: Ports of Ireland, Maps of the National Marine Planning Framework Area, Seafood, Fishing ports, grounds, sites, and activity, Aquaculture sites, Offshore Wind Energy, Marine Transport, Ships, Cargo ships, Passenger Ferries, Other vessels, Conservation, Special Protection Areas – Birds, Special Area of Conservation.
- Marine Spatial Planning Information sheets (booklet)
- Teachers Guide – New Words and Vocabulary for children
- Explorers Marine Spatial Planning Digital Map – Are you ready for an adventure! : https://ie-marine.maps.arcgis.com/apps/instant/atlas/index.html?appid=7ed7215587424aae89068bc61748fd06&webmap=b7ea84b3d7154322995e7981fcf3cd40)

Other materials for the class:

- Children's workbook to take notes and to draft their script for the film.
- Construction paper or large sheets of paper
- Markers, crayons, coloured pencils, Scissors (optional, for cutting out activity pictures), Glue or tape.

AIM: By creating a interactive game, the children will engage and further develop their understanding and knowledge about Ireland's Marine Spatial Planning. They will use their creative, communication skills and team building skills as part of this activity.

.

OBJECTIVES:
Students will be able to:

- Define Marine Spatial Planning (MSP) and its importance.
- Identify various marine user groups in Ireland.
- Understand the concept of a "win-win" solution in multi-stakeholder scenarios.
- Collaborate effectively in teams to solve complex problems.

- Develop creative solutions for integrating offshore wind energy with other marine activities.
- Present their game design and rationale to their peers (and other marine users)

Materials:

- Large sheets of paper or poster board for maps
- Markers, colored pencils, crayons
- Game pieces (could be small toys, colored blocks, etc.)
- Dice or spinners (if creating a board game)
- Index cards for challenge cards
- Laminated "stakeholder role" cards (see below)
- Access to computers/internet for research (optional)
- Prizes for "best overall game," "most innovative solution," etc. (optional)

Introduction / recap on previous lessons (Day 1 - 45-60 minutes):

- Hook (10 minutes): Begin by asking students what they know about the ocean around Ireland. Discuss its importance for food, transport, and recreation. Introduce the idea of "sharing the ocean" and how different groups use it.
- What is Marine Spatial Planning? (15 minutes):
  - Introduce the concept of Marine Spatial Planning (MSP) in a simplified way: "Imagine our ocean is like a really big puzzle. MSP is about deciding where all the different pieces of the puzzle (like fishing areas, shipping routes, places for nature) fit together so everyone can use the ocean fairly and sustainably."
  - Explain that Ireland has a "National Marine Planning Framework Area" – a plan for how we use our marine space.
  - Introduce the idea of offshore wind energy as a clean, renewable energy source and why it's important for Ireland's future.
- Introducing the Challenge (10 minutes):
  - Today, you're going to become Marine Spatial Planners! Your challenge is to create a game that helps us understand how to build new ocean energy wind farms while making sure everyone who uses the ocean benefits – a 'win-win' situation!
  - Introduce the concept of "win-win": solutions where everyone involved gains something, rather than someone losing out.
- Team Formation & Stakeholder Roles (10 minutes):
  - Divide students into teams of 4-6.

- Assign each team a specific "marine user" role. Provide each team with a laminated role card detailing their interests and potential concerns.
    - Ports of Ireland: Interested in safe navigation, expansion, economic growth.
    - Seafood – Fishers: Concerned about fishing grounds, migration routes, livelihoods.
    - Aquaculture: Interested in suitable sites for fish/shellfish farming, water quality.
    - Marine Transport: Concerned about shipping lanes, safety, efficiency.
    - Recreation: Interested in sailing, diving, tourism, scenic views.
    - Environment & Conservation: Focused on protecting marine ecosystems, wildlife, biodiversity.
    - Offshore Wind Energy: Interested in suitable locations for turbines, efficient energy production, grid connection.
  - Emphasize that while they represent one group, their ultimate goal is to find solutions that benefit *all* of Ireland.

Game Design & Development (Day 2 & 3 - 60-90 minutes per day):

- Brainstorming Game Concepts (30 minutes - Day 2):
  - As a class, revisit the types of games they could create:
    - Life-size Board Game: Players move around a large map, encountering challenges and making decisions.
    - Orienteering Game: Clues lead players to different "zones" on a map, where they solve challenges.
    - Quiz with Solutions: Teams answer questions related to MSP, with correct "win-win" solutions earning points.
  - In their teams, students will brainstorm their game idea. Encourage creativity!
  - Key Game Elements to Include:
    - Map: A central component showing the National Marine Planning Framework Area (or a simplified version). They will need to identify areas for wind farms and other marine uses.
    - Challenges: Scenarios that create conflict between marine users and require "win-win" solutions.
    - "Win-Win" Solutions: The core of the game. How do they design challenges that encourage collaboration and mutually beneficial outcomes?
    - Gameplay Mechanics: How do players move? How are points allocated? How do they "win"?

- Developing the Map (45-60 minutes - Day 2/3):
  - Each team will create a large map of a section of the Irish coastline/sea, incorporating key features and potential areas for marine activity.
  - They must identify suitable locations for new offshore wind farms on their map.
  - Encourage them to consider geographical features, existing marine uses, and environmental sensitivities.

- Creating Challenges (30-45 minutes - Day 3):
  - Teams will develop 5-7 "challenge cards" that represent potential conflicts or issues that arise when developing offshore wind farms.
  - Examples of Challenges:
    - "A proposed wind farm site overlaps with a traditional fishing ground. How can both fishing and energy production continue?"
    - "The ideal location for a wind farm is also a vital migration route for marine mammals. How can we protect the animals while building the wind farm?"
    - "A new shipping lane is needed for port expansion, but it conflicts with a proposed wind farm layout. What's the solution?"
    - "Local recreation groups are concerned about visual impact and access to popular sailing areas. How can their concerns be addressed?"
  - Crucially, for each challenge, teams must also brainstorm *potential "win-win" solutions* from the perspective of *all* stakeholders, not just their own. This will be integral to the game's scoring or progress.

- Designing Game Mechanics (30 minutes - Day 3):
  - Teams will finalize how their game will be played:
    - How do players move around the map (if applicable)?
    - How are challenge cards introduced?
    - How are solutions presented and judged?
    - How are points allocated for "win-win" solutions?
    - What constitutes a "win" for the team (e.g., successfully integrating a certain number of wind farms with win-win solutions)?
  - Emphasize that all team members must participate in completing the game together, representing their stakeholder role.

Game Play & Presentation (Day 4 - 60-90 minutes):

1. Team Presentations (30-45 minutes):
    - Each team will present their game to the class.
    - They should explain:
        - Their game's concept (board game, orienteering, quiz).
        - Their marine user role.
        - Their map and why they chose certain locations.
        - Examples of their challenge cards and their proposed "win-win" solutions.
        - How their game promotes the idea of collaboration and shared benefits.

2. Game Play (30-45 minutes, optional):
    - If time allows, select one or two teams to briefly demonstrate their game by playing a few rounds, with the teacher or another team acting as the "Game Master" to allocate challenges.
    - For shorter timeframes, a "gallery walk" where students view each other's maps and game designs can be effective.

Assessment & Reflection (15 minutes):

1. Game Master (Teacher) Role: The teacher will act as the "Game Master," overseeing the presentations and potentially guiding the brief game plays. The Game Master can ask clarifying questions about the "win-win" solutions.

2. Discussion (10 minutes):
    - Facilitate a class discussion:
        - "What was challenging about creating a 'win-win' solution?"
        - "Did you feel your stakeholder group's interests were always considered?"
        - "Why is it important for different marine users to work together?"
        - "How does this game relate to real-world marine planning in Ireland?"
3. Reflection (5 minutes):
    - Students can complete a short written reflection on what they learned about Marine Spatial Planning, teamwork, and creating "win-win" solutions.

Differentiation:

- For Younger Students: Provide more structured templates for maps and challenge cards. Simplify the stakeholder roles. Focus on 3-4 key marine users.
- For Older Students: Encourage more in-depth research into specific marine planning challenges in Ireland. Require quantitative aspects in their game (e.g., calculating energy output, financial implications). Encourage more complex game mechanics.
- Support: Provide sentence starters for brainstorming "win-win" solutions. Offer visual aids for different marine uses.
- Extension: Students could research actual marine planning conflicts or successes in Ireland or globally and incorporate them into their game. They could also create digital versions of their games.