Lesson 5: Inquiring into the Great Bear Sea

Overview: As a culminating activity for the unit, students work in small groups to design a funding proposal for a sustainable development/resource management project in the Great Bear Sea, and then present that proposal to the class. With a set of criteria, students will vote on the proposals and select one to be awarded the funding.

Suggested Time: 2 – 3 classes, (~75 minutes each)

* Teacher Note: Materials with a * are available on the Great Bear Sea USB, or at www.greatbearsea.net.

Materials and Resources:

- Computer, projector and screen
- Chart paper and markers
- Lesson 5 Film Clip:
  - ¤ Sustainable Development (10 mins)
- Teacher Background – Lesson 5
- 5.1 Great Bear Sea Funding Proposal Plan
- 5.2 Funding Proposal Voting Forms (or online voting tools)
- Featured Career Biographies* - *optional*
- Supplementary material for student research
  - ¤ Additional video footage/ research materials at www.greatbearsea.net
  - ¤ Marine Planning Partnership Website: www.mappocean.org

Learning Objectives:

Students will:

1. Apply prior learning about sustainable development and resource management in a new context and communicate that learning to others.

2. Consider how research topics have ecological, economic, and cultural/social and importance and impact, particularly with regard to sustainability.

3. Understand the value of traditional knowledge and how it contributes to sustainability and planning for the future.

4. Use collaborative science approaches and concepts to build and critique arguments, including learning about how to collaborating with First Nations and local communities.

5. Develop processes for working together and collaborative decision making.

Lesson Context

By now, students have explored many examples of research and projects aimed at sustainable development and resource management in the Great Bear Sea region. This culminating activity has them selecting an area of interest to explore in more depth and developing a mock "Proposal for Funding" to attempt to secure 'funds' to carry out their research.

Their Proposal for Funding must engage in collaborative research, stressing the importance of collaborating with First Nations around issues of environmental sustainability and advocacy. Part of the proposal has students identifying who they might work with (the First Nations and/or communities in their chosen area) and how they might go about building a meaningful partnership.

The **5.2 Funding Proposal Voting Forms** provides a framework for students to both build their projects and vote on the ideas presented. Students will need to address all of the items in the voting criteria in order to achieve the highest score possible from their peers, and thus win the funding. This provides the opportunity to be creative and also demonstrate their learning around sustainable development through modelling a real-life situation. Rather than paper-based voting forms, consider using an online tool such as Survey Monkey or Doodle Poll to capture and tally the votes.

Learning Activities

Part A

Activity 1: Sustainable Development (40 minutes)

1. Return to the quote that was first referenced in Lesson 1 and discuss as a class. What new meaning does this carry after exploring more about the Great Bear Sea:

    • *Everything we eat, whether it's inter-tidal, whether it's bottom fish, whether it's herring, whether it's herring spawn, whether it's salmon – everything comes out of that ocean. It's a lifeline. It's a lifeline for our people.* - William Housty, Chair, Heiltsuk Integrated Resource Management Department

2. Share the following quote and have students respond:

    • *The sea, the great unifier, is man's only hope. Now, as never before, the old phrase has a literal meaning: we are all in the same boat.* - Jacques Yves Cousteau, Oceanographer

3. Write the term "sustainability" on the board and have students share a working definition with a partner. Do the same with the word "development."

4. As a class, come up with a working definition for sustainable development.

5. Watch the **Sustainable Development** film clip.

6. Discuss some of the examples of development happening or proposed for the Great Bear Sea from the clip, and then consider some of the potential impacts.

7. Return to the working definition of sustainable development and add/change to the definition as need be.

Activity 2: Topics of Interest – Sustainable Development/Resource Management (30 minutes)

1. In order to group students by interest, have each student share a topic for inquiry that they would now be interested in exploring with regard to sustainable development or resource management in the Great Bear Sea (for example, a specific species, a type of activity like fishing, sustainable shellfish harvesting, etc.).

2. Record student interests beside their names on the board and create small groups accordingly.

3. Have students form their groups and provide each group with **5.1 Great Bear Sea Funding Proposal Plan** and each student with **5.2 Funding Proposal Voting Forms**.

4. Review **Teacher Background – Lesson 5** and explain the activity:

   • Groups will develop a funding proposal around their area of interest, with a plan to work in collaboration with First Nations in their selected region.
   • Groups should address all areas of **5.1 Great Bear Sea Funding Proposal Plan**, with the first goal of developing an inquiry/research question.
   • The funding proposals will be judged based on the criteria in **5.2 Funding Proposal Voting Forms**. The winning proposal will be awarded funding to carry out their research proposal!
   • Groups will plan a presentation, no more than 7 – 10 minutes, to explain their proposal in an engaging manner, including how much money they are seeking for their project.
   • All students will judge the proposals using the criteria provided. You will not judge your own group.
   • The results will be tallied and the winner announced!

5. Provide groups with time to start brainstorming their inquiry/research question.

Part B

Activity 1: Research Time

1. Provide groups with time to research their topic and plan their proposal. The supplementary material may be helpful, as well as student access to library/other resources.

Part C

Activity 1: Funding Proposal Presentations (75 minutes)

1. Have each group present their funding proposals, with peers completing **5.2 Funding Proposal Voting Forms**.

2. Tally the results at the end of the presentations and announce the winning proposal!

3. Have students reflect on the unit and what was discovered about the Great Bear Sea. Have them write a reflective response, blog post, etc., with this guiding question:

   • Reflect on everything you have discovered about the Great Bear Sea. Why is planning for sustainability in this region so important? Respond from both an environmental perspective and a cultural perspective.

Extension Ideas

• The **Teacher Background – Lesson 5** presents some other ideas for grouping or individual work. If students work individually, consider extending the activity to have them more fully research their inquiry question.

• Have students develop a sustainable development framework and apply the framework to new contexts (locally, nationally and globally). Can it work in different contexts? What are some examples?

• Have students explore some of the careers associated with the Great Bear Sea. See **Featured Career Biographies***.

Assessment Ideas

- Formatively assess students' engagement in group work and large group discussion.

- Collect **5.1 Great Bear Sea Funding Proposal Plan** for each group and assess group presentations based on co-developed assessment rubrics. You may wish to use the voting criteria as a guide for assessment rubrics.

Teacher Background – Lesson 5

Tips for Facilitating the Request for Funding Activity

Structuring the Activity

This lesson has students forming small groups around shared areas of interest. You could also have students work individually. This could also be the starting point of a larger inquiry project. If structuring as individual presentations, some ideas include:

- Have students set up presentations in a 'science fair' format, with half the class showcasing their work while the other half goes on a 'gallery walk' of the presentations. Structure this online, with presentations posted on a blog, etc.
- Have students vote according to criteria and then determine the top 3 successful funding applications.
- Consider having 'judges' from the community come to take part in the day. These could be scientists, Elders, university students, etc.
- Include students in roles such as review panel, facilitation, topic specialists, etc.

Providing Time for Research and Preparation

There are a number of supplementary materials provided in addition to the film. All of these materials are provided in this resource or on the website at www.greatbearsea.net. Transcripts of the film clips are also provided on the website. These are helpful tools for accessing information quickly and in quoting information.

A key part of the proposal is for students to learn about the particular First Nations in the region they hope to work, and at the very least, create a plan for how they would go about collaborating with these First Nation partners. Students should be encouraged to research the particular First Nations and any protocol that may be in place for establishing communication and building relationships with key partners around marine planning. If your school is in the region of the Great Bear Sea, you may want to go further to have students consider planning across various First Nations and specific community groups or organizations that may need to consulted in the process.

Criteria for Proposals

Consider revising the criteria to fit a specific class need or area of interest. For instance:

- Sustainable development or resource management in your local neighbourhood/ traditional territories, local watershed, etc.
- Pick one criteria and go deeper (e.g. biodiversity, Traditional Knowledge).Think locally/nationally/globally and develop criteria around a research question.

Student Presentations

- Specify a time frame for presentations to encourage concise explanations.
- Encourage different styles of presentation (digital story, blog, skit, etc.).
- Co-develop a presentation rubric with students to help facilitate group collaboration.

Name:_____

5.1: Great Bear Sea Funding Proposal Plan

Instructions: Your team is applying for funding to support a research project that will address resource management or sustainable development in the region of the Great Bear Sea, working in collaboration with the First Nations in the region. Record your answers to all of the questions below in developing your proposal, and then plan your presentation to the Funding Board.

Team Members:

Research Project Title:

Funding Required:

Inquiry/Research Question:

Provide a brief synopsis of your proposed research project (3 – 4 lines):

1. **Describe how your research project will address biodiversity or conservation in the region.**

2. **Describe how you will go about building collaboration with First Nations (and other community organizations, if applicable) in the region you hope to work. Specifically, address the following:**

    - What are the First Nations in the region you hope to work with?
    - How will you go about building relationships to engage in colaboriative research? Each First Nation may have specific protocol regarding how to approach collaboration respectfully, which should be researched and identified here.
    - Describe how your project will be informed by Traditional Knowledge.

3. **How will your research project impact the people and communities in the region?**

4. **How does your research project promote sustainability and help to plan for the future?**

5. **Why is this research project important?**

5.2: Funding Proposal Voting Form

Use the form below to rate the Funding Proposals, where 1 = low and 5 = high. The research project with the highest score will be awarded the funding.

Research Project Title: _____

1. The research project will address a practical need of the ecosystem and communities of the region.

      1   2   3   4   5

2. The research project will respectfully draw on Traditional Knowledge.

      1   2   3   4   5

3. The research project addresses biodiversity or conservation in a relevant, meaningful way.

      1   2   3   4   5

4. The research project will contribute to sustainability and help communities plan for the future.

      1   2   3   4   5

5. The requested funding is realistic to carry out the plan.

      1   2   3   4   5

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