Introducing Students to AI

Lesson Plan: AI for Oceans Hour of Code Activity
Class Level: 5th/6th Class

Learning Outcomes	Key Principles
1. Understand the concept of artificial intelligence (AI) and its applications in ocean conservation. 2. Learn basic coding principles and apply them to create an AI model. 3. Develop problem-solving and critical thinking skills through hands-on coding activities. 4. Gain awareness of the importance of protecting and preserving the oceans. 5. Recognise that AI gets smarter with more training and can make mistakes.	• Being a digital learner • Being an active citizen • Being an active learner • Being a communicator and using language • Being mathematical

Resources:
Computers or laptops with internet access
Hour of Code platform: https://code.org/oceans

Top Tip: Complete the activity yourself first.

Introduction: 5 minutes

1. Begin by discussing the importance of oceans and the threats they face.
2. Ask students if they have heard about artificial intelligence (AI) and its applications.
3. Introduce the Hour of Code activity focused on AI for Oceans.
4. Share the learning outcomes for the lesson, including the concept of AI getting smarter with training and its potential for making mistakes.

Threats to Oceans

- Overfishing
- Plastic Pollution
- Climate Change
- Invasive Species
- Habitat Destruction

Provide Background Information: 10 minutes

1. Watch the video: https://www.youtube.com/watch?v=ttIOdAdQaUE
2. Explain to students that AI can learn from data and get smarter as it is trained.
3. Discuss how AI models can be trained to recognise and classify images or patterns in oceans.
4. Emphasise that AI models are not perfect and can make mistakes, just like humans.
5. Show examples of AI applications where mistakes can occur, such as misidentifying marine species or misinterpreting data.

Hour of Code Activity (30 minutes)

1. Direct students to the Hour of Code website and navigate to the AI for Oceans activity.
2. Guide students through the step-by-step instructions provided on the website.
3. Explain to students that as they train their AI model in the activity, it will improve over time.
4. Encourage students to observe how their AI model performs and identify any mistakes or areas for improvement.

Discussion and Reflection (10 minutes)

1. Facilitate a class discussion about the AI for Oceans activity.
2. Ask students the following key questions:

- ➢ How did your AI model improve with more training?
- ➢ Did it make fewer mistakes?
- ➢ Can you think of any real-world scenarios where AI mistakes could have consequences for oceans?

3. Allow students to share their experiences, observations, and thoughts about AI getting smarter and its potential for mistakes.
4. Summarize the discussion by emphasizing the importance of continuous training and evaluation of AI models.

Extension Activities (Optional):	Ethical Dilemmas
1. Research Project: Assign students to research and present on a specific AI application in ocean conservation, focusing on how training and mistakes are managed. 2. Debate: Divide the class into groups and conduct a debate on the benefits and challenges of using AI in oceans, including the potential risks of AI mistakes. 3. Ethical Dilemmas: Present students with ethical dilemmas related to AI in ocean conservation and engage them in discussions about responsible AI development and deployment.	• Endangerment of Marine Species • Bias in Decision Making • Exclusion of Human Expertise • Responsibility for AI errors • Unintended Impacts

Formative Assessment:	Summative Assessment:
Observe students' engagement and participation during the Hour of Code activity. Take note of their problem-solving strategies and interactions with AI concepts.	Assign a short written reflection where students describe how AI can be utilised to solve a specific ocean-related problem. Evaluate their understanding of AI concepts, including the idea of AI getting smarter with training and the potential for mistakes.