Activity 1: Ozobot coding challenge

Year level
Year 3 and upwards

Overview
Students program an Ozobot to model how a dugong dodges many threats while travelling to a seagrass meadow for food (e.g. boat strikes we learnt about in the poster). This challenge needs to be in at least A3 size, reducing the size will change code box sizes and it will not work.

Outcome
Students will understand through interactive design and play the challenges facing dugongs in finding food and avoiding predators and other threats. They will gain an appreciation for the work being undertaken by marine scientists to preserve seagrass beds. They will learn entry level open source programming skills and terms.

Materials
• Ozobot STEM kits
• Marker pens or crayons
• A3 paper

What to do
1. Show the students the example of the Ozobot grid pattern (maze) on the following page, and use the Ozobot kit to follow it
2. Ask your students to design their own grid (maze) using crayons or Ozobot markers.

Curriculum links
Cross curriculum priority - sustainability

General capabilities:
Literacy, numeracy, information and ICT capability and critical and creative thinking

Digital Technologies:
Collect, access and present different types of data using simple software to create information and solve problems (ACTDIP009)
Define simple problems, and describe and follow a sequence of steps and decisions (algorithms) needed to solve them (ACTDIP010)
Implement simple digital solutions as visual programs with algorithms involving branching (decisions) and user input (ACTDIP011)

Information Links
DANGEROUS ADVENTURES OF THE 

DUGONG

HELP THE DUGONG GET SAFELY TO THE SEAGRASS. 
CODE YOUR ozobot® TO TRAVEL THROUGH THE 
MAZE DODGING THE THREATS TO HER SURVIVAL.

Color Code Reference link: https://ozobot.com/create/color-codes
Activity 2: Research the life of dugongs

Year level
Year 4

Overview
Students create a poster depicting a dugong’s life cycle and the threats they face to survive.

Outcome
Students will use research methodology to identify and record (in poster format) a dugong’s life cycle, threats and actions being taken to assist their survival. Students will learn about the challenges facing dugongs in finding food and avoiding predators and other threats. They will gain an appreciation for the work being undertaken by marine scientists to preserve seagrass beds.

Materials
- Laptop computer connected to the internet
- Notepaper
- Poster paper and paint, pencils or crayons (or a combination)
- Access to PowerPoint, Book Creator or other presentation program

What to do
1. Research information on the dugong life cycle, living and non-living elements in their habitat, threats being faced at different stages of the life cycle and actions being taken to assist the dugong in the wild.
   Useful information:
   YouTube: WWF 7 Facts About Dugongs (1:12mins) https://www.youtube.com/watch?v=PyDmNX1a8Fo
2. Students take their notes and create a poster, PowerPoint or information book using Book Creator App.
3. Students draw the life cycle of the dugong, draw the habitat displaying the living and non-living elements, outline threats to stages of the life cycle and how science is assisting the dugong.

Curriculum links
Cross curriculum priority - sustainability

General capabilities:
Literacy, numeracy, information and ICT capability, critical and creative thinking, ethical understanding and intercultural understanding.

Science:
Living things have life cycles (ACSSU072)
Living things depend on each other and the environment to survive (ACSSU073)
Science involves making predictions and describing patterns and relationships (ACSHE050) & (ACSHE061)
Science knowledge helps people to understand the effect of their actions (ACSHE051) & (ACSHE062)
Represent and communicate observations, ideas and findings using formal and informal presentations (ACSIS060) & (ACSIS071)