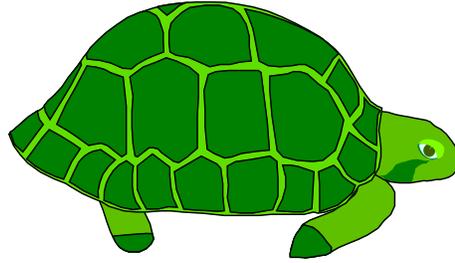


# MARINE TURTLES - LESSON 1



## 1. Overview:

Big picture of 'marine science' - activities and expts involving marine:

- life cycles e.g. turtles
- food chains e.g. card game with sea creatures
- coastal environments e.g. Rottnest Island environs (PPT, mind mapping, clay tree)
- pollution e.g. nutrients/detergents/oil/rubbish in the water
- fishing e.g. nets

Integrated into other areas of your work e.g. art, maths, technology.

## 2. Outcomes:

- Students in small groups will investigate various aspects of marine science; they will conduct experiments and engage in activities related to endangered marine species, pollution and coastal soil erosion.
- Students will report on their experiments. They will make graphs, tables, models, mindmaps and drawings to document findings.

## 3. Turtle Talk:

Context: In January 2004, Elaine went to Dirk Hartog Island to help save loggerhead turtles from extinction. She worked with some other people collecting information about the turtles. The female turtles came ashore to lay their eggs and the volunteers tagged the turtles.

In 2006-2008 Elaine worked with students to help save the Oblong Turtle of Herdsman Lake (Turtle Watch 1). In 2011 – 2012 this project continued with a broader focus, Oblong Turtles in the Perth Metro Area (Turtle Watch 2).

- Talk - gear, map, poster, PPT
- Model
- Role play Measuring the carapace of a turtle; clipping a tag on the front flipper of a turtle.

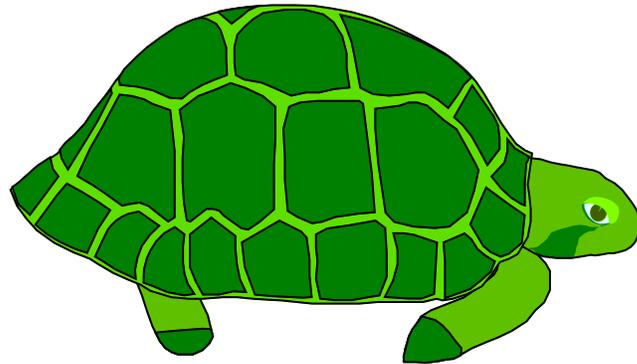
## 4. Graphing Turtle Data

5 types of graphs:

- picture
- line
- bar
- pie
- column

Whole class discussion - questions on activity sheet.

## TURTLE CIRCLE



### 1. PREDICTION:

Look at the turtle tagging data. What do you think you will find?

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### 2. GRAPHING:

Analyse and graph one aspect of the data in the table. Work out a plan to use **all** of your big sheet of card. You need to include:

- Title ) BE NEAT
- Graph ) USE A RULER
- Key ) USE COLOURS
- Sentence summarising your findings )

This sentence can start with: **An analysis of turtle tagging data from the Pilbara found ...**

Only use the type of graph allocated to your group:

- Picture graph
- Column graph
- Bar graph
- Line graphs
- Pie graph (... the turtle circle!)

### 3. OTHER FINDINGS:

What other calculations can be done with the turtle tagging data?

- In one sentence explain what you are going to calculate.

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- Do the calculation.

- In one sentence explain what you found.

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Using these steps do as many calculations as you can think of.

#### **4. DISCUSSION:**

- What did you find? What conclusions can you draw from your graph?
- Were your predictions accurate?
- Which type of graph was best for this purpose?
- What conclusions can you draw from your calculations?
- What discoveries have you made about the Dirk Hartog Island turtles?
- If you were a Marine Scientist, how would you use the information you have obtained from this analysis?

# TURTLE DATA

Comparison of flatback turtle rookeries in the Pilbara region for which tagging data are publicly available.

<b>Rookery</b>	<b>Seasons monitored (n)</b>	<b>Number of nights monitored per season</b>	<b>Number of individual turtles</b>	<b>Number of turtles per night</b>
Cemetery Beach (This report)	2009/10 (1)	44	188	0 - 48
Delambre Island (Biota 2009)	2008/09 (1)	21	341	9 - 44
Legendre Island (Biota 2009)	2008/09 (1)	22	303	5 - 39
Bells Beach (Biota 2009)	2008/09 (1)	26	40	0 - 10
Barrow Island (Chevron Australia 2009)	2005/09 – 2008/09 (4)	~54	1396 (mean) Range = 894 - 1658	-
Mundabullangana (Pendoley <i>et al.</i> in press)	1998/99 – 2008/09 (10)	~14	1692 (mean) Range = 1197 – 2171	-

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Reference:

<http://www.bhpbilliton.com/home/aboutus/regulatory/Documents/perAppendixB26FlatbackTurtleTaggingProgramAtCemeteryBeach.pdf>