

## Explorer Education Programme



**Lesson Plan: Measurements**

**Class: First Class / Second Class**

**Strand: Measures**

**Strand Units: Length, Weight, Area, Capacity**

### **TITLE: MEASUREMENTS**

#### **Aim / Description:**

The aim of this lesson plan is to develop the students understanding of the particular concepts of measurement such as:

- length
- weight
- area
- capacity.

This is done through exploration, discussion and use of appropriate vocabulary using questions and problems and items collected from the seashore. Students should be able to answer questions relating to length and area and compare and order items according to weight and capacity during the different activities.

For more information on sea animals and the seashore see teaching materials found at [www.explorers.ie](http://www.explorers.ie)

#### **Materials**

- Worksheet (following the lesson plan)
- Collection of empty seashells, stones and seaweed from the seashore and plastic cups and jugs.

#### **Activity: LENGTH and AREA**

- Step 1. Provide the worksheet to each student and ask them to answer the questions 1-10 using pictures of marine animals and items from the seashore.

#### **WEIGHT**

- Step 2. Provide students with a wide selection of items ranging from very light to heavy with several noticeable differences between them e.g. large stones, shells, seaweeds etc. Allow students to compare and measure using the items themselves e.g. Is this stone heavy? Is it heavier than the seaweed and shell?
- Step 3. Allow students to balance the objects. Discuss which objects balance well and which do not. Why is it harder to balance a round stone than a shell? Why does the stone roll that way each time?
- Step 4. Give the students one of the objects and ask them to find a lighter/heavier object than the one they are holding.
- Step 5. Now check the weight of the objects using a balance and

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discuss the standard units used to measure weight.

- Step 6. Allow students to estimate and weigh objects with non-standard units such as stones or shells e.g. how many stones does their school bag weigh? Discuss which unit is better for weighing objects, stones or shells?
- Step 7. Using a balance to check collect objects which are lighter; the same weight; and heavier than a kilogram. Make up bags of stones, shells and seaweed to weigh a kilogram. Make the bags as different in size as possible. Allow students to make up their own bags of these items to weigh a kilogram.

### CAPACITY

- Step 8. Give each student a glass or plastic cup. Ask students to fill up their glass with water using a variety of objects such as spoons, egg cups, large sea shells etc.
- Step 9. If the classroom has a fish tank ask the students to estimate how many glasses/spoons/egg cups/shells etc would it take to fill it? Discuss the differences in items used to fill the tank. Which has the capacity to hold the most water/the capacity to hold the least water? Which is easiest to fill etc?
- Step 10. Now using the litre bottle/ container estimate, record and discuss the capacity of the glasses, egg cups, spoons and shells from earlier. Discuss with the students which would be the best non-standard unit of measure for a fish tank?

### Extension for Second Class

- Step 11. Allow students to estimate and compare the capacities of a number of different containers by sight. Fill up several containers of similar capacity and discuss which one holds more.
- Step 12. Allow students to measure using litre /half litre and quarter litre bottles. Discuss the impacts of shape on capacity. Why are liquids sold or kept in a variety of containers? What effect does shape have on capacity?

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### **Outcome / Objective:**

The children in the class should have developed an understanding of particular concepts of measurements such as length, weight, area and capacity using pictures of marine animals and items from the seashore for

- **Estimating**
- **Comparing**
- **Measuring**
- **Recording**
- **Ordering**
- **Discussion**

The children in the class should have developed skills in the following:

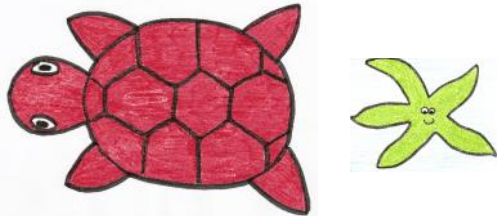
- **Applying and problem solving**
- **Reasoning and Implementing**
- **Communication and expression**
- **Understanding and recalling**



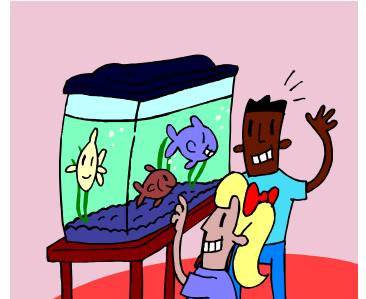
Worksheet

Circle the right answer to the following questions

Which is longer? (Circle your answer)



Which has a bigger area? (Circle your answer)

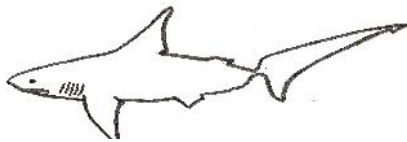


What is the best estimate of the length of a blue Whale?



Circle your answer:  
30 m or 3 m

What would you use to measure a shark? (Circle your answer)



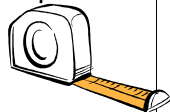
Pencil



Ruler



Measuring Tape



Which is the bigger area? (Circle your answer)

Pond



Puddle



Ocean



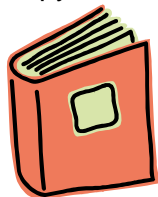
Which would be better for covering your table?(Circle your answer)

Seashells



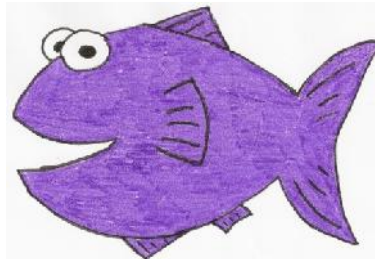
or

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Which is longer? (Circle your answer)

The Fish



or  
the

The Sea snail

