

## Explorer Education Programme



Lesson Plan: Patterns and Numbers

Class: First Class / Second Class

Strand: Algebra

Strand Unit: Extending and using patterns

### TITLE: PATTERNS AND NUMBERS

#### Aim / Description:

The aim of this lesson plan is to develop the students understanding of the particular concepts of algebra by:

- exploring patterns
- extending and using patterns of shells.

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

#### Materials:

- Shells/stones collected from the beach (alternatively use different colour counters that you have in the classroom)

#### Activity:

### EXTENDING AND USING PATTERNS

- Step 1. Divide the class into teams with three students in each.
- Step 2. Provide each team with a selection of shells and stones collected from the shore so that they have the following:
  - One student has a set of 12 shells in one colour
  - The 2<sup>nd</sup> student has a set of 12 shells in another colour
  - The 3<sup>rd</sup> student has a set of 6 stones
- Step 3. Ask the teams to count out a line of shells and stones, numbers 1-30 as follows: The 1st student marks all the even numbers with one colour shell. The 2nd student marks all the odd numbers with the other colour shells, and ask the 3<sup>rd</sup> student marks each group of five e.g. 5, 10, 15 with a stone.
- Step 4. Discuss with the students the pattern their shells and stones make.

#### Extension for Second Class

- Step 6. Using the shells/stones make up an example of a pattern for the students. Ask them to tell you what comes next?

Example 1: Shell Colour 1, Shell Colour 1, Shell Colour 2, Shell Colour 2, Stone, \_\_\_\_ "What comes next"?

Example 2: Shell Colour 1, Shell Colour 2, Stone, Shell Colour 1, Shell Colour 2, Stone, Shell Colour 1, \_\_\_\_\_ "What comes next"?

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- Step 7. Allow students to use both shells and stones to make their own patterns.

### **Outcome/ Objective:**

- **Extending and using patterns**

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

- **Recognising patterns**
- **Differentiating between odd and even numbers**
- **Understanding and predicting patterns**
- **Counting in groups**