



# MAKING CONCRETE BLOCKS

by **John Moreau**, St Fintan's National School, Sutton, Dublin.



## Introduction

This activity was done as a teacher demonstration in previous years, but this year the 3rd and 6th classes did it all themselves. It's possibly the most enjoyable activity I've ever done in Science. We constructed over 50 concrete blocks during the lesson.

- We began by questioning the importance of concrete as a building material in Ireland and compared the usage in Ireland to other European countries where timber is more popular for house building.
- Although it's ironic, we observed photos of the tsunami devastated towns in Japan and noted that concrete buildings survived on streets where all other buildings washed away.
- The children worked in 4's. Two older children and two younger children. They were given the necessary ingredients for concrete, i.e. sand, cement, stones and water.
- They mixed the ingredients with cake mixing bowls and wooden spoons.
- There was a tentative Maths integration in the sense that the ratio of cement to sand is 1:3.
- In this experiment, the 3rd and 6th classes constructed about 60 concrete blocks.
- The lesson was hands-on and conducted as if the children were making a cake!

## You will need

- A butter container for each block
- Stones or gravel
- Builders sand
- Cement
- Water
- Wooden spoons
- Mixing bowls
- Rubber glove
- Wooden ice pop sticks



## Method

- Wear rubber gloves as a precaution.
- Half fill a butter container with stones.
- Put the stones into a mixing bowls and add 3 cups of sand and 1 cup of cement.
- Add water and mix. Just add enough water to the sand, stones and cement mix to make the mix moist, as if baking a cake. Do not saturate the mix with water.





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## Method

- Pour the mixture back into the butter container and stick an ice pop stick in (this will make it easier to remove the block when it hardens).
- Leave the blocks to dry for a week.



## Follow-up

One of the girls in the class lives near a beach. She constructed her concrete block using beach sand, to see if it made a difference. She then worked with a friend to devise a test to see if a concrete block made of beach sand is weaker or stronger than an identical block made with normal builder's sand.