

1. Building a school with bottles in Honduras

Look at the pictures and:

- Make a list of things you notice.
- Write down some mathematical problems that occur to you.
- Now try to solve one problem!

First we collect old plastic bottles and fill them with sand.



and make some foundations with rocks....



and start to build....



and build....



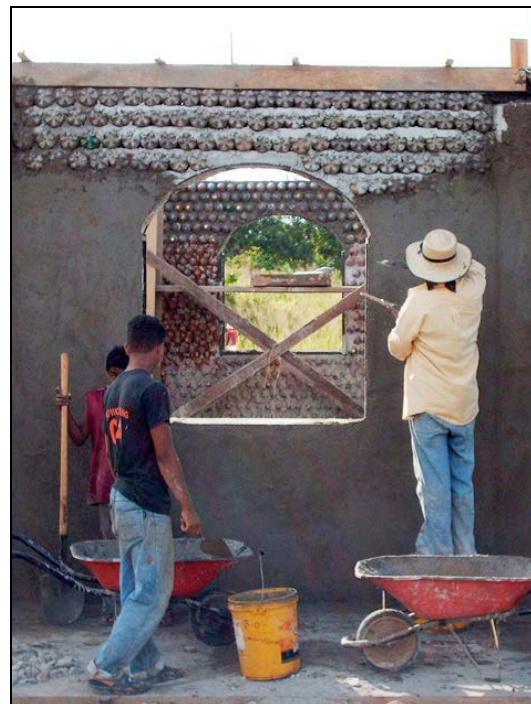
and build....



Add windows...



and plaster the walls.



This building is in Honduras and is now a centre for a secondary education programme that is designed to equip and motivate young people to help their communities and to reduce poverty. The programme is particularly designed to help students develop a capacity for problem solving.

Photographs with kind permission from:
Bayán Asociación de Desarrollo Socio-Económico Indígena, La Ceiba, Honduras.

2. Questions to think about as you watch the video

The lesson requires students to model a real-world situation, which involves

- Simplifying and representing the situation
- Analysing and solving the model they've made
- Interpreting and evaluating the results
- Communicating and reflecting on the findings

As you watch the lesson, ask yourself:

- Which processes can you see in the work of these pupils?
- Can you see them:
 - Simplifying and representing the situation?
 - What questions did they formulate?
 - What simplifications and representations did they create?
 - What choices did they make of information, methods and tools?
 - Analysing and solving the model they've made?
 - Which variables did they consider?
 - What information did they collect, or guess?
 - What relationships did they formulate?
 - What calculations did they make?
 - Interpreting and evaluating the results?
 - What did they learn about the situation?
 - Were their results plausible?
 - Communicating and reflecting on the findings?
 - How did they explain their analyses?
 - What connections did they see to other problems?

3. Connecting to the world of work

How would you describe the activities the students were engaged in in terms of the world of work?

For example:

- Was the activity something that might occur in the world of work? How authentic is it? What would make it more authentic?
- What is the role the students take?
- Are they behaving like 'real' mathematicians? In which ways?
- What sort of job might someone be doing if they are engaged in this activity?