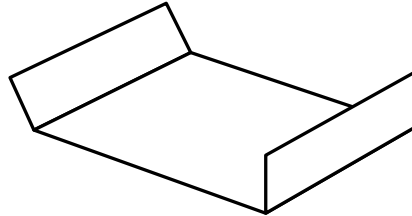


Raising blocks to make a pyramid

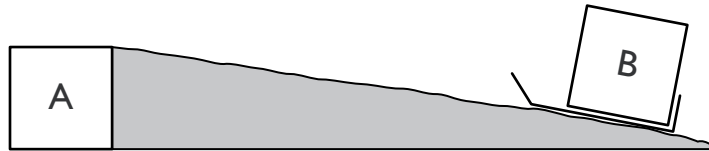
1. Make a cardboard sled as diagram 1 shows.

Diagram 1



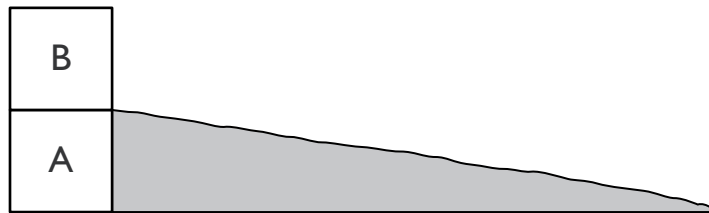
2. Set up a wooden block with a ramp of sand and put the sled with a block on it on the end of the ramp as diagram 2 shows.

Diagram 2



3. Pull the sled slowly up the ramp until it is on top of block A. Carefully slip out the sled from under block B and let it rest on block A as diagram 3 shows.

Diagram 3



4. Make a ramp so that a block can be placed on top of block B. Ramps need to have a gentle slope so that sleds can be pulled up them without a strong force having to be used.

Draw your ramp in the space below.

Raising blocks to make a pyramid

Age range

- Years 3/4 (SP4/5).
- Years 5/6 (SP6/7).

Resources

Copies of the worksheet, a large sand tray as used in the infant department, wooden blocks – about 3 cm cubes, a piece of cardboard, scissors.

Using the worksheet

Let the students look at the picture of ramps on page 37 of the student book. Remind them that the idea of using ramps is only a theory and not a fact. Tell the students that they are going to make a ramp and investigate how it has to be changed as a pyramid is built. In real pyramid building the blocks of stones were thought to be pulled up ramps over rollers and the ramps had walls of bricks to hold in the sand. In this investigation the blocks of wood are to be moved on a cardboard sled and the ramp will not have walls to hold the sand in place. The size of the sled will depend on the size of the blocks used but should have the shape as shown in diagram 1. The students should clear the sand away from the area they are to use to make the ramp then put down block A. They should build the ramp with a gentle slope. Tell the students that if the ramp had a steep slope a greater force and more energy would be needed to raise the block and this would make the building of the pyramid more difficult. One student should then gently pull the sled with block B up the ramp and then carefully slide out the sled so that block B rests on block A. When the students come to use a third block, they will realise that they have to make a longer ramp to keep a gentle slope. This should be recorded in their diagram at the bottom of the worksheet.

Younger students

The students can work in small groups under the supervision of a teacher helper or yourself.

Outcomes

The students can:

- Follow instructions.
- Appreciate that ramp building also took time in the building of a pyramid.
- Make a diagram as a record of their investigation.

Older students

The students work in small groups. This activity could be set up to try while the students also work on activities 17A, 17C and 18A.

Outcomes

The students can:

- Follow instructions.
- Appreciate that ramp building also took time in the building of a pyramid.
- Make a diagram as a record of their investigation.