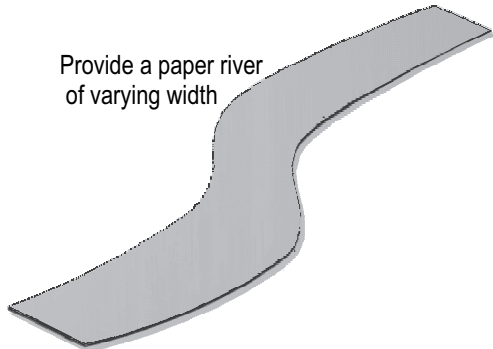
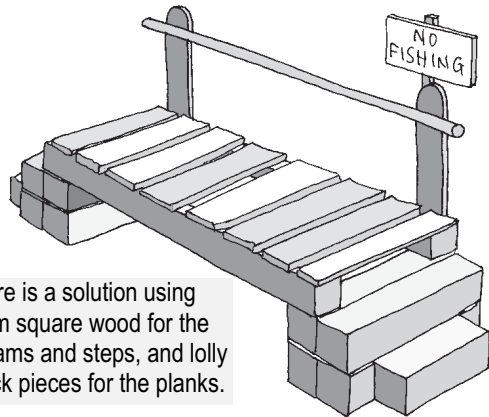


<b>ES</b>	<b>TECHNOLOGY</b> <b>TECHNOLOGY</b> <b>SCIENCE</b>	<b>Knowledge &amp; understanding</b> <b>Skills in designing &amp; making</b> K & U - Energy and forces	<b>Needs</b> <b>Preparing</b> Properties of energy	<b>Resources</b> <b>Carrying out</b> Conversion of energy	<b>Processes</b> <b>Reviewing</b> Forces
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Provide a paper river of varying width



Here is a solution using 1cm square wood for the beams and steps, and lolly stick pieces for the planks.

*Provide a paper 'river'. It may be a stand-alone, or it may be part of a larger display. Ideally it should vary in width, somewhere between 15 cm and 20 cm.*

The river has to be crossed, so a footbridge is required. Children design and make a simple bridge with the materials provided to span the river at some point.

**STAGE ONE**

Where is the bridge to be placed? How wide is the river at that point?  
How high should it be? What shall we use as bridge piers?  
What will the walkway be made from?

**STAGE TWO**

Construct the basic bridge.  
New question - How does one get onto the bridge? Steps? Ramp? Would a handrail be advisable? Or two?

**STAGE THREE**

Add the refinements. Place the bridge on the display. Does it span the river or will users get wet feet?  
Are there points on the river where the bridge doesn't fit?

# DESIGN BRIEF - MARBLE GAME

<b>ES</b>	<b>TECHNOLOGY</b> <b>TECHNOLOGY</b> <b>SCIENCE</b>	<b>Knowledge &amp; understanding</b> <b>Skills in designing &amp; making</b> K & U - Energy and forces	<b>Needs</b> <b>Preparing</b> Properties of energy	<b>Resources</b> <b>Carrying out</b> Conversion of energy	<b>Processes</b> <b>Reviewing</b> <b>Forces</b> <i>push/pull, friction, air resistance</i>
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You have a ramp down which to roll marbles and beads.  
So what's the game?  
Design a game that you could play using the ramp.  
Perhaps the marble could knock down some skittles.  
Maybe it could score points.  
It could run through arches - or drop through holes.

**STAGE ONE**

Try out your ideas - do the skittles fall over when they are hit or just slide along, for example?

**STAGE TWO**

Decide on your game and make the pieces you need.

**STAGE THREE**

Play the game - Does it work better on the floor or on a table?  
Is it fun to play?

