

Boomer it better



What you need:

- cardboard eg cereal pack
- printer
- scissors
- a big space

The fifth lecture is all about predicting the future. From planets and solar systems to atoms and radio waves, mathematicians have found equations that describe the behaviour of many things around us. This means that we can say what will happen in the future if we know what is happening now.

One example is the boomerang. You can conduct some mathematical investigations of your own by printing and producing cardboard cut-outs from the design shown here. Packaging from a cereal box is suitable, but any stiff card will do. Draw the shape on the card and carefully cut it out.

Throw your boomerang and make it come back by holding it vertical before you throw it. Use your wrist to spin the boomerang.

Despite its strange behaviour your boomerang follows simple rules.

- What happens if you use a piece of blue tack to add weight to your boomerang?
- What happens if you give it more or less spin?

Mathematicians can use equations to predict accurately how a boomerang will move when it is thrown. This works because the boomerang has a shape that helps it to behave in a simple manner. However, there are other forces, like turbulence, which can make things behave in much more complicated ways when they are flying through the air. Watch the PREDICTING THE FUTURE Christmas Lecture (broadcast on Channel 5 on 29 December 2006) to find out how understanding the equations of turbulence could win you a million dollars!



Christmas Lectures 2006

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