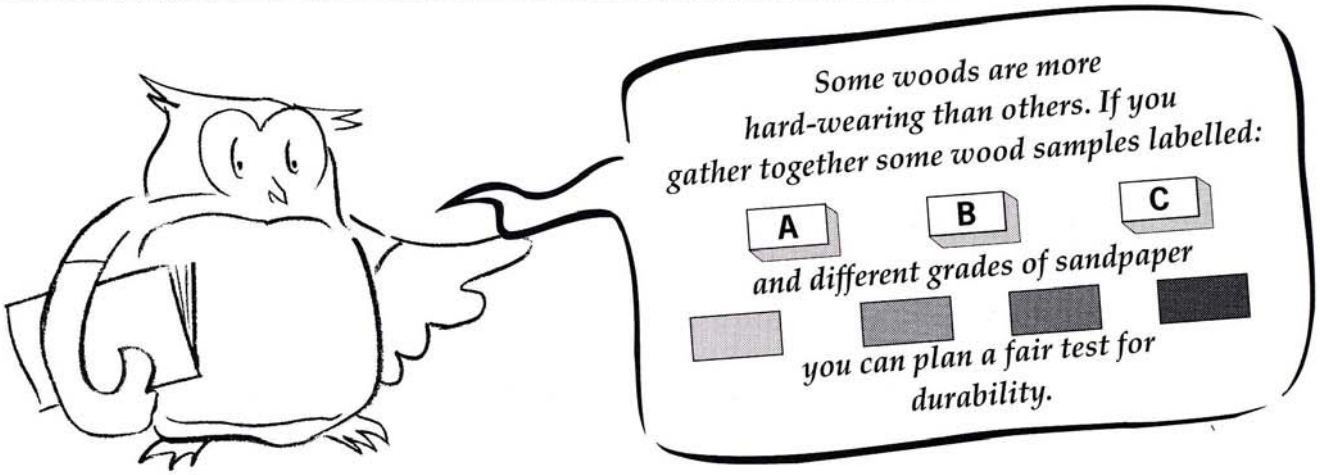


INVESTIGATION PLANNING BOARD

How can we place pieces of wood in order from the most hard-wearing to the least hard-wearing?

OUR ACTIVITY

Testing each piece of wood by rubbing with different grades of sandpaper.

WHAT CAN VARY?

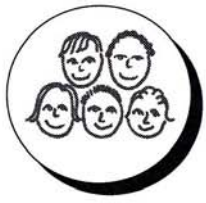
- **The type of wood, its size and its shape.**
- **The grade of sandpaper.**

WHAT MUST STAY THE SAME?

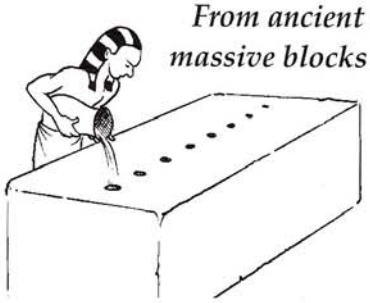
- **The person using the sandpaper.**
- **The number of rubs with sandpaper.**
- **The order in which the grades of sandpaper are used.**

TO BE DECIDED BY THE GROUP

- **If the wood is affected by the finest sandpaper, what does this mean?**
- **How will you decide the wood has been affected?**
  - **change of colour in the wood**
  - **fine dust comes off**
  - **permanent scratch mark in the wood**
  - **edge becomes rounded**
- **How will your group record its findings?**
- **Will you suggest a possible use for each wood sample?**



WHAT TO DO:
Use the Investigation Planning Board and work with a small group to plan the activity. Make sure each person in the group understands and agrees with the planning. Show your decisions to your teacher before carrying out the investigation.

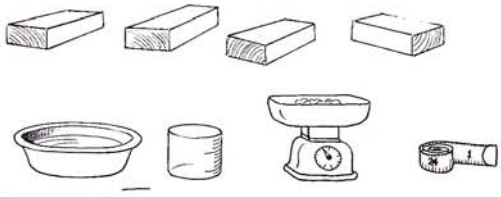


From ancient times up until 100 years ago, builders working with massive blocks of stone used wood to split it to the size they needed. Wood was hammered into holes drilled in the stone, along the line where they wanted the stone to break. Water was then poured over the wood. As the wood absorbed the water, it swelled up and split the stone.

Sometimes when wood absorbs water it is a nuisance, and carpenters need to know which kinds of wood absorb the most water. You can make up your own test of absorbency to use on your own samples of wood.

You will need:

- **Your labelled wood samples (A, B ,C ,D)**
- **A bowl of water in which to soak the wood overnight**
- **Measuring equipment of your choice**



INVESTIGATION PLANNING BOARD

OUR QUESTION

Can we place wood samples in order, from the sample that absorbs the most water to the sample that absorbs the least?

OUR ACTIVITY

We will measure each wood sample before soaking them in water overnight, then re-measure each sample, and record the difference.

WHAT CAN VARY?

The type of wood, its size, its shape and weight.

WHAT MUST STAY THE SAME?

- **The length of time each wood sample stays in water.**
- **The way of measuring each wood sample, before and after.**

TO BE DECIDED BY THE GROUP

- **How are you going to measure the wood samples before and after soaking them in water overnight?**

SUGGESTIONS:

– by weighing – record weight carefully, before and after.
– by measuring, as exactly as you can, how long, how wide and how high each sample is – doing this and recording the measurements, before and after. Are you going to predict in which direction any change will show?
– by placing each wood sample, briefly, in 1 litre of water in a calibrated measuring container, recording how much above 1 litre the water rises, before and after overnight soaking.

SHOW THE PLAN OF YOUR INVESTIGATION TO YOUR TEACHER BEFORE YOU CARRY IT OUT.