

# Info Sheet: What Are Shoes Made Of?



Shoes have a sole, an insole and an upper.

The upper hugs the top of your foot.

The insole cushions and tickles the bottom of your foot.

The sole creates an even surface and protects your foot from the ground.



## What is a Material?

Lots of simple shoes are made from the common materials rubber, leather and plastic. A material is just something that you use to build or make an object ; wooden sticks, hair, cardboard packets, jelly, bubble wrap, pasta and flowers can all be materials too!

What materials do you have in your house?

In your recycling box?

Can you use natural materials from your park or garden?

What about edible materials from the kitchen?

Write a quick list of things you could use as a material...

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# Sole

Lets make samples for the sole of your shoe

PVA is a plastic glue that can encase other objects to easily create a whole new material.

1. Gather some colourful/interesting small objects from around your home, the park or garden. Look in your recycling bin, your dry food cupboards and ask your parents what you can use.
2. Take your collected objects and pack them tightly into a shallow plastic lid or onto cellophane
3. Squeeze PVA into the lid to fill the gaps in between your objects
4. Leave it on the windowsill in the sun to dry out for 24 hours
5. Once completely dry peel off the new material you have made



PVA Glue

Glitter Beads

Seed Pods



Pasta

Stamps

Leaves

Beans

Flowers

Lemon Peel



Colourful card cut into shapes

Coloured Lids

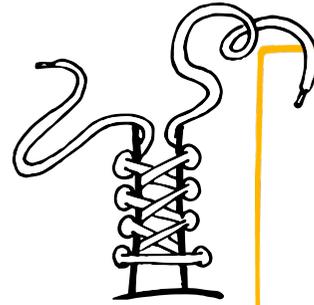
You can build up a really thick material by doing this in layers. Make a sample and let it dry. Then repeat the process on top of your first layer.



REMEMBER: if you choose to make a whole tray of new fancy sole material for your actual shoes, it may take 2-3 days in a sunny place to dry out before you can use it.

# Uppers

Designing shoe uppers is a world of possibilities. They can be any shape or colour. They could light up, they could have teeth!



What can your shoes do?

Could they be for wearing somewhere icy and cold, or on a planet made of lava will your shoes be designed to protect them? If worn in water, will your shoes help you float? Maybe they just help you have more fun!



How will your shoes go on and come off?

I hate tying laces don't you? Shoes can be **elastic**, **Velcro**, **magnetic**, **buckles** or you can just **slide** right in and out like a sandal.



Style - how would you like your shoes to look?

What kind of style are they? Think about stripes, spots and colours.



# Insole

Why stop at inventing the outside of the shoe?  
Let's re-invent the inside!

We feel with our fingers and hands but our feet are just as sensitive. Take off your shoes and have a look at your feet. Rub them against the floor. Is it hard or soft?  
Can you take a walk with no shoes on? Lets go!

What is your favourite surface to walk on?

How can you invent a shoe to tickle the sense of touch in your foot?



What do you feel when your feet touch the floor?

The wood is .....

The grass is .....

The pebbles are .....

The sand is .....

The dry leaves are .....

The fluffy rug is .....

The ..... are .....

The ..... is .....

