

Choosing materials for a build

engineering

What you need: plastic sheet samples (about 10 cm square) · aluminium foil samples (about 10 cm square) · card samples (about 10 cm square) · cotton fabric samples (about 10 cm square) · paper samples (about 10 cm square) — extension only · shallow water tray · plastic dropper or teaspoon · identical metal washers or 1 cent / 2 cent coins · hardback books to use as load-test supports · cloths or paper towels for spills

Words to use

Property · Design brief · Justify

Our question

Which materials have the properties our seed-tray shelter needs: stays dry, holds its shape, carries a load?

I predict...(which will stay driest, which will hold a load best) because...

Keeping it fair

We change only the material. We keep the same: the water offered, how we bend each sample, the washers added one at a time, and the support gap.

Our results

Material	Water test (dry / damp / soaked)	Bend test (held shape / bent / broke)	Load test (washers held)

Roof material, and why (use the test evidence)

Sides or base material, and why

One material we would NOT use, and why