

# Designer Choices, Plastic Properties

In the 'Plastics Dreams' section of the exhibition each display case presents a range of items made from a specific plastic. The plastics featured are nylon, polythene, polyester, PVC, polyurethane, polystyrene, acrylic and urea formaldehyde.

Look at all the display cases then choose just one to focus on. Circle the case that you have chosen and list the items on show in the case:

**Chosen case (circle your choice)**

nylon polythene polyester PVC polyurethane polystyrene acrylic  
urea formaldehyde

**Items in the display case**

If you were designing these items from scratch you would need to decide what plastics to make them from.

Thinking about how the items are used, and what jobs they have to do, what properties would you be looking for when choosing the best plastic to use? Circle your choices:

**Strength – a measure of the amount of force needed to pull the plastic apart.**

very weak quite weak moderately weak moderately strong quite strong very strong  
doesn't matter

**Softness – a measure of how easy it is to scratch the plastic.**

very soft quite soft moderately soft moderately hard quite hard very hard  
doesn't matter

**Flexibility – a measure of how bendy the plastic is.**

very flexible quite flexible moderately flexible moderately stiff quite stiff very stiff  
doesn't matter

**Density – a measure of how heavy the plastic is for its size**

very low quite low moderately low moderately high quite high very high  
doesn't matter

**Drawing into fibres – whether the plastic can be drawn into fibres that can be woven together**

never sometimes often doesn't matter

**Transparency – a measure of how much light it lets through**

transparent semi-transparent opaque doesn't matter

List any other properties you think are important:

Can you think of any other materials having some or all of these properties?

Could the item have been made from these materials instead? Explain why.



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this sheet please recycle it.

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