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2 Properties

Start here

1 Work in pairs. What are the most important properties of the materials in the box? Discuss with your partner.

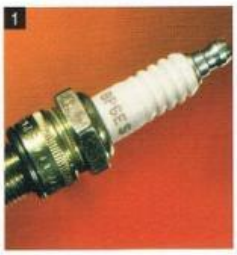
ceramic concrete diamond fibreglass graphite steel

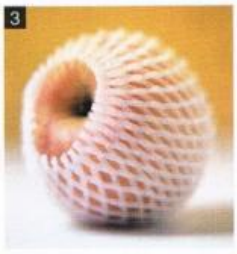
Example: You can't burn/melt/break/scratch/bend/cut it (easily).

Vocabulary

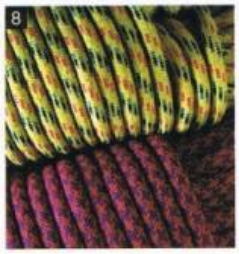
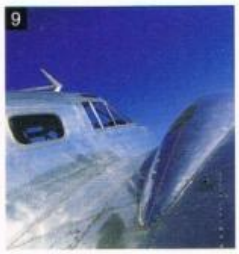
2 What are these made of? Match the photos with these materials.

aluminium ceramic fibreglass graphite nylon
polycarbonate polystyrene rubber steel titanium








Speaking

3 Underline the stressed syllable.

1 ny lon
2 graph ite
3 ce ram ic
4 pol y car bon ate
5 al u min i um
6 pol y sty rene
7 ti ta ni um
8 fi bre glass

fibreglass (BrE) = *fiberglass* (AmE)
aluminium (BrE) = *aluminum* (AmE)

4 33 Listen and check your answers to 3. Say the words with the correct stress.

Language

What	is 's	this helmet	made of?	It	is 's	made of	polycarbonate. nylon.
What	are 're	those ropes		They	are 're		

5 34 Listen and repeat.

- ● *What's this made of?*
- ○ It's made of ceramic.
- ● *What are these made of?*
- ○ They're made of polycarbonate.

6 Work in pairs. Make similar questions and answers about the photos in 2.

LIVEWORKSHEETS

Vocabulary **7** Match the sentences.

1 This material doesn't burn or melt if you heat it.
2 This material doesn't break if you strike it or drop it.
3 You can't bend this material.
4 This material doesn't corrode if you put it in water.
5 You can't scratch this material or cut it.

a) It's rigid.
b) It's hard.
c) It's tough.
d) It's heat-resistant.
e) It's corrosion-resistant.

8 Match the words with their opposites.

1 tough	a) soft
2 hard	b) heavy
3 rigid	c) weak
4 strong	d) brittle
5 light	e) flexible

Reading **9** Read the text and complete the table below.

This racing car is made from the latest hi-tech engineering materials. It's made from metals, alloys, ceramics, plastics and composites. Many materials in the car are light, but very strong.

The nose cone of the vehicle is made of strong, light fibreglass.

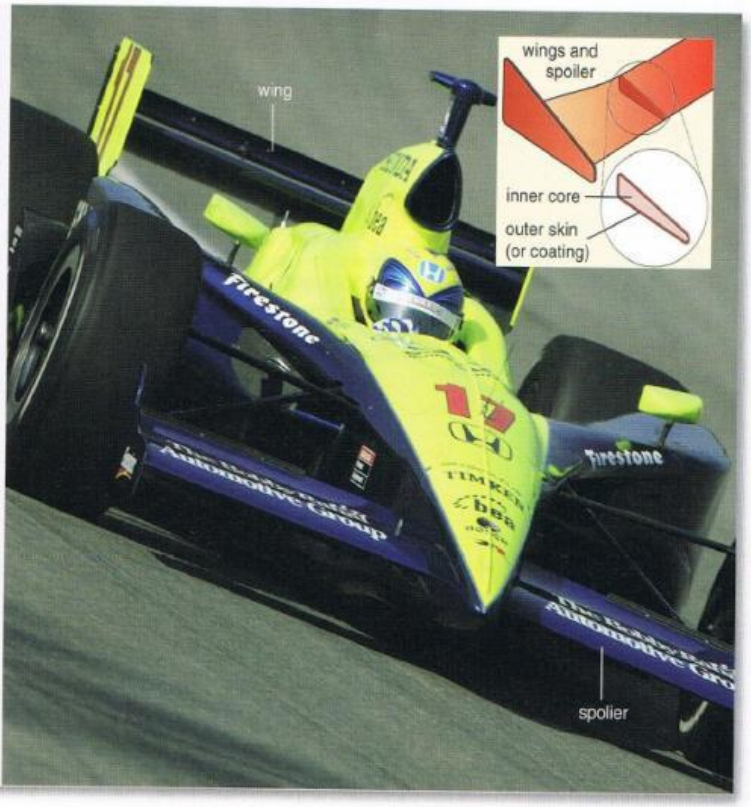
The spoiler and the wings are made from two materials. The inner core is light. It's made of polystyrene. The outer skin is hard and made of fibreglass.

The frame is light, but very tough and rigid. It's made of cromoly, a steel alloy.

The radiator is made of aluminium. The aluminium is coated with ceramic. These two materials are corrosion-resistant.

The engine and pistons are made of a light aluminium alloy. Each piston inside the engine is coated with a heat-resistant ceramic.

The wheels are made of a strong, light aluminium alloy. The tyres are made of a tough rubber composite.



an *alloy* is a mixture of two or more metals
a *composite* is a mixture of two types of material
fibreglass is a composite. It is a mixture of a plastic and a ceramic

BrE *tyre*; AmE *tire*

Part	What's it made of?		What are its properties?
nose cone	(1)		(2)
spoiler and wings	coated with (3)		(4)
wheels	(5)	alloy	(6)
tyres	(7)	composite	(8)
pistons	coated with (9)		(10)
frame	(11)		(12)
radiator	(13)		(14)

LIVEWORKSHEETS