

## 1 Materials testing

- Start here** 1 Work in pairs. Read the instructions and answer the question.
- Look at the helmet and rope. What are they made of?
  - Design tests for them. Use diagrams and the words in the box.

break nylon polycarbonate pull stretch strike

- Listening** 2  32 Listen and answer the questions.

- 1 What material is the rope made of?  
\_\_\_\_\_
- 2 What is the lecturer doing?  
\_\_\_\_\_
- 3 Is the rope breaking?  
\_\_\_\_\_

- 3 Listen again and complete the dialogue.

- I'm (1) \_\_\_\_\_ the rope. I'm (2) \_\_\_\_\_ it.  
Is it (3) \_\_\_\_\_?
- No, it (4) \_\_\_\_\_.
- That's right. It (5) \_\_\_\_\_.

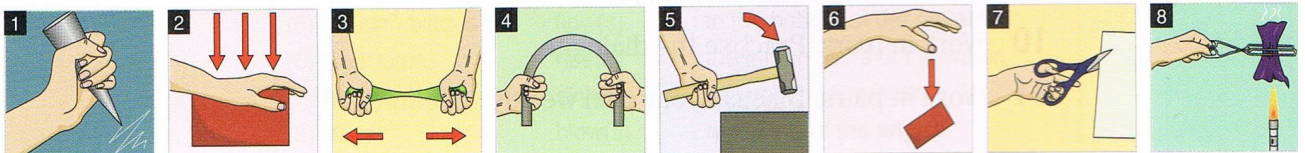


**Language** This is the *present continuous* form of the verb. Use it to describe what is happening at the same time as you are speaking.

	I	'm am	pull	-ing	the rope.
	The rope	isn't is not	break	-ing.	
What	are	you	do	-ing?	
	is	the rope	break		

- Vocabulary** 4 Match the actions with the verbs in the box.

bend compress cut drop heat scratch stretch strike



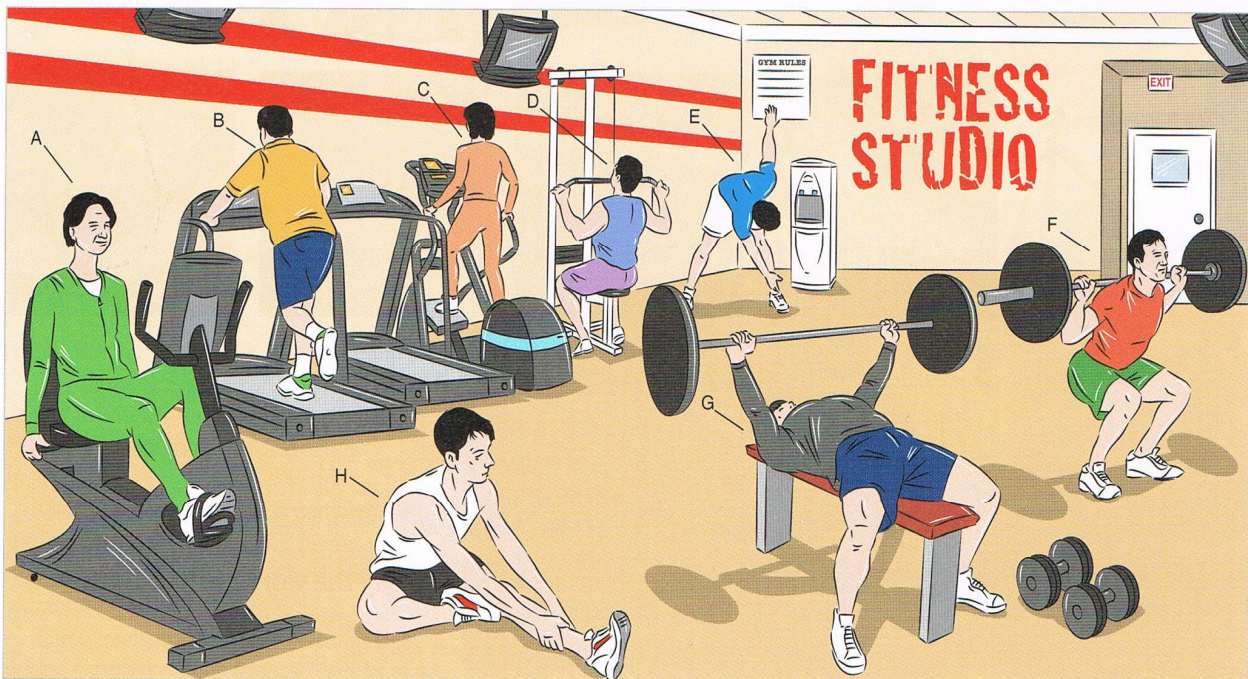
**Language** 5 The lecturer is testing other materials. Complete his description.

- Now I (1) *'m heating* (heat) this plastic to 100°C. Can you see?  
It (2) \_\_\_\_\_ (not melt).  
OK, now I (3) \_\_\_\_\_ (put) this helmet on the floor. And  
now the machine (4) \_\_\_\_\_ (drop) a 10 kg weight on it.  
Right, now look at Dr Wilson. He (5) \_\_\_\_\_ (strike) the  
metal plate with a hammer. But the plate (6) \_\_\_\_\_  
(not bend).  
OK, now the jaws of the vice (7) \_\_\_\_\_ (compress)  
this plastic block. The block (8) \_\_\_\_\_ (not break).  
Now Dr Wilson (9) \_\_\_\_\_ (hang) a weight of 500 kg  
from the ropes. But the ropes (10) \_\_\_\_\_ (not stretch).

Note the spelling changes:  
strike → striking  
drop → dropping  
cut → cutting

**Speaking** 6 What are the people in the gym doing? Describe this picture using the words in the box.

bend cycle hold lift pick up pull push run sit stretch touch



7 Ask and answer questions about the picture in 6.

- A: *What's D doing? Is he pushing the bar up?*  
B: *No, he isn't. He's pulling the bar down.*

8 Work in pairs. Guess the sport from the mime.

Student A: do the actions.

Student B: guess what Student A is doing. Then change roles.

- A: *Watch me. (Mime a sport). What am I doing now?*  
B: *Are you diving?*  
A: *No, I'm not diving.*  
B: *I know. You're swimming.*  
A: *Yes, you're right. I'm swimming.*

## 2 Properties

**Start here**

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

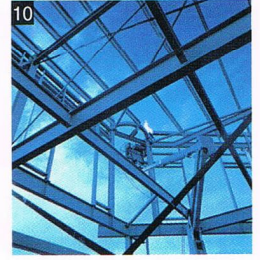
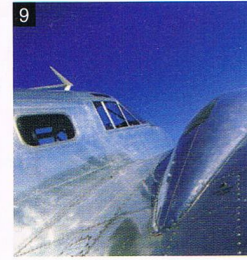
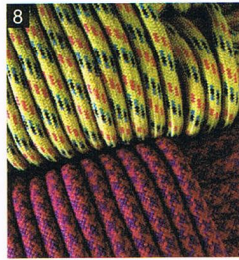
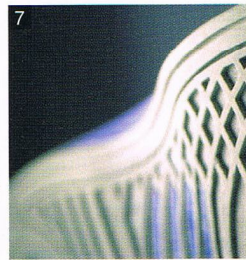
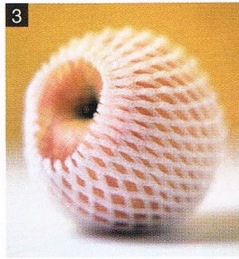
ceramic concrete diamond fibreglass graphite steel

*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                      5 al u min i um  
2 graph ite                6 pol y sty rene  
3 ce ram ic                7 ti ta ni um  
4 pol y car bon ate      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	made of?	They	are 're	made of	polycarbonate. nylon.

- 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.

**Vocabulary 7** Match the sentences.

- |  |                              |
|--|------------------------------|
| 1 This material doesn't burn or melt if you heat it.       | a) It's rigid.               |
| 2 This material doesn't break if you strike it or drop it. | b) It's hard.                |
| 3 You can't bend this material.                            | c) It's tough.               |
| 4 This material doesn't corrode if you put it in water.    | d) It's heat-resistant.      |
| 5 You can't scratch this material or cut it.               | 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)

## 3 Buying

**Listening 1**  **35** Listen and complete the customer call form.

Customer Call Information	
Name:	Manuel
Phone number:	
Email address:	
Message:	

**2**  **36** Listen and write the correct email and web addresses.

When you hear this	write this
1 waleed at sports dot com	waleed@sports.com
2 adam at city dot co dot U, K	
3 theo walcott, that's T-H-E-O then W-A-L-C-O-T-T at goalfeast, that's G-O-A-L-F-E-A-S-T all one word dot com	
4 C dot ronaldo, that's R-O-N-A-L-D-O at back-of-the-net, that's B-A-C-K dash O-F dash T-H-E dot net	
5 www dot toyota, that's T-O-Y-O-T-A dot com forward slash customer dash support	
6 www dot orascom, that's O-R-A-S-C-O-M dot com dot E-G forward slash sales underscore one	

**Speaking 3** Work in pairs. Dictate the addresses to your partner.

Student A. Turn to page 114. Student B. Turn to page 118.

**Listening 4**  **37** Listen to this phone conversation and complete the questions.

Never put a stress on the -ty in numbers like *thirty*, *forty*, *fifty* and so on.  
Tip: say *seventy* but *seventeen* to make the difference clear.

- What's your surname, please?
- It's Lint.
- Could you (1) \_\_\_\_\_ that, please?
- Lint.
- Could you (2) \_\_\_\_\_ that, please?
- L-I-N-T.
- (3) \_\_\_\_\_ T or D?
- It's T. T for teacher.
- Thanks. And what's the product number?
- It's 17-305.
- (4) \_\_\_\_\_ 17 or 70?
- Teen. Seventeen. One seven.
- Right. Thanks.

**Speaking 5** Practise the phone call in pairs. Then change roles.

**Task 6** Work in pairs. Buy sports equipment over the telephone.

Student A. Turn to page 116.

Student B:

- 1 You are the customer. Circle three items you would like to buy, and circle the features you want (size, colour, material), and the price. Then phone up the shop and place your order. You can either make up details (e.g. names, phone numbers, etc.) or use your own.
- 2 Then change roles. You are now the sales person in the sports shop. Ask Student A questions and complete this order form.

no. = number  
# = number

**helmet:** polycarbonate (product # 16-384: \$80/£40/€60) or fibreglass (product # 18-399: \$70/£35/€50). Sizes: L, M or S.  
Other colours:

**jacket:** cotton (product # 14-556: \$70/£37/€58) or polyester (product # 17-765: \$75/£40/€60). Sizes: XL, L, M, S.  
Other colours:

**rope:** nylon (product # 13-246: \$40/£18/€25 per 25 m) or nylon + rubber composite (product # 30-356: \$45/£22/€33 per 25 m). Sizes: 50 m/75 m/100 m.  
Other colours:

**backpack:** nylon (product # 19-231: \$120/£60/€90) or polyester (product # 90-113: \$110/£55/€85). Sizes: XL, L, M, S.  
Other colours:

**USEFUL LANGUAGE**

- What's your name/phone number/email address?
- Could you spell/repeat that, please?  
Is that sixteen or sixty?
- What's the product name/number?
- What colour/size/material would you like/do you need?
- Do you want to pay in dollars (\$), sterling (£) or euros (€)?
- How many would you like/do you need?

Name	
Phone no.	
Email address	
Order	

Product name	Product no.	Colour	Size	Material	Price	Quantity

**Social English 7** 38 Listen to three telephone calls. Mike (M) is phoning his friend John (J).

	1	2	3
J	Hello?	Hello?	Hello. John Davis here.
M	<i>Hello. Is that John?</i>	<i>Hello. Is that John?</i>	<i>Oh hi, John. This is Mike.</i>
J	Yes?	Yes. Is that Mike?	Hi, Mike.
M	<i>It's Mike.</i>	<i>Yes, it's me. Hi. How are you?</i>	<i>Hi. How are things?</i>
J	Oh hi, Mike.	Fine, thanks. How about you?	Great, thanks. How are you?
M	<i>Hi. How are you?</i>	<i>I'm fine. (Begin your call).</i>	<i>Good. (Begin your call).</i>
J	OK, thanks. How are you?		
M	<i>Fine. (Begin your call).</i>		

**8** Work in pairs. Practise short phone calls, using your own names.