

# 1 Materials testing

1 Make sentences about the materials with 'can ... , but ... can't', or 'can ... and ... can'.

1 (bend / metal / wood) *You can bend metal, but you can't bend wood.*

2 (heat / air / water) *You can heat air and you can heat water.*

3 (melt / plastic / wood)

4 (scratch / glass / metal)

5 (stretch / nylon / glass)

6 (break / glass / wood)

7 (cut / wood / metal)

8 (compress / air / glass)

2 A lecturer is showing a DVD of a test. Complete the description. Use the present continuous.



Hello. Now we can watch the DVD of a car crash. Here they (1) *are testing* (test) the material for the seatbelt. The human dummy (2) \_\_\_\_\_ (sit) in the test car. This dummy weighs 90 kilos. Here the technician (3) \_\_\_\_\_ (tighten) the nylon seatbelt around the dummy. Now the technician (4) \_\_\_\_\_ (start) the engine of the radio-controlled car.

Look at the crash in slo-mo (= slow motion). The car (5) \_\_\_\_\_ (run) into the concrete block at 40 kph. The body of the dummy (6) \_\_\_\_\_ (stretch) the nylon seatbelt. And see, the dummy (7) \_\_\_\_\_ (touch) the airbag. Look carefully. (8) \_\_\_\_\_ the dummy's face \_\_\_\_\_ (strike) the front window? No, it isn't. There is no contact with the front window.

3 Write questions and answers for the pictures.



1 A: *Are you pushing the handles?*  
B: *No, I'm rowing.*

2 A:  
B:

3 A:  
B:

4 A:  
B:

5 A:  
B:

6 A:  
B:

## 2 Properties

- 1 Find the names of 14 materials in the puzzle and circle them. The words go vertically from top to bottom, and sideways from left to right. No words go diagonally.

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | A | J | L | O | Y | C | O | M | P | O | S | I | T | E |
| P | L | A | S | T | I | C | E | T | O | Z | P | R | A | K |
| L | U | R | T | I | B | K | Y | L | L | B | O | J | L | I |
| O | M | A | L | J | M | O | Q | A | Y | U | L | S | D | A |
| F | I | B | R | E | G | L | A | S | S | I | Y | T | I | Y |
| B | N | S | D | R | A | R | X | P | T | B | C | N | A | O |
| T | I | T | A | N | I | U | M | D | Y | F | A | H | M | I |
| J | U | E | K | Y | L | B | N | T | R | I | R | V | O | Z |
| A | M | E | B | L | C | B | F | G | E | A | B | H | N | I |
| J | R | L | K | O | Q | E | S | V | N | U | O | Z | D | W |
| Y | Z | C | O | N | C | R | E | T | E | X | N | B | G | Y |
| H | I | R | J | T | K | U | L | C | E | R | A | M | I | C |
| S | V | N | X | P | G | R | A | P | H | I | T | E | Q | W |
| I | Y | B | T | L | E | K | O | E | U | J | E | C | D | I |

- 2 Underline the two correct adjectives for each material.

- 1 A ceramic cup is flexible/heat-resistant and hard/soft.
- 2 A concrete floor is rigid/flexible and brittle/tough.
- 3 A rubber tyre is rigid/flexible and weak/strong.
- 4 A fibreglass window frame is heat-resistant/soft and rigid/flexible.
- 5 A nylon rope is rigid/flexible and strong/weak.
- 6 The graphite in the middle of a pencil is light/heavy and hard/soft.
- 7 A polycarbonate road sign is rigid/flexible and strong/weak.
- 8 A polystyrene coffee cup is brittle/tough and heavy/light.

- 3 Design a plane. Choose one material for each part of the plane.

- 1 (nose cone / plastic / aluminium)

*The nose cone is made of aluminium.*

- 2 (wheels / fibreglass / aluminium alloy)

- 3 (tyres / ceramic / rubber composite)

- 4 (frame / composite / polystyrene)

- 5 (inside / fibreglass / rubber composite)

- 6 (seats / plastic / ceramic)

- 7 (engine / fibreglass / aluminium alloy)

- 8 (wings / aluminium alloy / plastic)



### 3 Buying

- 1  15 Listen and complete the order form. A customer is buying equipment on the phone.

| THE CLIMBING SHOP   |                                                                         |
|---------------------|-------------------------------------------------------------------------|
| ORDER FORM          |                                                                         |
| Date: 23/03/08      | <b>Helmet</b> (polycarbonate / fibreglass)<br>(L / M / S)               |
| Product name: _____ |                                                                         |
| Product no: _____   | <b>Rope</b> (nylon / nylon + rubber composite)<br>(50 m / 75 m / 100 m) |
| Quantity: _____     |                                                                         |
| Colour: _____       | <b>Jacket</b> (cotton / polyester)<br>(XL / L / M / S)                  |
| Size: _____         |                                                                         |
| Material: _____     | <b>Backpack</b> (nylon / polyester)<br>(XL / L / M / S)                 |
| Price: _____        |                                                                         |

- 2  16 Listen and correct the email addresses.

- 1 jclark@eyeway.co.uk → \_\_\_\_\_
- 2 alex2@antigm.ac.uk → \_\_\_\_\_
- 3 s.hagen@renault.fra → \_\_\_\_\_

- 3  17 Listen and write the website addresses.

- 1 News: \_\_\_\_\_
- 2 Live radio: \_\_\_\_\_
- 3 Radio-controlled toys: \_\_\_\_\_

- 4 A customer is phoning a sports shop. Write questions for the answers.

- 1 Q: *What's your surname, please?*  
A: It's Badrawi.
- 2 Q: \_\_\_\_\_  
A: B-A-D-R-A-W-I.
- 3 Q: \_\_\_\_\_  
A: 01273 497 633.
- 4 Q: \_\_\_\_\_  
A: Ali dot badrawi at atlas dot com.
- 5 Q: \_\_\_\_\_  
A: Yes. A-L-I dot badrawi at atlas, that's A-T-L-A-S dot com.
- 6 Q: \_\_\_\_\_  
A: I need three helmets.
- 7 Q: \_\_\_\_\_  
A: I'd like white ones, please.
- 8 Q: \_\_\_\_\_  
A: I want to pay in euros, please.

## 4 Word list

| NOUNS<br>(Materials) | NOUNS<br>(Car parts, other) | VERBS    | ADJECTIVES                    |
|----------------------|-----------------------------|----------|-------------------------------|
| alloy                | backpack                    | bend     | brittle                       |
| aluminium            | cone                        | break    | corrosion-resistant           |
| ceramic              | engine                      | burn     | flexible                      |
| composite            | frame                       | climb    | hard                          |
| concrete             | helmet                      | coat     | heat-resistant                |
| cromoly              | jacket                      | compress | heavy                         |
| diamond              | piston                      | corrode  | light                         |
| fibreglass           | radiator                    | drop     | rigid                         |
| graphite             | rope                        | heat     | soft                          |
| nylon                | spoiler                     | hold     | strong                        |
| plastic              | tyre                        | melt     | tough                         |
| polycarbonate        | vehicle                     | row      | weak                          |
| polyester            | wheel                       | run      | <b>PHRASES FOR<br/>EMAILS</b> |
| polystyrene          | wing                        | scratch  |                               |
| rubber               |                             | stretch  |                               |
| steel                |                             | strike   |                               |
| titanium             |                             | touch    |                               |
|                      |                             |          | dash                          |
|                      |                             |          | dot                           |
|                      |                             |          | forward slash                 |
|                      |                             |          | hyphen                        |
|                      |                             |          | underscore                    |

1 Memory test. What is a racing car made of? Write the materials from column 1.

- The nose cone *is made of fibreglass.*
- The wheels *are made of* \_\_\_\_\_
- The frame \_\_\_\_\_
- The tyres \_\_\_\_\_
- The radiator \_\_\_\_\_
- The engine \_\_\_\_\_
- The pistons are coated with \_\_\_\_\_
- The wings are made of \_\_\_\_\_ and \_\_\_\_\_

2 Write the opposites of the adjectives from the list in column 4.

- Nylon isn't weak. It's *strong.*
- Polystyrene isn't tough. It's \_\_\_\_\_
- Graphite isn't hard. It's \_\_\_\_\_
- Rubber isn't rigid. It's \_\_\_\_\_
- Aluminium isn't heavy. It's \_\_\_\_\_