

ENTRY LEVEL CERTIFICATE

SCIENCE

Test P4 Pushes and Pulls

R591 P4

Candidates answer on the question paper

OCR Supplied Materials:

None

Other Materials Required:

- None

Duration: 10 minutes

Candidate Forename		Candidate Surname	
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Centre Number						Candidate Number				
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INSTRUCTIONS TO CANDIDATES

- Write your name, Centre Number and Candidate Number in the boxes above. Please write clearly and in capital letters.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Answer **all** the questions.

INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **15**.
- This document consists of **4** pages. Any blank pages are indicated.

For Teacher's Use	
Raw Mark/ 15	
Points/ 2	

Answer **all** questions.

1 Forces can be pulls, pushes, twists or bends.

Finish the table. Write **pull, push, twist** or **bend** to show which force is used.

You can use words more than once.

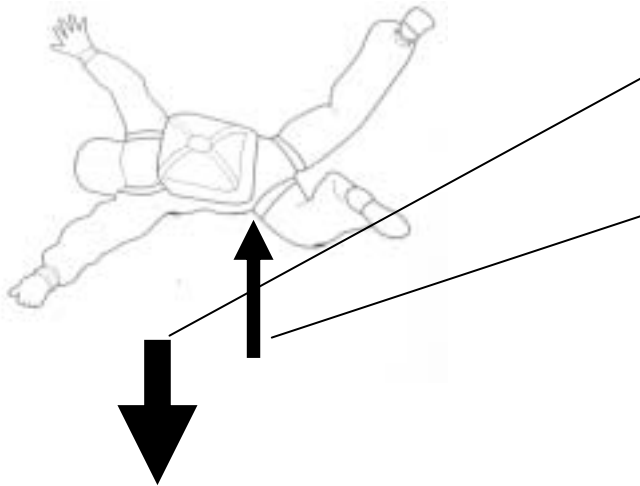
The first one has been done for you.

pressing a key on a keyboard	push
screwing on a bottle cap	
shaping a metal bar into a curve	
taking the plug out of a mains socket	
towing a car with a rope	

[4]

2 Jane is sky-diving.

(a) Label both forces. Choose from **air, drag, gravity, ground**.



This downward force is called
.....

This upward force is called
.....

[2]

(b) Which statement **best** describes Jane's speed as she falls?

Put a tick (✓) in the box next to the correct answer.

It increases when she opens her parachute.	<input type="checkbox"/>
It is constant the whole time she is falling.	<input type="checkbox"/>
It reaches a maximum value.	<input type="checkbox"/>

[1]

3 Jake and Debbie are bungee jumping together.

Here is some data about the bungee rope.

The length of the bungee rope is 30m.

When they jump, the rope stretches to 36m.



Jake then jumps on his own using the same rope.

(a) What length does the rope now stretch to?

Put a ring around the correct answer.

27m

30m

33m

39m

[1]

(b) After Jake has finished his jump he takes off the rope.

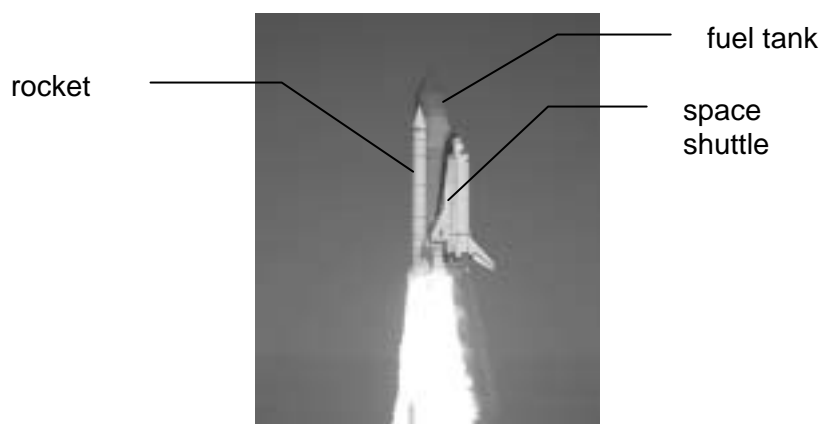
The rope is 30m long.

Explain why the rope is now 30m long.

.....

..... [1]

4 The picture shows a Space Shuttle being launched.



(a) Which part in the diagram comes back to Earth and can be reused?

..... [1]

(b) What happens to parts that do not get back through the atmosphere?

..... [1]

5 Speed cameras help to reduce the speed of cars.
Finish the sentences. Choose words from this list.

- air bags
- chicanes
- crumple zones
- seat belts
- speed humps



The speed of cars can also be reduced by using
and

The driver and passengers are safer in a crash if they wear
..... act as large cushions to protect the driver from hitting the steering
wheel.

[4]



Copyright Information:

Q3 *image of a bungee jumper* © iStock www.istock.com

Q4 *image of a space shuttle* © NASA

Q5 *image of a speed camera* © iStock www.istock.com

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