

# 9La

# Under pressure 1

Name \_\_\_\_\_ Class \_\_\_\_\_

1 Complete the sentences using the words in the box.

Pressure is the amount of \_\_\_\_\_ acting on a certain \_\_\_\_\_.

The size of the pressure depends on the \_\_\_\_\_ of the force and the size of the \_\_\_\_\_ it is pushing on.

area  
size  
force  
area

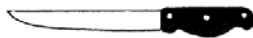
2 1 The knife blade has ...

a) large area

b) small area

Tick the correct answer

2 Put a cross on the diagram to show where the force will push on.



3 The force pushing on a small area will make the pressure

a) more

b) less

3 Tick the correct answer

a) Pressure is measured in ...

metres (m)

Pascals (Pa)

newtons (n)

newtons per square metre ( $\text{N}/\text{cm}^2$ )

newtons per square centre metre ( $\text{N}/\text{cm}^2$ )

hours

b) 1 Pa is equal to

1  $\text{N}/\text{m}^2$

10  $\text{N}/\text{m}^2$

1000  $\text{N}/\text{m}^2$

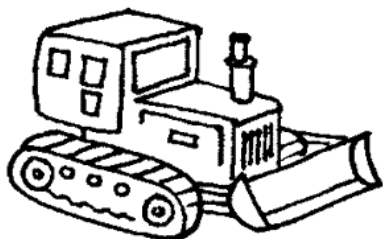
9La

# Under pressure

Name \_\_\_\_\_

Class \_\_\_\_\_

Match up



Camels walk on sand

They have caterpillar tracks to make less pressure so that they don't sink into the ground



Large bulldozers work in muddy places

Each stud has a small area to make more pressure so they give better grip.



Football boots have studs.

It has large flat feet to make less pressure, so that it does not sink in the sand.

Name \_\_\_\_\_

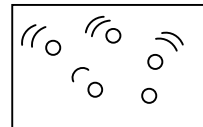
Class \_\_\_\_\_

1 Everything is made up of tiny particles.

## Match-up

The tiny particles in a solid are close together.

They can only vibrate.



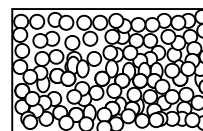
The tiny particles in a liquid are close together

but they can move around each other.



The tiny particles in a gas are apart from each

other and they move about quickly.



2 Use the words in the box to complete the sentences.

In \_\_\_\_\_ and \_\_\_\_\_ the particles are moving around in all \_\_\_\_\_ .

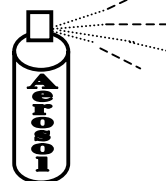
The force of the particles hitting things causes \_\_\_\_\_ .

pressure    liquid    directions    gas

3 True or False?

A pneumatic tyre is filled with air. \_\_\_\_\_

4



Where is the pressure greater?

(a) inside the can

(b) outside the can

# 9Lb

# Hydraulic systems

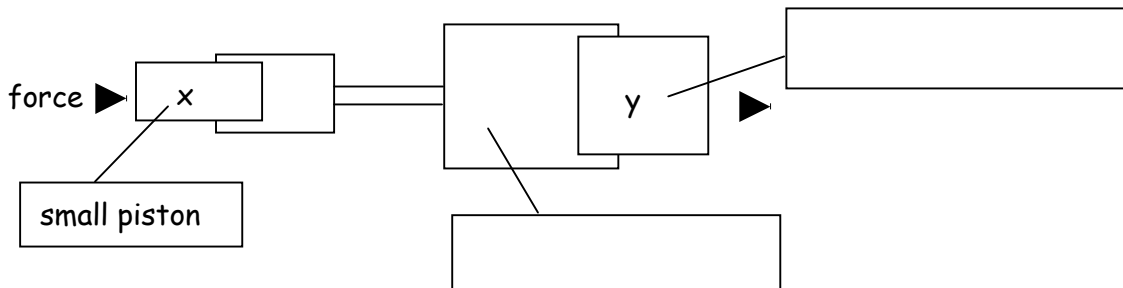
Name \_\_\_\_\_ Class \_\_\_\_\_

1 Complete the sentences using the words in the box.

Liquids cannot be \_\_\_\_\_ because there are no gaps between the \_\_\_\_\_. Liquids can be used to send \_\_\_\_\_ from one place to another. when we use liquids like this, we call it a \_\_\_\_\_ system.

compressed  
forces  
hydraulic  
particles

2 Hydraulic systems can be used to increase the size of a force.



• Label the parts of the hydraulic system using the following words

large piston    liquid

• Colour the liquid green.



# 9Lb

# Changing pressure

Name \_\_\_\_\_ Class \_\_\_\_\_

1 Complete these sentences using words from the box.

The pressure in water \_\_\_\_\_  
as you go deeper, because there is \_\_\_\_\_  
water above you.

The pressure of air gets \_\_\_\_\_ if you go up a  
mountain, because there is less \_\_\_\_\_ above you.

When we are on land, the \_\_\_\_\_ inside  
our bodies is the \_\_\_\_\_ as the pressure outside.

If you go diving, the pressure \_\_\_\_\_ your  
body would increase, but the pressure inside would stay  
the same. Your lungs would \_\_\_\_\_ (get smaller).

- air
- contract
- increases
- less
- more
- outside
- pressure
- same

2 Match up

bubbles in the blood that divers sometimes  
get

altitude sickness

an illness caused by not getting enough  
oxygen in the air

decompression  
sickness

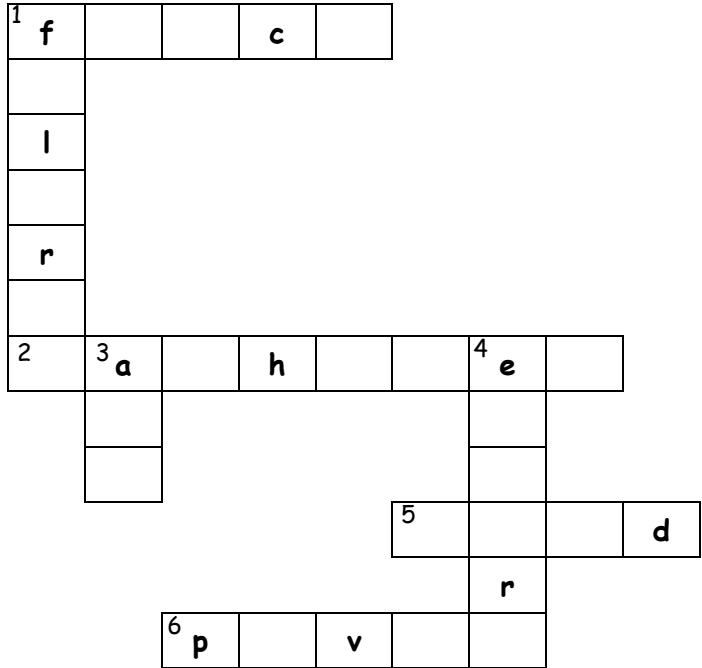
# 9Lc

# Levers 1

Name \_\_\_\_\_

Class \_\_\_\_\_

1



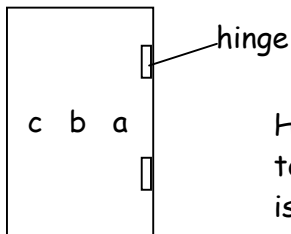
### Across

- 1 Levers are used to increase the size of a \_\_\_\_\_.
- 2 Levers are simple \_\_\_\_\_.
- 5 The downward force of the effort lifts the \_\_\_\_\_.

### Down

- 1 The pivot can also be called the \_\_\_\_\_.
- 3 A part of the body that acts as a lever.
- 4 When one side of a lever is pushed down we call it the \_\_\_\_\_.

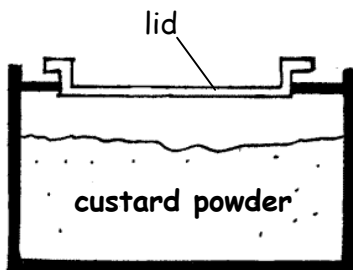
2



Here is a door. It is easier to to open the door if the effort is a long way from the hinge.

The handle is at \_\_\_\_\_.

3



Draw where you would use a spoon handle to open the tin.

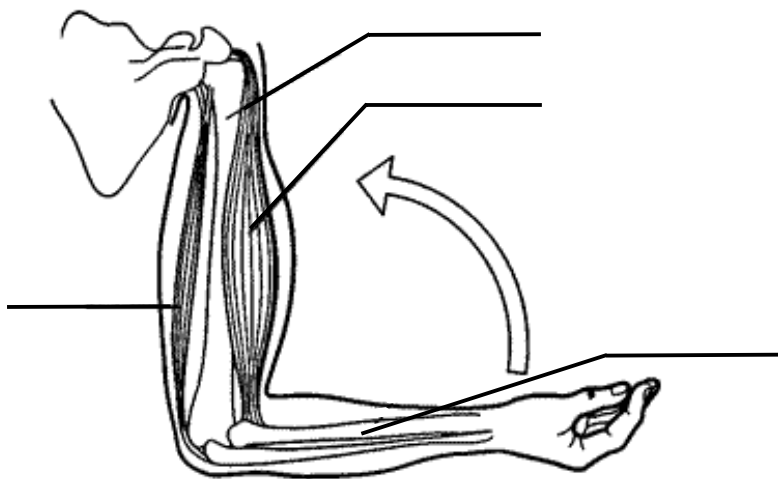
9Lc

# Levers 2

Name \_\_\_\_\_

Class \_\_\_\_\_

Label the diagram. Use the words from the box.



biceps muscle

pivot

radius bone

Triceps muscle

Muscles work in a                             pairs. One muscle  
                            to bend your arm. The other muscle                          
it.

antagonistic    contracts    straightens

Name \_\_\_\_\_

Class \_\_\_\_\_

1

<sup>1</sup> f	o	r	c	e				
u								
l								
c								
r								
u								
<sup>2</sup> m	<sup>3</sup> a	c	h	i	n	<sup>4</sup> e	s	
	r					f		
	m					f		
					<sup>5</sup> l	o	a	d
						r		
	<sup>6</sup> p	i	v	o	t			

**Across**

- Levers are used to increase the size of a \_\_\_\_\_ .
- Levers are simple \_\_\_\_\_ .
- The downward force of the effort lifts the \_\_\_\_\_ .

**Down**

- The pivot can also be called the \_\_\_\_\_ .
- A part of the body that acts as a lever.
- When one side of a lever is pushed down we call it the \_\_\_\_\_ .

# Moment by moment

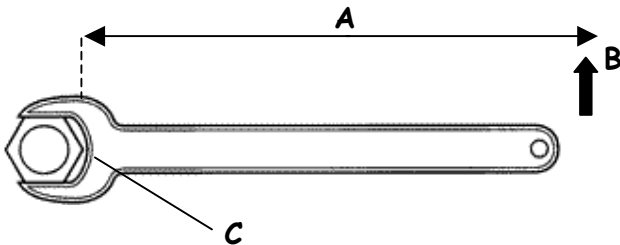
Name \_\_\_\_\_ Class \_\_\_\_\_

1 Complete these sentences using the words in the box.

A lever can be used to turn something around  
a \_\_\_\_\_. This is called the  
\_\_\_\_\_ or  
moment of the \_\_\_\_\_.

effect  
force  
pivot  
turning

2 The moment of a force depends on the distance of the force from the pivot.



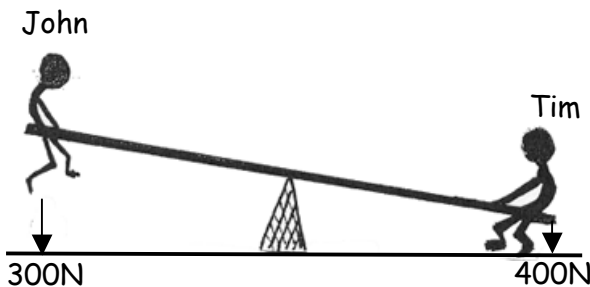
Label the things that are important in the turning effect of a spanner. Use the words below

distance      pivot      force

A = \_\_\_\_\_

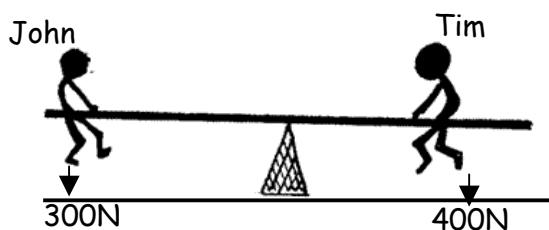
B = \_\_\_\_\_

C = \_\_\_\_\_



Tim is heavier than John.  
The seesaw is not balanced.

The principal of moment is the  
anticlockwise moment = the clockwise moment.



Choose the correct answer.

To balance the seesaw, Tim must sit ...

- a) further away from the pivot
- b) at the pivot
- c) nearer to the pivot