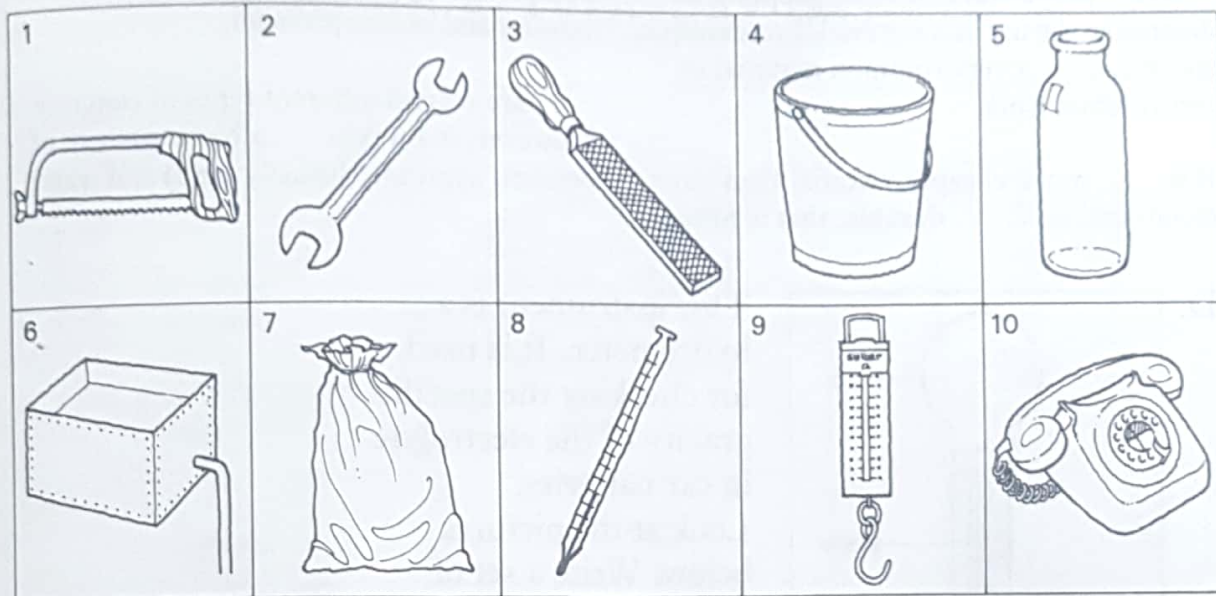


# Entry Test

A. What is the English word for each of these objects?



What are the common names for these elements?

Note: They are all metals.

11. Cu 12. Sn 13. Hg 14. Fe 15. Pb

B. Listen to your teacher. Write down the amounts.  
There are ten items.

Now listen again. Follow the five instructions and complete the figure.

C. Complete each paragraph from the wordlist.

above  
called  
definite  
example

gas  
its  
leaves  
made

m.p.  
range  
same  
therefore

There are three states of matter: the solid state, the liquid state and the gas state. At certain temperatures, every material changes from one state to another. For . . . , pure water only remains liquid between 0°C and 100°C. . . . 100°C, it becomes a gas. This gas is usually . . . steam. Below 0°C, water

becomes a solid. Water in . . . solid state is called ice. Pure metals have a . . . melting point, i.e. they always melt at exactly the . . . temperature. Alloys, however, do not often have a definite . . . They slowly change from solid to liquid over a . . . of temperatures.

<i>a</i>	<i>is</i>
<i>become</i>	<i>or</i>
<i>contains</i>	<i>there</i>
<i>has</i>	<i>very</i>

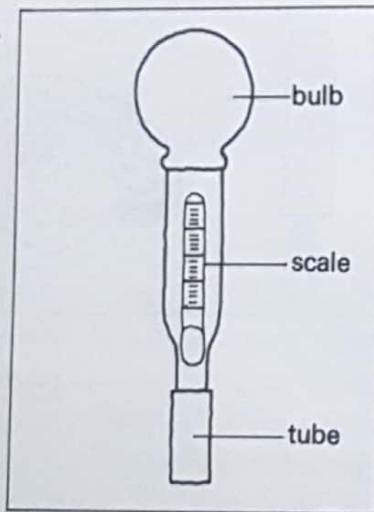
In engineering, many different types of materials are used. Each material has different properties and these properties determine the use of a material. For example, concrete . . . . a very common material in construction work.

It is . . . . much cheaper material than most metals and it is . . . . durable, that is to say,

it does not corrode . . . . decompose easily. Concrete is a heavy material but it . . . . comparatively good strength, both in tension and in compression.

. . . . are several different types of concrete. However, it always . . . . a basic mixture of cement, aggregate (usually sand) and water.

D.



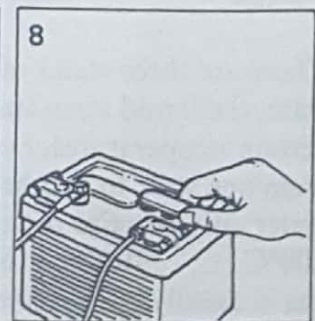
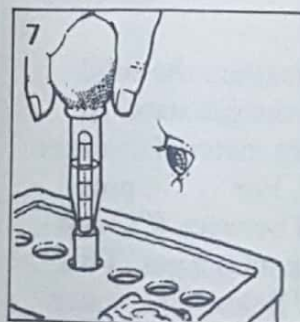
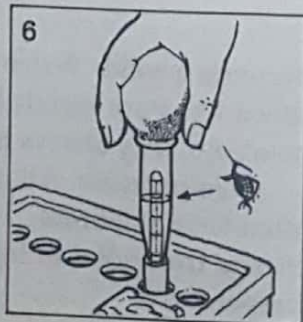
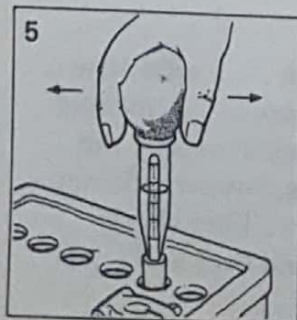
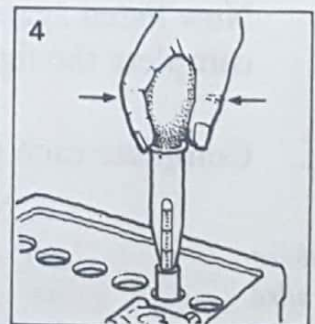
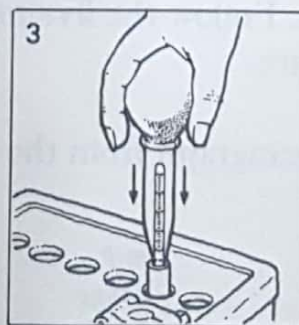
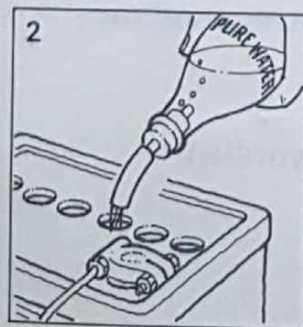
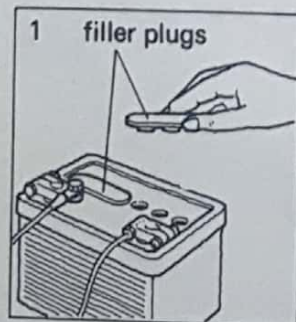
This instrument is a hydrometer. It is used for checking the specific gravity of the electrolyte in car batteries.

Look at the pictures below. Write a set of eight instructions from the pictures. Use one of the verbs in the list in each sentence.

*check*  
*fill*  
*place*

*press*  
*read*

*release*  
*replace*  
*remove*

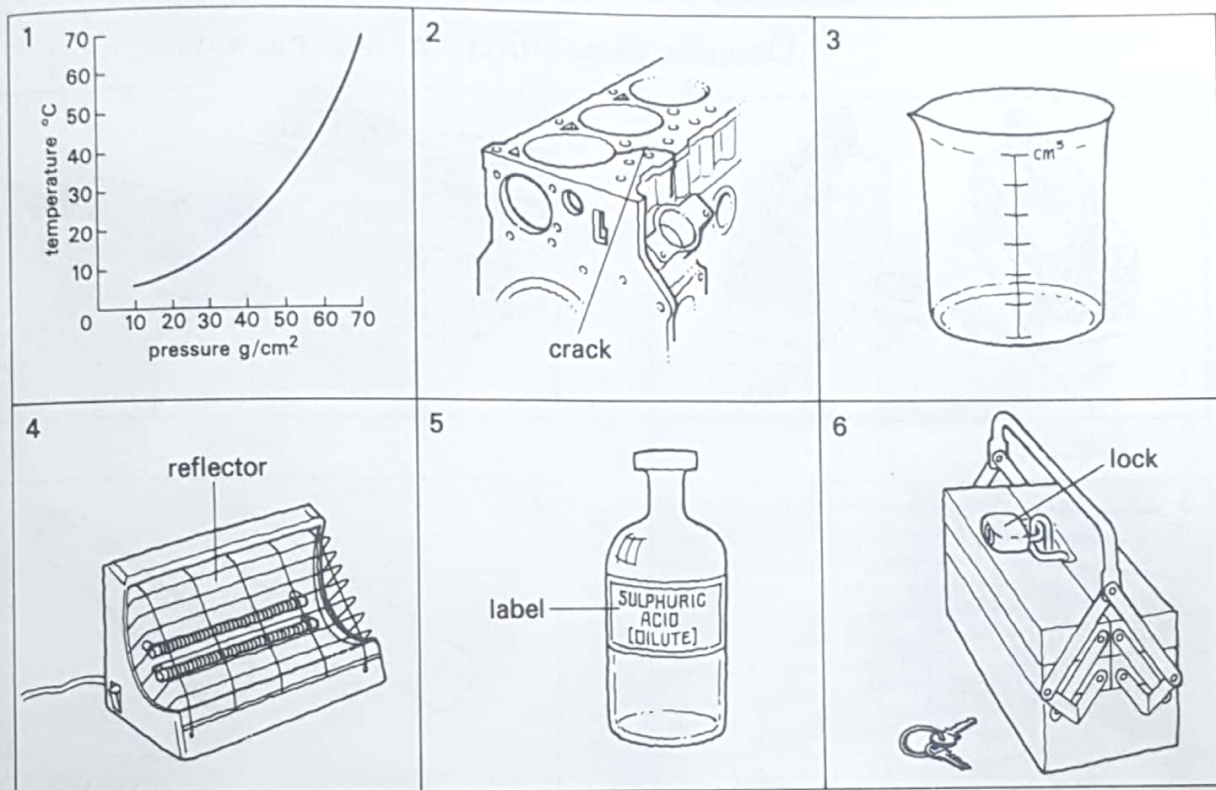




# UNIT ONE

## Shapes and Conditions

### SECTION A: EVERYDAY OBJECTS



The first picture shows a graph. The graph line is curved.

The next picture shows an engine block. The block is cracked.

The third picture shows a beaker. The beaker is calibrated.

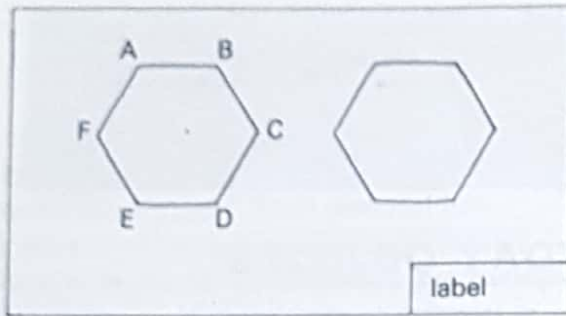
**Exercise 1** Look at pictures four, five and six. Complete the sentences below.

The . . . . picture . . . . an electric fire.  
The . . . . is curved.

The . . . . . shows a . . . . . acid.  
The . . . . . (label).

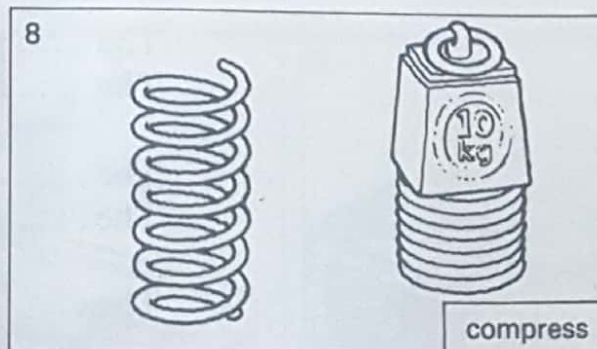
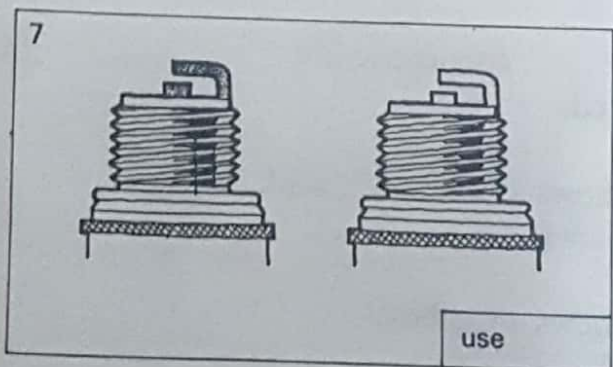
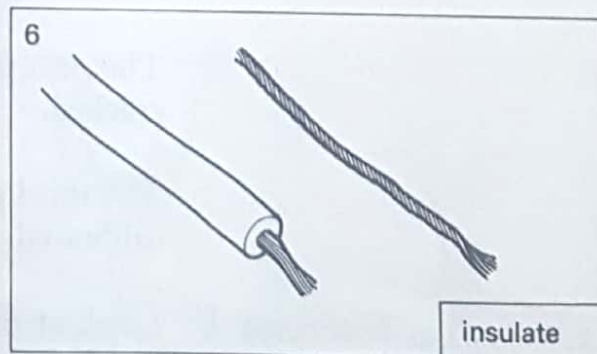
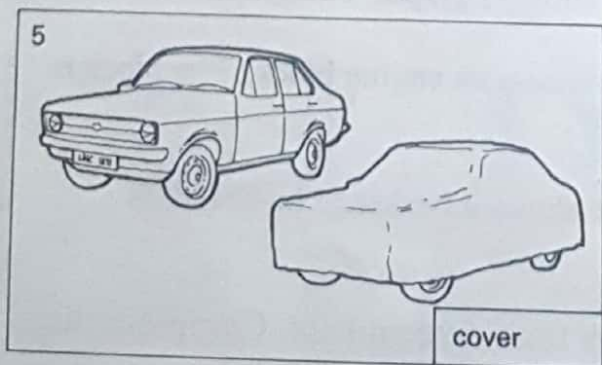
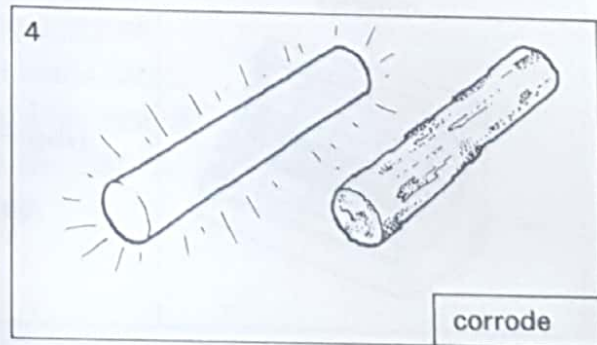
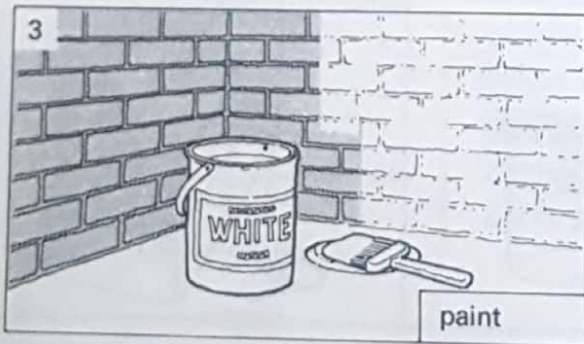
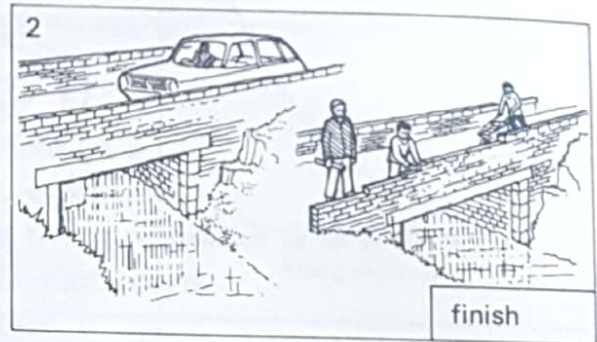
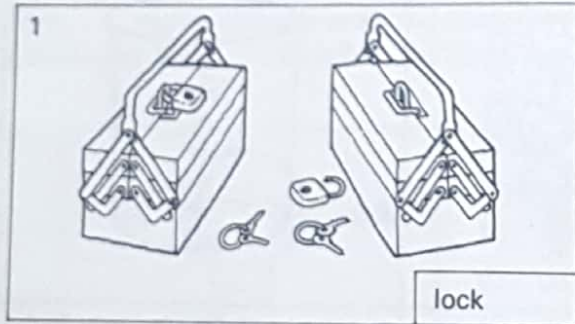
The . . . . . shows a toolbox.  
. . . . . (lock).

## Exercise 2 Look at this example.

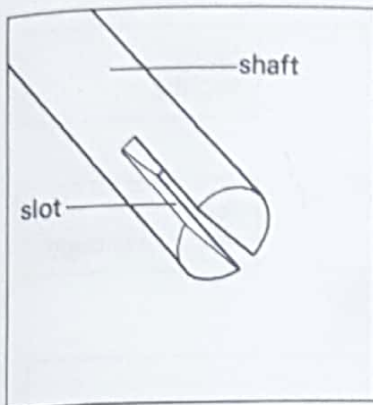


There are two hexagons in the picture. One hexagon is *labelled* and the other is *unlabelled*.

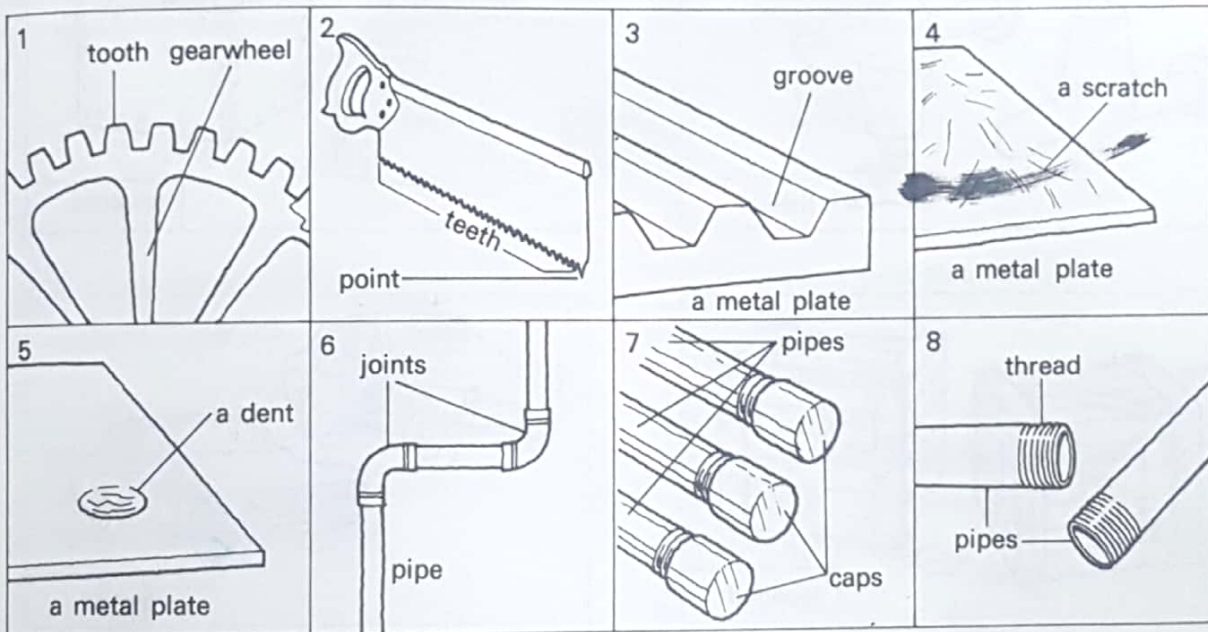
Describe these objects in the same way.



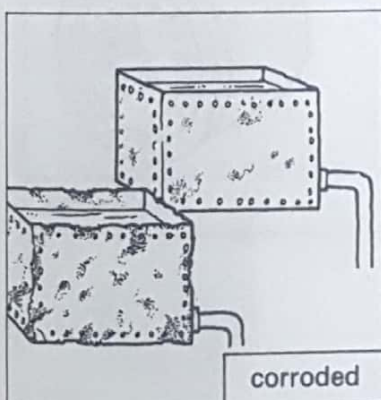
**Exercise 3** Look at the example. Then describe the objects below in the same way.



This shaft is *slotted*.



**Exercise 4** Look at this example.



One water tank is *badly corroded*.  
The other is *slightly corroded*.



Now describe each pair of objects in the same way.  
Use the words below. Use one pair of words for  
each picture.

approximately  
exactly

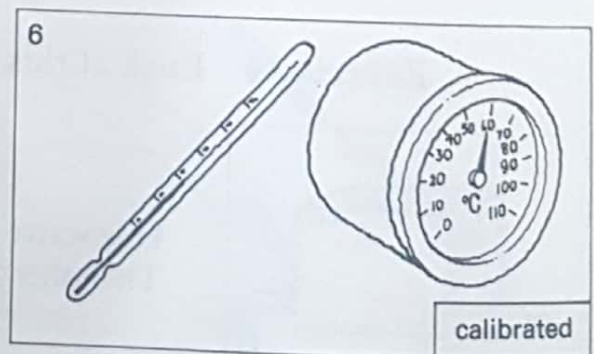
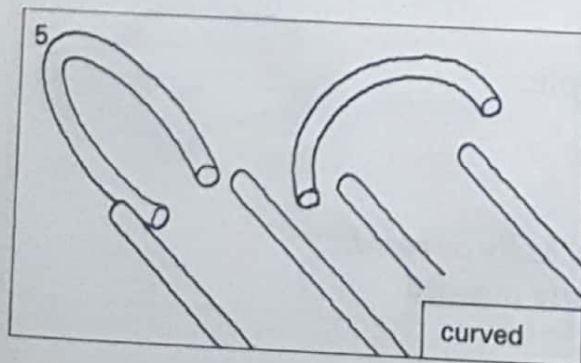
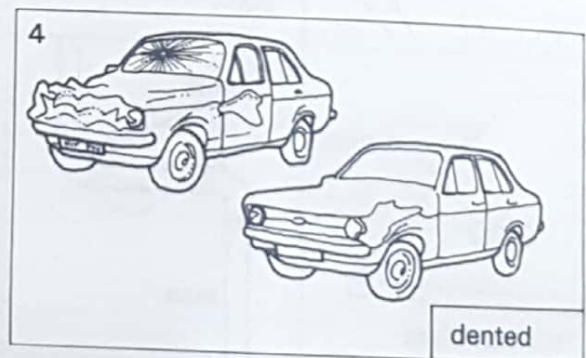
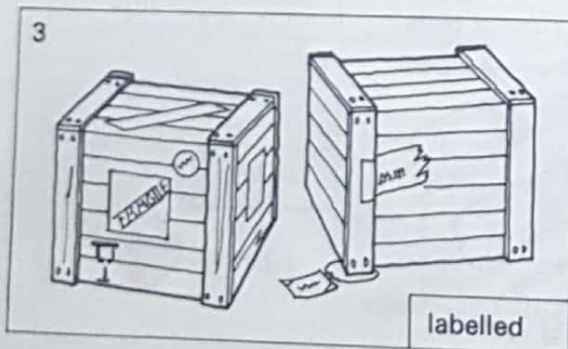
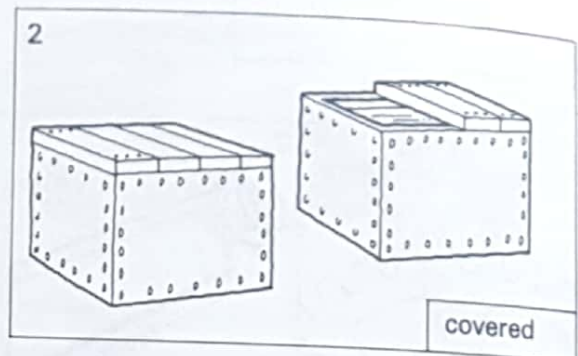
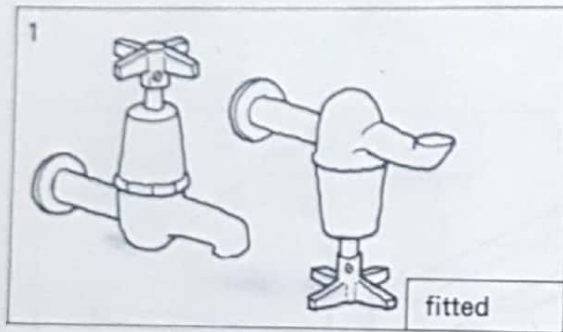
poorly  
well

badly  
slightly

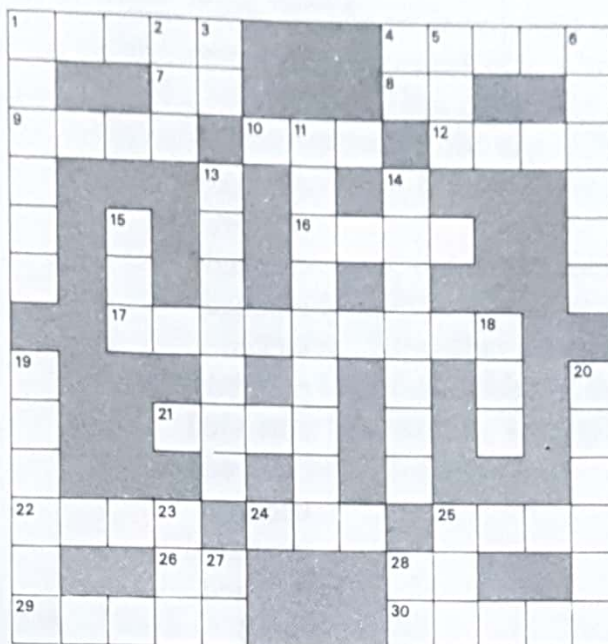
correctly  
incorrectly

half  
fully

too  
not ..... enough



## Exercise 5 Complete this crossword.



### ACROSS

1 Some solders set more . . . ly than others.

4



7 Draw a line from A . . . B.

8 'that is to say' = . . .

9 An air-cooled engine always has . . .

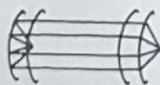
10 What is the opposite of *cold*?

12



16 . . . is to say

17



21 13 = thir . .

22 . . . type of fire extinguisher has a different use.

24 . . . the sides of a square are equal.

25



26 The chemical symbol for calcium.

28 Is steel an element . . . an alloy?

29 Wrenches, planes and mallets are . . .

30



### DOWN

1 An angle of more than  $180^\circ$ .

2 A stiff material does not change . . . shape easily.

3 What electrolyte . . . car batteries contain?

4  $\text{CO}_2$  = carbon . . .-oxide

5 Type A fire extinguishers are usually . . .

6 A lorry is . . . than a car.

11 With eight sides.

13



This battery is fully . . .

14



15



ON/ . . .

18 . . . cells are a type of primary cell.

19 Lime and silica and alumina = . . .

20 Under . . . glass breaks easily.

23 The chemical formula for hydrochloric acid.

25  $\text{SO}_3$  = Sulphur . . .-oxide

27 Copper is not . . . heavy . . . gold.

28 The density . . . water is  $1 \text{ g/cm}^3$ .

# LANGUAGE NOTE 1

a tooth → teeth

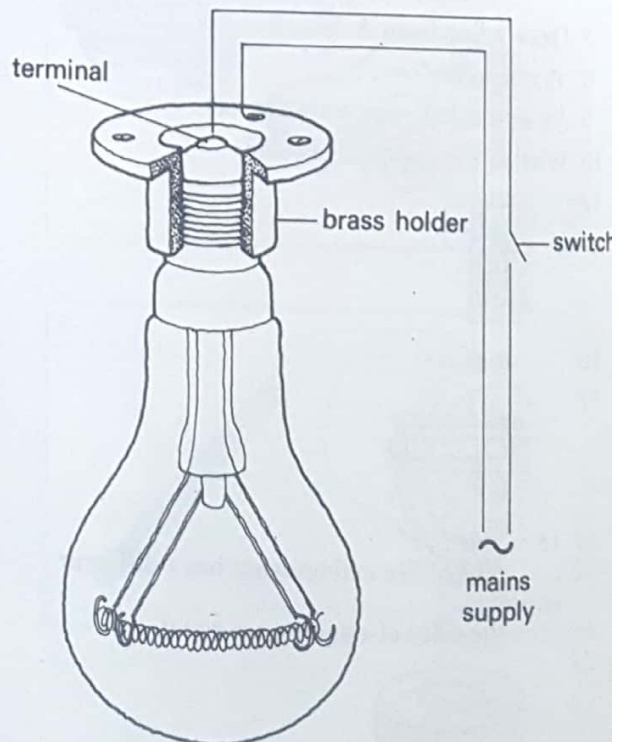
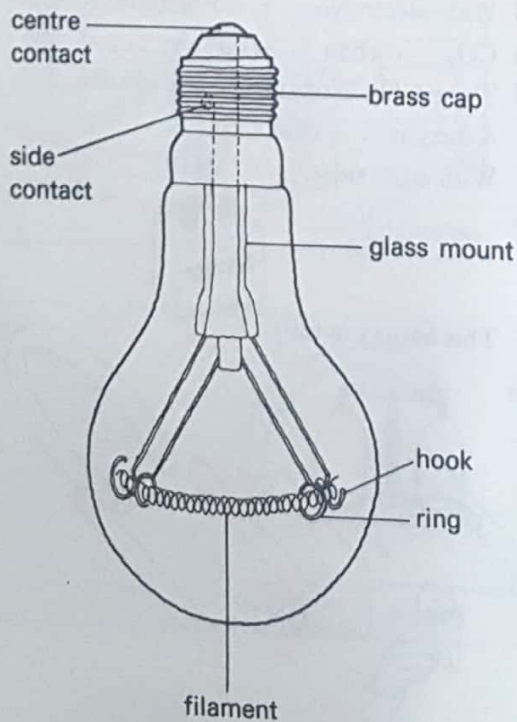
a foot → feet

a shaft  
a slot  
a tooth  
a groove  
a scratch  
a dent  
a joint  
a thread  
a pair

calibrated  
compressed  
cracked  
labelled  
locked  
painted  
corroded  
covered  
used  
insulated  
finished  
fitted

poorly  
badly  
(in)correctly  
half

## SECTION B: A LIGHT BULB AND SOCKET



The filament is made of tungsten wire. The wire is coiled. The coil passes through two wire rings. Two conductors are hooked over the ends of the filament.



These conductors are insulated inside a glass mount. The filament, the conductors and the mount are covered with a glass bulb. All the air is removed and the bulb is filled with argon gas. It is sealed with a brass cap. The cap is fitted over the glass. One conductor is soldered to a contact at the bottom of the cap. The other conductor is soldered to the side of the cap. The cap is threaded.

The light bulb is screwed into a socket. The socket is lined with a brass holder. The centre contact is pressed against a terminal. The other contact is the brass cap. It is screwed into the brass holder. The socket is fixed onto the ceiling with two screws. The light is connected to the mains supply through a switch.

### Exercise 6 Look at the example.



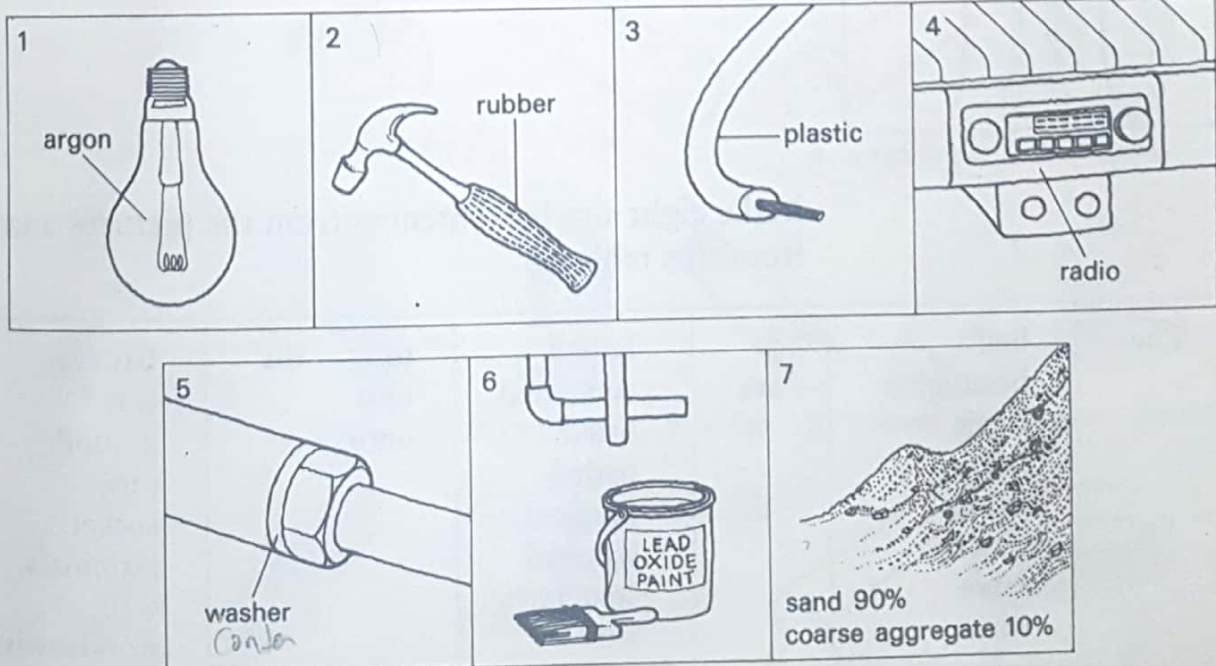
The socket is lined *with* a brass holder.

Make similar sentences from the pictures below.  
Use the words in the list.

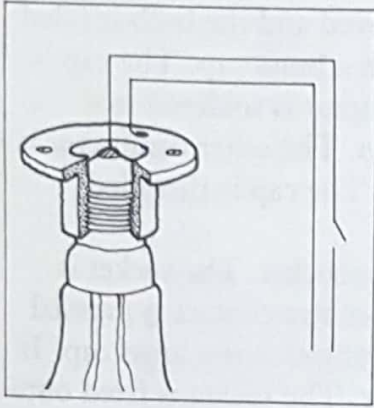
covered  
filled  
fitted

insulated  
mixed  
sealed

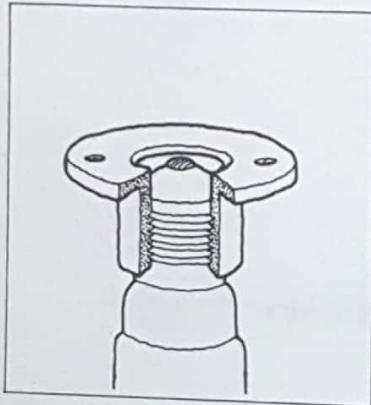
painted



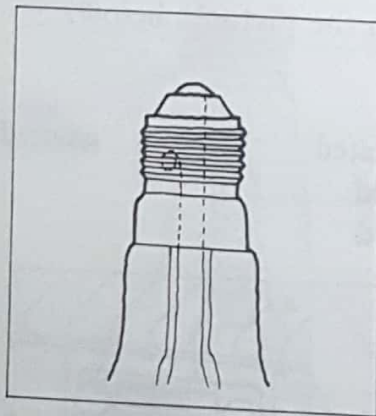
Exercise 7 Read the examples carefully.



The light is connected *to* the mains supply.



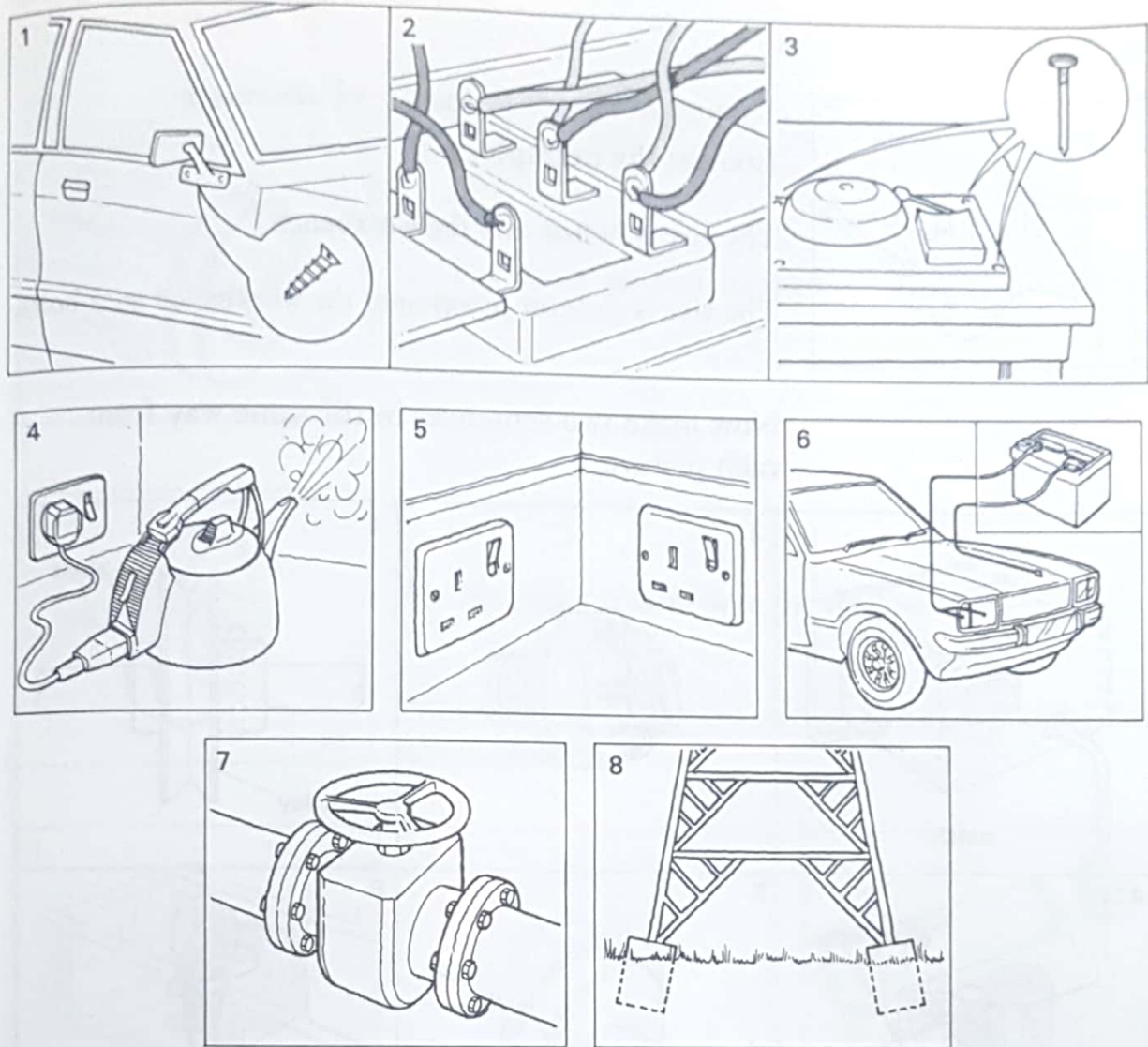
The light bulb is screwed *into* the socket.



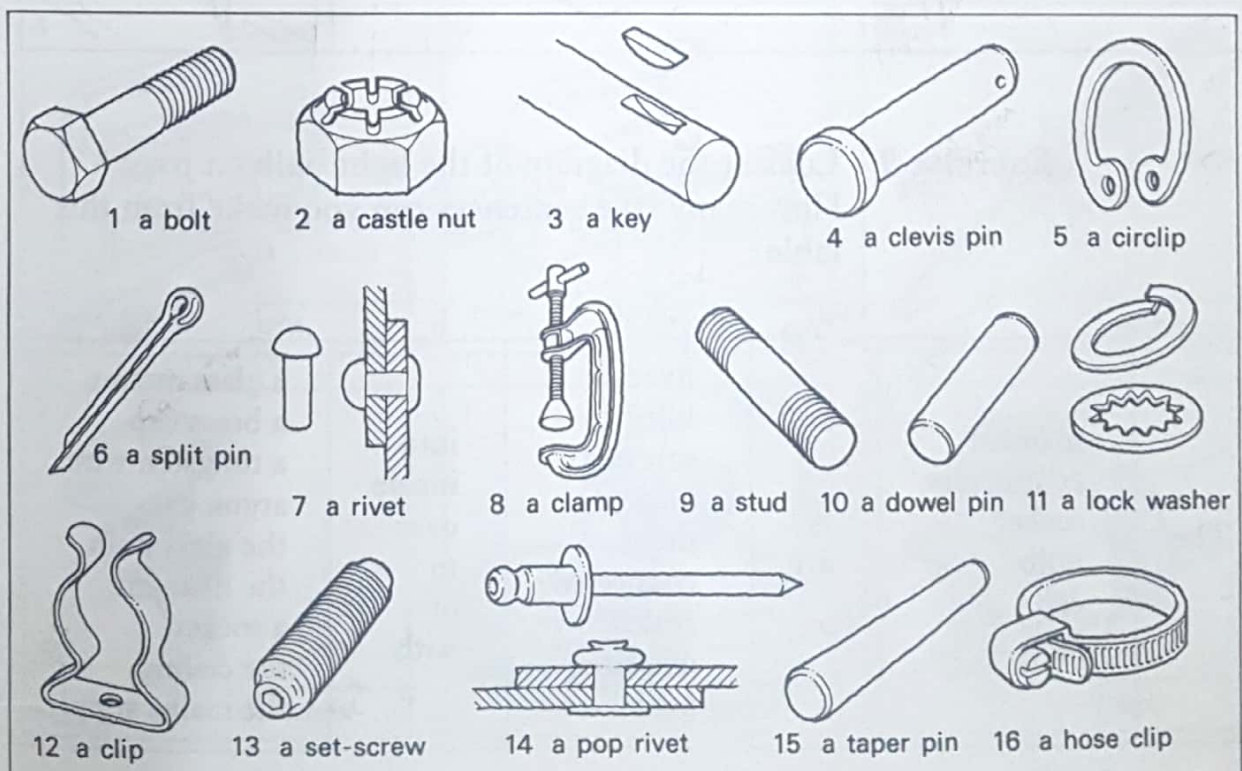
The conductor is soldered *onto* the cap.

Make eight similar sentences from the pictures and from this table.

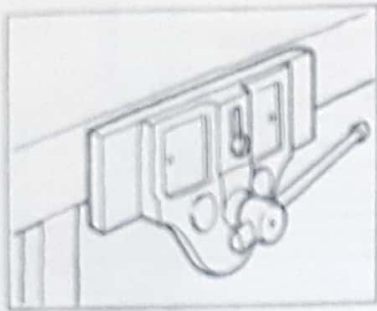
The	bell headlights kettle mirror pylon sockets valve wires	is are	bolted concreted fitted nailed plugged screwed soldered wired	to      the into onto	battery. car. ground. pipe. socket. terminals. wall. workbench.
-----	--	-----------	--	-----------------------------	--



**Exercise 8** Look at the illustrations below. What are these objects?





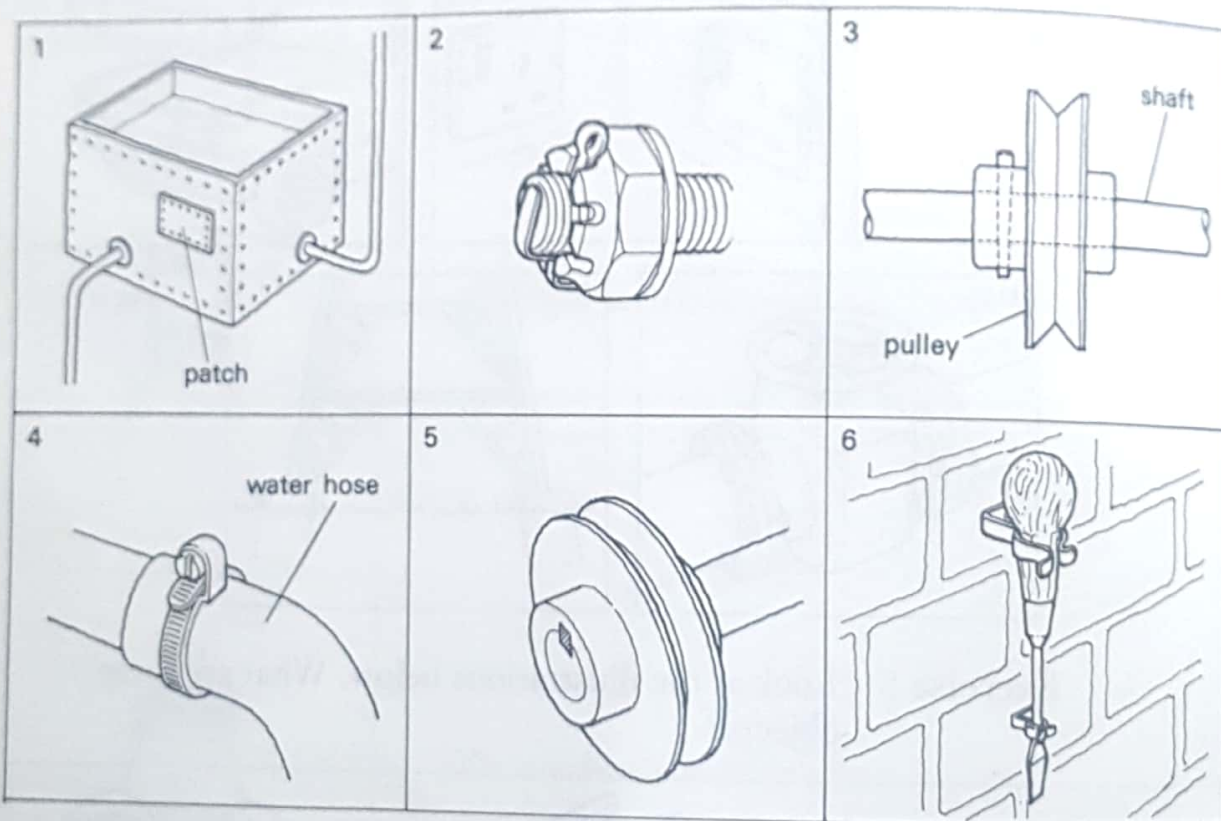


Look at the example.

The vice is bolted *onto* the workbench.

The vice is *fixed* (or *fitted*) onto the workbench *with* bolts.

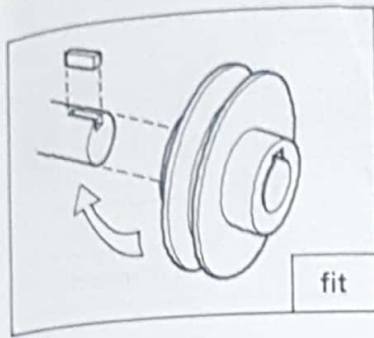
Now make two sentences in the same way from each picture.



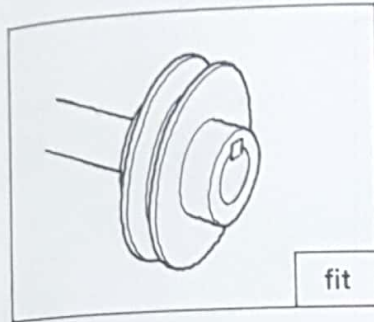
**Exercise 9** Look at the diagram of the light bulb on page 8.  
How many true sentences can you make from this table?

The	filament conductors socket bulb cap light	is are	fixed filled screwed hooked fitted connected sealed insulated made	into inside over to of with	a glass mount. a brass cap. a tungsten wire. argon gas. the glass bulb. the filament. a socket. the ceiling. the mains supply.
-----	--	-----------	--	--	--

# Exercise 10 Look at these examples.

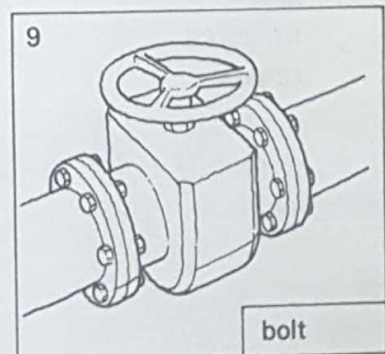
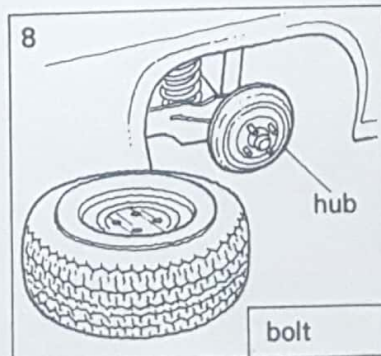
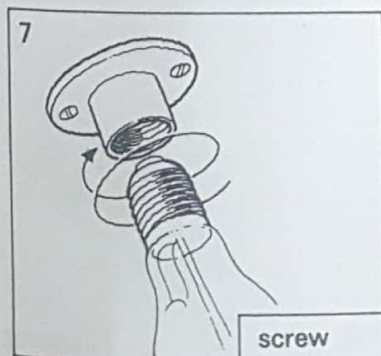
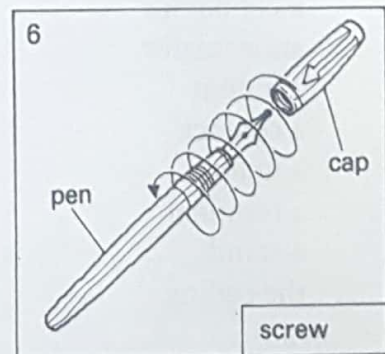
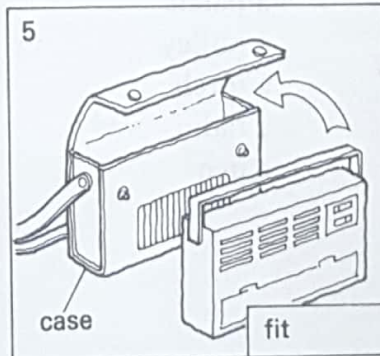
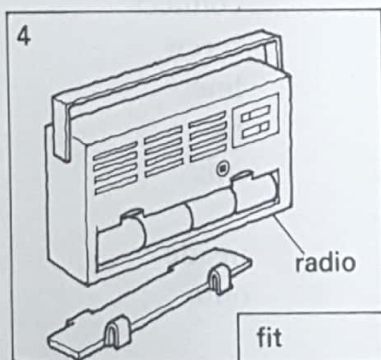
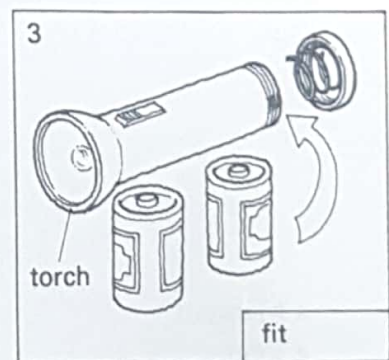
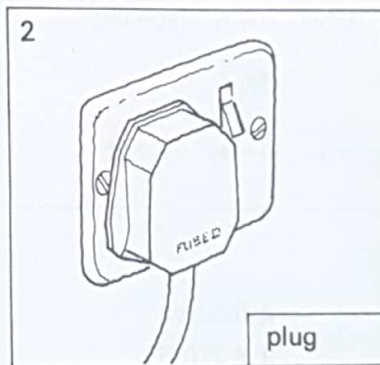
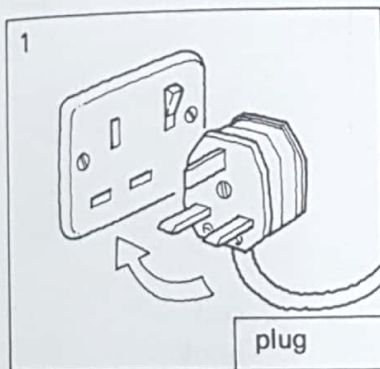


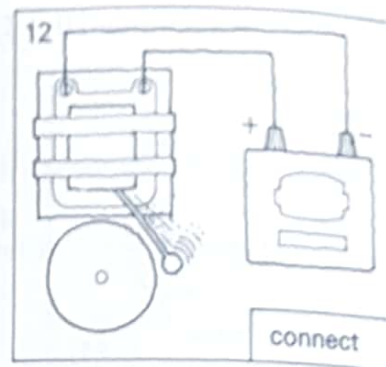
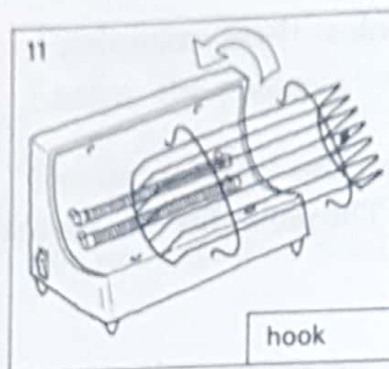
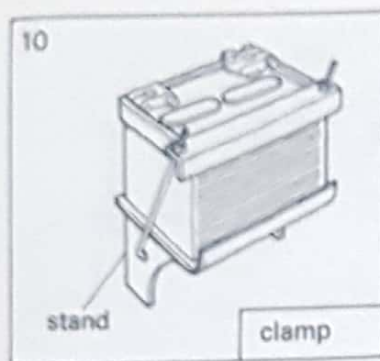
a) The pulley fits *onto* the shaft.



b) The pulley is *fitted* onto the shaft.

Make similar sentences, either like a) or like b), from these pictures.





### LANGUAGE NOTE 2

fit	→	fitted
slot	→	slotted
plug	→	plugged
cap	→	capped
pin	→	pinned
clip	→	clipped
label	→	labelled
BUT		
rivet	→	riveted

a filament  
a loop  
a conductor  
an insulator  
a mount  
a contact  
a holder  
a terminal  
a stand  
the ceiling

argon  
tungsten  
brass

a holder  
a washer  
a patch  
a pulley  
a torch  
a radio  
a pen

coil  
hook  
connect  
screw  
line  
fix  
mix

inside  
onto