

## 1 ANSWER THE FOLLOWING QUESTIONS IN YOUR OWN WORDS !

What is a compound ? \_\_\_\_\_

Which atom is the lightest ? \_\_\_\_\_

Which three parts do atoms consist of ? \_\_\_\_\_

What are electrons ? \_\_\_\_\_

A proton has a \_\_\_\_\_ charge, an electron has a \_\_\_\_\_ charge.

How do electrons move around the nucleus ? \_\_\_\_\_

What does the atomic number of an element tell you ? \_\_\_\_\_

What is the periodic table ? \_\_\_\_\_

If an atom has more neutrons than protons it is called an \_\_\_\_\_

What happens when an atom crashes with another atom ? \_\_\_\_\_

How do scientists create radioactivity ? \_\_\_\_\_

What happens when the nucleus of an atom splits ? \_\_\_\_\_

When and where was the first atomic bomb dropped ? \_\_\_\_\_

Name a few interesting compounds ! \_\_\_\_\_

Which element do organic compounds always have ? \_\_\_\_\_

**2 ANSWER THE FOLLOWING QUESTIONS IN YOUR OWN WORDS !**

What kind of structure does a hydrogen atom have ? \_\_\_\_\_

\_\_\_\_\_

What do you get when you combine two atoms of hydrogen with one atom of oxygen ? \_\_\_\_\_

\_\_\_\_\_

At which temperature does hydrogen turn into liquid form? \_\_\_\_\_

Where can hydrogen be found ? \_\_\_\_\_

\_\_\_\_\_

What are hydrocarbons ? Name a few! \_\_\_\_\_

\_\_\_\_\_

What are noble gases ? \_\_\_\_\_

Why is helium used in balloons ? \_\_\_\_\_

\_\_\_\_\_

How is helium used in medicine ? \_\_\_\_\_

\_\_\_\_\_

Most of the earth's atmosphere is made up of \_\_\_\_\_

How does the industry get pure iron ? \_\_\_\_\_

\_\_\_\_\_

Where is iron found in our bodies ? \_\_\_\_\_

\_\_\_\_\_

Which element do all living creatures have in them ? \_\_\_\_\_

Where is carbon found in its purest form ? \_\_\_\_\_

What is graphite and where can you find it ? \_\_\_\_\_

\_\_\_\_\_

Chlorine and sodium together form \_\_\_\_\_

From which raw material do we get aluminum ? \_\_\_\_\_

Why is aluminium often used instead of steel? \_\_\_\_\_

\_\_\_\_\_

Why has gold become a valuable material ? \_\_\_\_\_

\_\_\_\_\_

## 3 MATCH THE WORDS WITH THE DEFINITIONS

A	chlorine		something that is not mixed with anything else
B	pure		different forms of an element
C	ore		to make something shiny and bright
D	jewellery		red substance in your body that has iron in it and carries oxygen
E	boil		made up of two or more elements
F	isotope		a greenish, yellow gas with a strong smell
G	fertilizer		something that you put into the soil to make plants grow
H	polish		the middle part of an atom with protons and neutrons
I	acid		rock that has metal in it
J	haemoglobin		when a liquid becomes hot enough so that it turns into gas
K	limestone		to breathe in something
L	fertilizer		when gas becomes liquid
M	compound		something that you put into the soil to make plants grow
N	power plant		small things that you wear that have gold and silver in them
O	inhale		building where electricity is produced
P	condense		a kind of rock that has calcium in it
Q	nucleus		strong liquid that can burn holes in materials or damage your skin

#### 4 FILL IN THE BLANKS WITH THE WORDS FROM THE BOX !

The \_\_\_\_\_ is in the middle of an atom . It is made up of \_\_\_\_\_ and neutrons. It has almost all of an atom's \_\_\_\_\_.

\_\_\_\_\_ fly around in an atom very quickly. They move in paths called \_\_\_\_\_. The inner path can hold only two electrons, the outer paths up to 32.

Each proton has a positive electrical \_\_\_\_\_. Electrons have a \_\_\_\_\_ charge.

The \_\_\_\_\_ of the nucleus keeps the electrons in its \_\_\_\_\_. But they often want to \_\_\_\_\_ away from the atom. Sometimes one electron is \_\_\_\_\_ by two different atoms.

break  
charge  
electrons  
energy  
mass  
negative  
nucleus  
orbit  
protons  
shared  
shells

#### 5 FILL IN THE BLANKS WITH THE WORDS FROM THE BOX !

Carbon is one of the most important \_\_\_\_\_ on earth. All living \_\_\_\_\_ have carbon in their bodies. Carbon gets together with other elements and can build long \_\_\_\_\_. Carbon and \_\_\_\_\_ are , for example in petroleum and gas. \_\_\_\_\_ is in the air that we breathe out.

Pure carbon cannot be found very often. Diamonds \_\_\_\_\_ of carbon in its purest form. They are formed under the earth's \_\_\_\_\_ at very high temperature and under a lot of \_\_\_\_\_. Industries use diamonds to make drilling heads for \_\_\_\_\_.

\_\_\_\_\_ is another form of carbon. It is very \_\_\_\_\_ and used for pencils, tennis rackets and \_\_\_\_\_.

bicycles  
carbon dioxide  
chains  
consist  
creatures  
crust  
elements  
graphite  
hydrogen  
light  
oilfields  
pressure

## 6 TRUE OR FALSE ?

	T	F
Electrons do not have an electric charge.		
Electrons that move around in the inner shells travel fast.		
The atomic number tells you how many protons an atom has.		
All elements can be found in nature.		
Sometimes elements have more neutrons than protons.		
Ions are atoms that gain or lose electrons.		
When you split an atom a lot of energy is created.		
Compounds are atoms that have the same nucleus.		
Organic compounds always have hydrogen atoms in them.		
Isotopes of an element always have the same number of protons.		

## 7 EXPLAIN IN ENGLISH

orbit \_\_\_\_\_

atomic mass \_\_\_\_\_

periodic table \_\_\_\_\_

uranium \_\_\_\_\_

compound \_\_\_\_\_

liquid \_\_\_\_\_

hydrocarbon \_\_\_\_\_

noble gas \_\_\_\_\_

**8 FIND THE CORRECT ANSWER !**

1. The nucleus of an atom consists of
  - a. protons and neutrons
  - b. protons and electrons
  - c. electrons and neutrons
2. The lightest element in the periodic system is
  - a. oxygen
  - b. nitrogen
  - c. hydrogen
3. Electrons have
  - a. a positive charge
  - b. a negative charge
  - c. no charge
4. Some electrons want to break away from the nucleus
  - a. because they have energy of their own
  - b. because they are too big
  - c. because they are too far away from it
5. The atomic number tells you
  - a. how many neutrons an atom has
  - b. how many protons an atom has
  - c. how many protons and neutrons an atom has
6. Isotopes are atoms with
  - a. a different number of protons and neutrons
  - b. the same number of protons and neutrons
  - c. the same number of protons and electrons



7. How can scientists produce radioactivity
  - a. They link two elements together.
  - b. They make electrons faster
  - c. They bombard atoms with small particles

8. Salt is a compound of
  - a. chlorine and oxygen
  - b. nitrogen and sodium
  - c. sodium and chlorine
9. Organic compounds can be found in
  - a. water
  - b. animals and people
  - c. most metals
10. What do rockets use to produce energy?
  - a. carbon dioxide
  - b. hydrogen
  - c. helium

11. Nitrogen is used as
  - a. jewellery
  - b. an alloy
  - c. a fertilizer

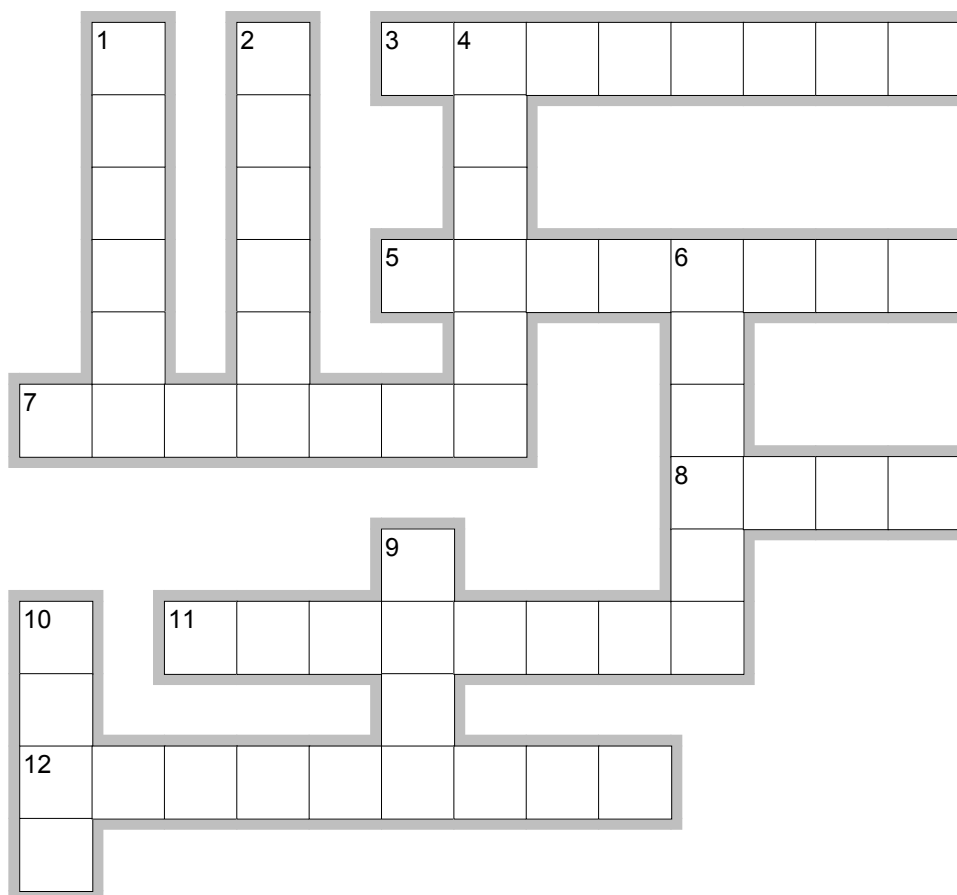


12. Dentists use gold for crowns because it is
  - a. easy to shape
  - b. lightweight
  - c. very cheap
13. Aluminium is used for cars and planes because
  - a. it is very light
  - b. it can be found all over Europe
  - c. it is always in pure form
14. The raw material that aluminium comes from is
  - a. copper
  - b. bauxite
  - c. tin

15. Chlorine is
  - a. poisonous
  - b. colourless
  - c. shiny

16. Carbon occurs in a pure form as
  - a. limestone
  - b. carbon dioxide
  - c. diamonds

## 9 CROSSWORD - FIND THE RIGHT ELEMENTS !



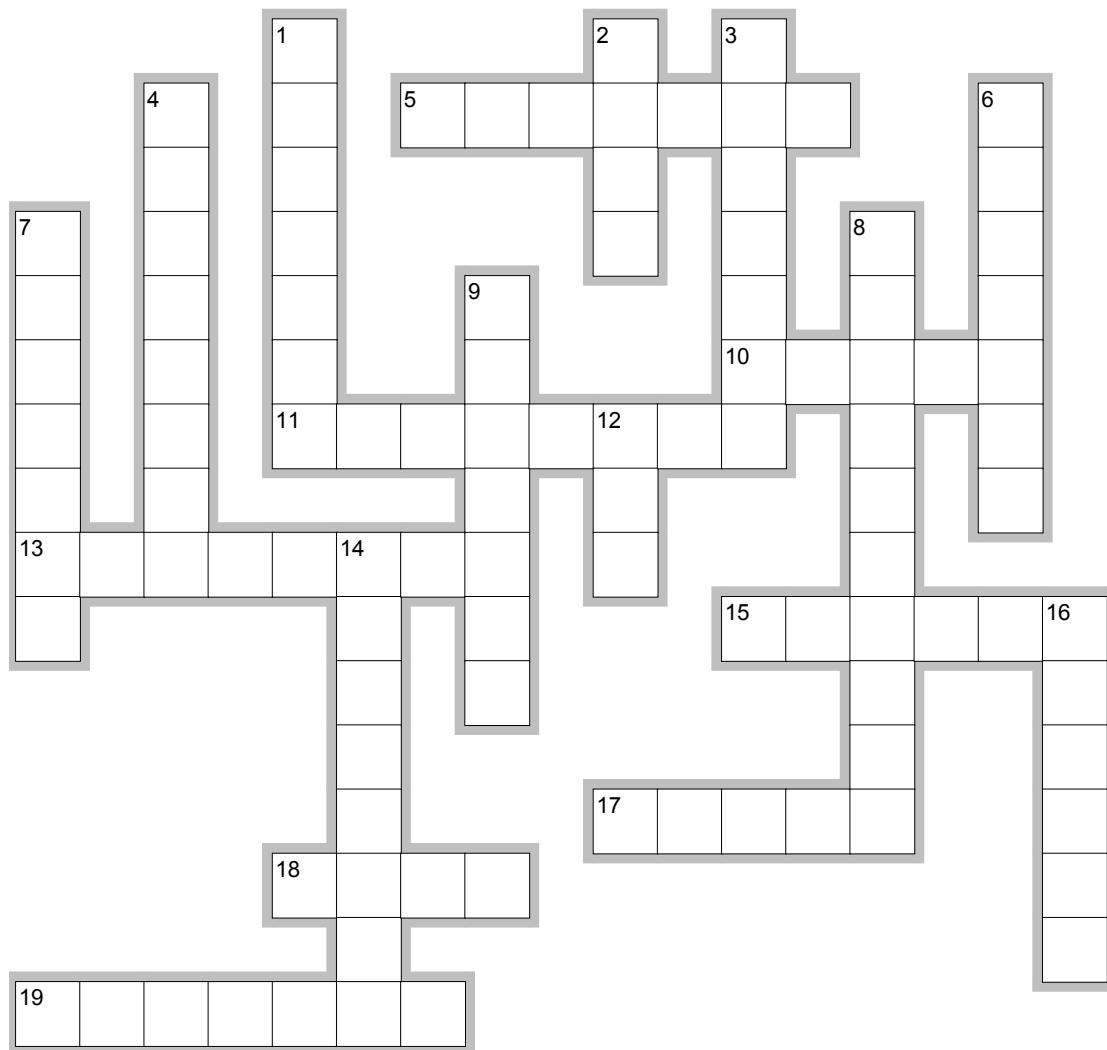
## ACROSS

3. element that is in salt
5. element that makes up most of our atmosphere
7. heavy white metal that is radioactive and used to produce atomic bombs
8. shiny yellow metal that is very valuable
11. colourless gas that is the lightest of all elements
12. silvery metal that you always find together with other elements

## DOWN

1. reddish- brown metal used to make wires and pipes
2. an element that all organic materials have
4. gas that is used to fill balloons
6. a gas that is in our air and that we breathe in
9. silvery metal that you find in rocks
10. soft grey metal that melts easily and can be found in pencils

## 10 CROSSWORD



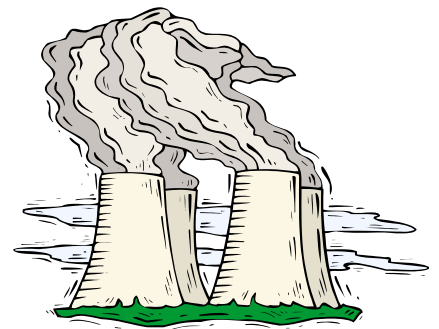
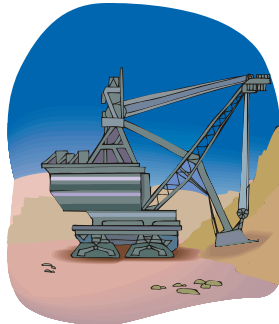
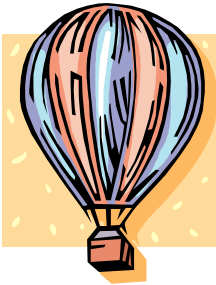
## ACROSS

5. something that is living or is made by living things
10. to travel around an object
11. part of an atom that flies around it very quickly
13. very very small piece of something
15. liquid that comes from oil and makes your car drive
17. metal that is made up of two or more metals mixed together
18. material like coal or oil that can be burned to make energy
19. to rust

## DOWN

1. characteristic, quality of something
2. to get more of something
3. when you split atoms to produce energy
4. straight line from one side of a circle to another
6. large machine that can produce nuclear energy
7. different forms of the same element
8. room where scientists make experiments
9. the middle part of an atom with protons and neutrons
12. line of light
14. something that is made up of two or more elements
16. something that is not solid or a gas, like water

## 11 WHAT DO YOU ASSOCIATE WITH THESE PICTURES? FILL IN FROM THE BOX BELOW !



ALUMINIUM

GOLD

IRON

CARBON

HELIUM

OXYGEN

CHLORINE

HYDROGEN

URANIUM

