

NAME : _____

Science understanding

Verbal/Linguistic

Scientists organise the elements from lightest to heaviest on a grid called the periodic table. The periodic table helps scientists to look up the names and symbols of all the known elements. Use the periodic table to answer the following questions.

H hydrogen 1																	He helium 2
Li lithium 3	Be beryllium 4											B boron 5	C carbon 6	N nitrogen 7	O oxygen 8	F fluorine 9	Ne neon 10
Na sodium 11	Mg magnesium 12											Al aluminium 13	Si silicon 14	P phosphorus 15	S sulfur 16	Cl chlorine 17	Ar argon 18
K potassium 19	Ca calcium 20	Sc scandium 21	Ti titanium 22	V vanadium 23	Cr chromium 24	Mn manganese 25	Fe iron 26	Co cobalt 27	Ni nickel 28	Cu copper 29	Zn zinc 30	Ga gallium 31	Ge germanium 32	As arsenic 33	Se selenium 34	Br bromine 35	Kr krypton 36
Rb rubidium 37	Sr strontium 38	Y yttrium 39	Zr zirconium 40	Nb niobium 41	Mo molybdenum 42	Tc technetium 43	Ru ruthenium 44	Rh rhodium 45	Pd palladium 46	Ag silver 47	Cd cadmium 48	In indium 49	Sn tin 50	Sb antimony 51	Te tellurium 52	I iodine 53	Xe xenon 54
Cs caesium 55	Ba barium 56	La lanthanum 57	Hf hafnium 72	Ta tantalum 73	W tungsten 74	Re rhenium 75	Os osmium 76	Ir iridium 77	Pt platinum 78	Au gold 79	Hg mercury 80	Tl thallium 81	Pb lead 82	Bi bismuth 83	Po polonium 84	At astatine 85	Rn radon 86
Fr francium 87	Ra radium 88	Ac actinium 89	Rf rutherfordium 104	Db dubnium 105	Sg seaborgium 106	Bh bohrium 107	Hs hassium 108	Mt meitnerium 109	Ds darmstadtium 110	Rg roentgenium 111	Cn copernicium 112	Uut ununtrium 113	Uuq ununquadium 114	Uup ununpentium 115	Uuh ununhexium 116	Uus ununseptium 117	Uuo ununoctium 118

Lanthanoids

Ce cerium 58	Pr praseodymium 59	Nd neodymium 60	Pm promethium 61	Sm samarium 62	Eu europium 63	Gd gadolinium 64	Tb terbium 65	Dy dysprosium 66	Ho holmium 67	Er erbium 68	Tm thulium 69	Yb ytterbium 70	Lu lutetium 71
Th thorium 90	Pa protactinium 91	U uranium 92	Np neptunium 93	Pu plutonium 94	Am americium 95	Cm curium 96	Bk berkelium 97	Cf californium 98	Es einsteinium 99	Fm fermium 100	Md mendelevium 101	No nobelium 102	Lr lawrencium 103

Actinoids

H	— symbol
hydrogen	— name
1	— atomic number

1 State the total number of elements listed on the periodic table. _____

2 Identify the chemical symbol of the following elements.

Hydrogen _____ Helium _____

Carbon _____ Oxygen _____

Nitrogen _____ Aluminium _____

Calcium _____ Iron _____

3 Identify the names of the elements with the following chemical symbols.

Li _____ B _____

Na _____ Si _____

P _____ Cl _____

Cr _____ Cu _____

4 List the names and symbols of all the elements whose names start with the letter 'C'.

5 Identify three elements named after famous scientists.

6 Identify three elements named after a place, country, continent or planet.

7 Some chemical symbols do not appear to correspond to the chemical names. For example, the chemical symbol for silver is Ag. List the name and symbol of five other elements whose chemical symbols do not correspond with the name of the elements.

8 In the table below, list five elements that you might use in your everyday life and identify where they might be used.

Element	Uses

7.3

Elemental crossword

Science understanding

 Verbal/Linguistic

Use the periodic table on page 93 to complete the crossword below by filling in the element name that corresponds to each symbol.

Across

- 8 Al
- 9 Ti
- 11 O
- 13 B
- 15 Cu
- 17 N
- 18 P
- 22 Ca
- 23 F
- 24 Fe
- 26 He

Down

- 1 Pt
- 2 Be
- 3 Li
- 4 Cl
- 5 Ar
- 6 Na
- 7 C
- 10 Mg
- 12 K
- 14 Si
- 16 Au
- 19 S
- 20 H
- 21 Ag
- 25 Ne

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Use what you know about the elements that you find in your everyday life to match the elements below to the properties listed in the table.

Carbon C	Helium He	Sulfur S	Gold Au	Aluminium Al
Chlorine Cl	Iron Fe	Copper Cu	Oxygen O	Nitrogen N

Description of properties	Chemical name	Chemical symbol
1 I am lightweight and shiny and conduct electricity very well. For these reasons, I am used in overhead power lines. I am also used in soft-drink cans because I can be recycled.		
2 At room temperature I am a solid, bright yellow powder. I am a typical non-metal. I don't conduct electricity and I crumble easily. I can be found under oxygen on the periodic table.		
3 I can be found in many different forms. Sometimes I am a black crumbly solid called charcoal. However, I can also form very hard, beautiful and expensive crystal lattices called diamond.		
4 I am a colourless, odourless gas that makes up most of the air you breathe but I am not oxygen. I am one of the first 10 elements listed in the periodic table.		
5 I am a yellow gas with a pungent smell. But don't breathe me in or I will damage your lungs. I am also used in swimming pools to kill bacteria. I am between elements 10 and 20 on the periodic table.		
6 I am yellow and shiny. I conduct electricity very well so am sometimes used for wiring in electrical equipment. However, I am more commonly used in jewellery because I am rare and expensive.		
7 I am strong and hard and can be bent into many different shapes. That's why I am used in construction. However, I am often mixed with metals and carbon. Otherwise I will rust.		
8 I am a very light and non-toxic gas. I do not react with other substances so I am often used to make party balloons that float. If you breathe me in, I will make your voice sound funny.		
9 I am an invisible, non-toxic gas. I am one of the most important elements on Earth. I am in water, sand and air. You need me to breathe and stay alive. Plants produce me through photosynthesis.		
10 I am shiny and orange-brown in colour. I can be drawn into wires or hammered into sheets. I conduct electricity very well and am cheap to produce, which makes me perfect for household wiring and electrical equipment.		