

		Group 1	Group 2	Subgroups										Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Period 1		1 H Hydrogen															2 He Helium		
Period 2		3 Li Lithium	4 Be Beryllium									5 B Boron	6 C Carbon	7 N Nitrogen	8 O Oxygen	9 F Fluorine	10 Ne Neon		
Period 3		11 Na Sodium	12 Mg Magnesium									13 Al Aluminium	14 Si Silicon	15 P Phosphorus	16 S Sulfur	17 Cl Chlorine	18 Ar Argon		
Period 4		19 K Potassium	20 Ca Calcium	21 Sc Scandium	22 Ti Titanium	23 V Vanadium	24 Cr Chromium	25 Mn Manganese	26 Fe Iron	27 Co Cobalt	28 Ni Nickel	29 Cu Copper	30 Zn Zinc	31 Ga Gallium	32 Ge Germanium	33 As Arsenic	34 Se Selenium	35 Br Bromine	36 Kr Krypton

	1. Hydrogen (H) - found in the Sun		6. Carbon(C) - found in diamonds
	2. Helium (He) - filled in balloons		7. Nitrogen (N) - found in leaves
	3. Lithium (Li) - used in batteries		8. Oxygen (O) - used in oxygen bottles for diving
	4. Beryllium (Be) - used in metal springs		9. Fluorine (F) - used in toothpaste
	5. Boron (B) - the green colour in rockets		10. Neon (Ne) - used in neon signs

	Human Body: top ten elements by weight
	Earth's Crust: top eight elements by weight
	Magnetic: ferromagnetic at room temperature

Solid	Liquid	Gas
The symbol indicates the element's state at room temperature		

	Alkali Metals (pink)
	Alkali Earth Metals
	Transition Metals
	Poor Metals
	Metalloids
	Non-metals
	Halogens
	Noble Gases

REMINDERS:



HOW MANY PROTONS?
NUMBER OF PROTONS = THE ATOMIC NUMBER



HOW MANY ELECTRONS?
NUMBER OF ELECTRONS = NUMBER OF PROTONS

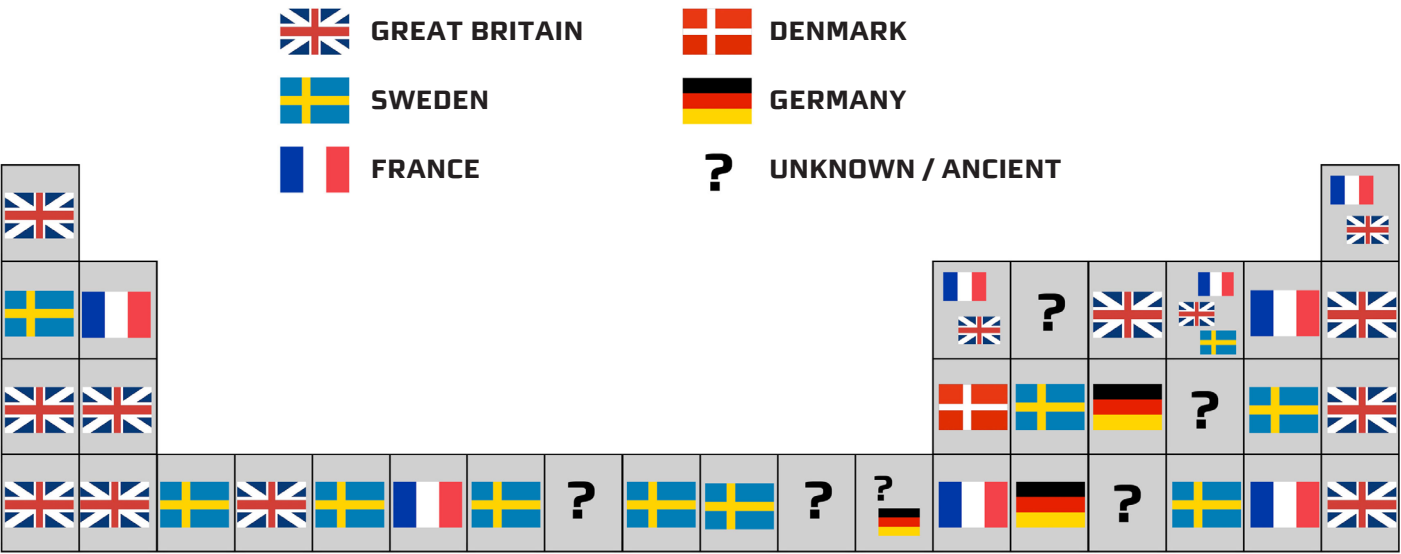


HOW MANY NEUTRONS?
NUMBER OF NEUTRONS = WEIGHT - NUMBER OF PROTONS

The weight (the atomic mass) is equal to the compound number of protons and neutrons: If you subtract the number of protons from the weight, you'll get the number of neutrons!

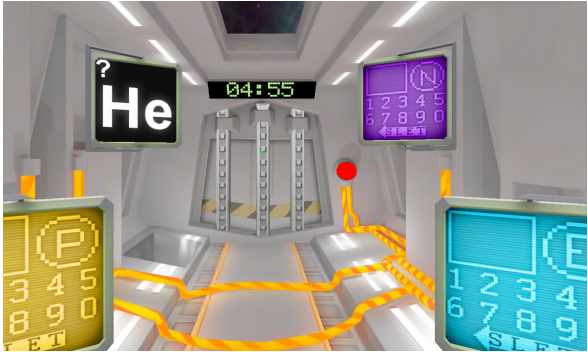
ATOMIC NUMBER	NAME	ATOMIC SYMBOL	ATOMIC MASS (WEIGHT IN UNIT)	YEAR DISCOVERED	DISCOVERED BY	MELTING POINT [°C]	BOILING POINT [°C]
1	HYDROGEN	H	1 U	1766	CAVENDISH	-259	-253
2	HELIUM	He	4 U	1895	RAMSAY & CLEVE	-272	-269
3	LITHIUM	Li	7 U	1817	ARFVEDSON	181	1287
4	BERYLLIUM	Be	9 U	1797	VAUQUELIN	1287	2469
5	BORON	B	11 U	1808	DAVY & GAY-LUSSAC	2076	3927
6	CARBON	C	12 U	ANCIENT	UNKNOWN	3527	4027
7	NITROGEN	N	14 U	1772	RUTHERFORD	-210	-196
8	OXYGEN	O	16 U	1774	PRIESTLEY & SCHEELE	-219	-183
9	FLUORINE	F	19 U	1886	MOISSAN	-220	-188
10	NEON	Ne	20 U	1898	RAMSAY & TRAVERS	-249	-246
11	SODIUM	Na	23 U	1807	DAVY	98	883
12	MAGNESIUM	Mg	24 U	1755	BLACK	650	1090
13	ALUMINIUM	Al	27 U	1825	ØRSTED	660	2519
14	SILICON	Si	28 U	1824	BERZELIUS	1414	3265
15	PHOSPHORUS	P	31 U	1669	BRANDT	44	277
16	SULFUR	S	32 U	ANCIENT	UNKNOWN	115	445
17	CHLORINE	Cl	35 U	1774	SCHEELE	-102	-34
18	ARGON	Ar	40 U	1894	RAMSAY & RAYLEIGH	-189	-186
19	POTASSIUM	K	39 U	1807	DAVY	63	759
20	CALCIUM	Ca	40 U	1808	DAVY	842	1484
21	SCANDIUM	Sc	45 U	1879	NILSON	1541	2836
22	TITANIUM	Ti	48 U	1791	GREGOR & KLAPROTH	1668	3287
23	VANADIUM	V	51 U	1801	DEL RIO	1910	3407
24	CHROMIUM	Cr	52 U	1797	VAUQUELIN	1907	2671
25	MANGANESE	Mn	55 U	1774	GAHN	1246	2061
26	IRON	Fe	56 U	ANCIENT	UNKNOWN	1538	2861
27	COBALT	Co	59 U	1735	BRANDT	1495	2927
28	NICKEL	Ni	59 U	1751	CRONSTEDT	1455	2913
29	COPPER	Cu	64 U	ANCIENT	UNKNOWN	1085	2562
30	ZINC	Zn	65 U	ANCIENT	UNKNOWN	420	907
31	GALLIUM	Ga	70 U	1875	LECOQ DE BOISKAUDRAN	30	2204
32	GERMANIUM	Ge	73 U	1886	WINKLER	938	2833
33	ARSENIC	As	75 U	CA.1250	ALBERTUS MAGNUS	817	614
34	SELENIUM	Se	79 U	1817	BERZELIUS	180	685
35	BROMINE	Br	80 U	1826	BALARD	-7	59
36	KRYPTON	Kr	84 U	1898	RAMSAY & TRAVERS	-157	-153

THE CHEMICAL ELEMENTS WERE DISCOVERED HERE:



HINTS!

IT MIGHT HELP IF YOU ASK YOUR PARTNER:

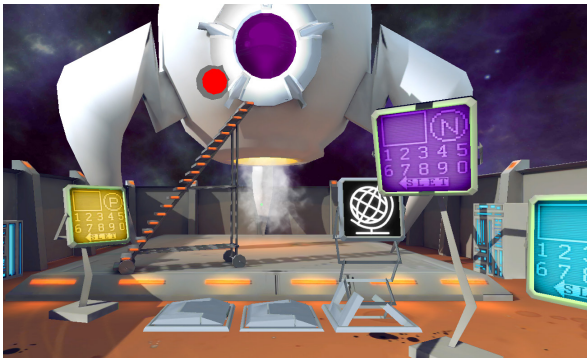


ROOM 1
What do you see on the black screen?



ROOM 2
Do you see something in the ceiling that might tell you what group or period the element belongs to?

Do you see something in the hologram machine that might tell you what state the element is in?



ROOM 3
What colour does the door of the spaceship have?