



1

2

3

4

5

6

7

0

1

2

3

4

5

6

7

1

H

Hydrogen

1

4

He

Helium

2

11

B

Boron

5

12

C

Carbon

6

14

N

Nitrogen

7

16

O

Oxygen

8

19

F

Fluorine

9

20

Ne

Neon

10

27

Al

Aluminium

13

28

Si

Silicon

14

31

P

Phosphorus

15

32

S

Sulfur

16

35.5

Cl

Chlorine

17

40

Ar

Argon

18

39

K

Potassium

19

40

Ca

Calcium

20

45

Sc

Scandium

21

48

Ti

Titanium

22

51

V

Vanadium

23

52

Cr

Chromium

24

55

Mn

Manganese

25

56

Fe

Iron

26

59

Co

Cobalt

27

59

Ni

Nickel

28

63.5

Cu

Copper

29

65

Zn

Zinc

30

70

Ga

Gallium

31

73

Ge

Germanium

32

75

As

Arsenic

33

79

Se

Selenium

34

80

Br

Bromine

35

84

Kr

Krypton

36

85

Rb

Rubidium

37

88

Sr

Strontium

38

89

Y

Yttrium

39

91

Zr

Zirconium

40

93

Nb

Niobium

41

96

Mo

Molybdenum

42

99

Tc

Technetium

43

101

Ru

Ruthenium

44

103

Rh

Rhodium

45

106

Pd

Palladium

46

108

Ag

Silver

47

112

Cd

Cadmium

48

115

In

Indium

49

119

Sn

Tin

50

122

Sb

Antimony

51

128

Te

Tellurium

52

127

I

Iodine

53

131

Xe

Xenon

54

133

Cs

Caesium

55

137

Ba

Barium

56

57-71

178

Hf

Hafnium

72

181

Ta

Tantalum

73

184

W

Tungsten

74

186

Re

Rhenium

75

190

Os

Osmium

76

192

Ir

Iridium

77

195

Pt

Platinum

78

197

Au

Gold

79

201

Hg

Mercury

80

204

Tl

Thallium

81

207

Pb

Lead

82

209

Bi

Bismuth

83

(209)

Po

Polonium

84

(210)

At

Astatine

85

(222)

Rn

Radon

86

(223)

Fr

Francium

87

(226)

Ra

Radium

88

89-103

(261)

Rf

Rutherfordium

104

(262)

Db

Dubnium

105

(266)

Sg

Seaborgium

106

(264)

Bh

Bohrium

107

(269)

Hs

Hassium

108

(268)

Mt

Meitnerium

109

(269)

Ds

Darmstadtium

110

(272)

Rg

Roentgenium

111

(285)

Cn

Copernicium

112

(286)

Nh

Nihonium

113

(289)

Fl

Flerovium

114

(289)

Mc

Moscovium

115

(293)

Lv

Livermorium

116

(294)

Ts

Tennessine

117

(294)

Og

Oganesson

118



Elements in the same group have similar properties.

Lithium (Li) and potassium (K) are metals. They are solids at room temperature, have low melting points compared to other metals and are very reactive.

3. Name two other elements that have similar properties to lithium and potassium.

Any two from:

- **sodium (Na)**
- **rubidium (Rb)**
- **caesium (Cs)**
- **francium (Fr)**

Neon (Ne) and xenon (Xe) are non-metals. They are gases at room temperature and are unreactive.

4. Name two other elements that have similar properties to neon and xenon.

Any two from:

- **helium (He)**
- **argon (Ar)**
- **krypton (Kr)**
- **radon (Rn)**
- **oganesson (Og)**

The atomic number increases as you move from left to right across a period.

5. What is the atomic number of the elements below?

a. molybdenum (Mo) **42**

b. germanium (Ge) **32**

The atomic radius decreases as you move from left to right across a period. Some elements are shown in the table below. The atomic radius of each element is given in the table.

Element	Atomic Radius (pm)
argon	71
boron	87
carbon	67
chlorine	79
oxygen	48
phosphorus	98

6. Predict the atomic radius of the elements below.

a. nitrogen (N) **any value between 49 and 66pm**

b. sulfur (S) **any value between 80 and 97pm**