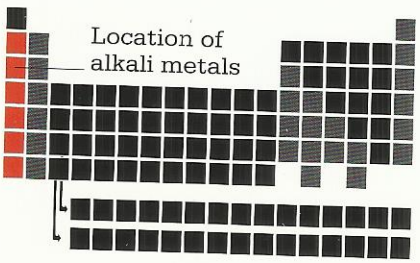
Alkali metals [The wildes



PERIODIC TABLE

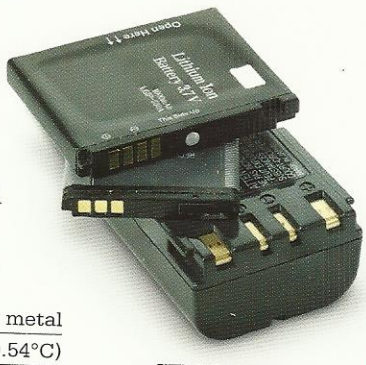
The highly reactive Group 1 elements all react vigorously with water. They never occur naturall by themselves, and they form stable compounds, called salts, with nonmetals. The alkali metals are lightweight and soft enough to cut with a knife.

3
Li
LITHIUM

Lithium

This is the lightest of all the metals. It is often combined with other metals to form light alloys for making aircraft and rocket parts. Lithium is also used in some types of battery.

What it is	A silvery-white metal
Melting point	356.97°F (180.54°C)
Boiling point	2,448°F (1,342°C)



CELL PHONE LITHIUM–ION BATTERIES

11
Na
SODIUM

Sodium

We eat sodium in the form of sodium chloride (a compound of sodium and chlorine), or table salt. Sodium is essential to the human body, because it helps transmit nerve signals.

What it is	A silvery-gray metal
Melting point	207.9°F (97.72°C)
Boiling point	1,621°F (883°C)

HALITE (ROCK SALT)

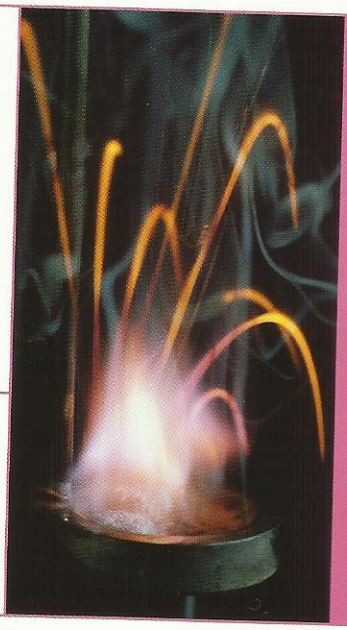
GPS SCREEN IN CAR

37
Rb
RUBIDIUM

Rubidium

This element is barely solid at normal room temperature. Rubidium is used in the devices that control TVs, cell phones, and GPS (satellite navigation) signals.

What it is	A gray-white metal
Melting point	102.76°F (39.31°C)
Boiling point	1,270°F (688°C)



Water test

The first three alkali metals are light enough to float in water. Lithium fizzes and spits. Tiny pieces of sodium scoot over the water's surface, and larger chunks produce flames. Potassium causes an explosion. The reaction with water gets more violent as you move down Group 1.

KA-BOOM! POTASSIUM REACTING WITH WATER

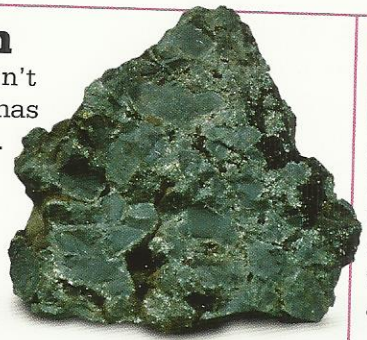
33.7%: the salt content of the Dead Sea

87
Fr
FRANCIUM

Francium

This metal doesn't hang around; it has a half-life of 22 minutes. In the time it takes to cook a pizza, half of its atoms decay, sending out nuclear radiation (see pages 64–65).

What it is	A radioactive metal
Predicted melting point	80°F (27°C)
Predicted boiling point	1,250°F (677°C)



URANITE (A MINERAL CONTAINING FRANCIUM)

55
Cs
CESIUM

Cesium

This gold-tinged element is the most reactive metal, and it also has the largest atoms. It is found in superaccurate atomic clocks. These keep time by detecting regular changes in cesium atoms.

What it is	A soft, silvery-gold metal
Melting point	83.19°F (28.44°C)
Boiling point	1,240°F (671°C)

Tick tock, atomic clock
Atomic clocks are accurate to within one second for a million years!