



# Elements Game & Quiz

**MATRIX**

HELIUM

He <sup>2</sup>

gas

non metal

has very low density <sup>2</sup>

used in balloons and airships

**MATRIX**

solid

CARBON

This is a Chemistry revision activity designed to help students remember the properties of various elements. It is very valuable to revise in pairs or groups, and this activity encourages students to help each other and test each other's knowledge.

Suitable for students aged 13+

**Learning Outcome:** Students will have revised their knowledge of twelve common elements and will be able to recall the properties of these elements from memory.

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# Elements Game & Quiz

Originally adapted by Eve Levin, Fairfield Grammar School, Bristol  
from Dave Smith's (Hounslow Section 11) game of the same name  
Illustrations from Mantra Lingua's Bilingual Talking Dictionary

## Theme: Elements

Age range: 13+

### Context:

This is a Chemistry revision activity designed to help students remember the properties of various elements. It is very valuable to revise in pairs or groups, and this activity encourages students to help each other and test each other's knowledge.

If you make your own version please send it to the address below to help us expand our library.

### Preparation:

Print out the A4 sheets.

If possible, cover all the pages with 'clear pvc self adhesive book cover film' apart from the Quiz Cards as students will be expected to write on these. Cut up all the cards along the dotted lines.

### HOW TO PLAY:

Detailed instructions for both games are on the next page.

In the first game one team collects the right information for their elements and the other team checks the information, and then vice versa until all 12 elements are checked.

In the second game, students can test each other's knowledge with the Elements Quiz.

### Learning Outcomes:

Students will have revised their knowledge of twelve common elements and will be able to recall the properties of these elements from memory. If you have found further learning outcomes please share them by emailing [collaborate@mantralingua.com](mailto:collaborate@mantralingua.com).

Mantra Lingua Ltd, Global House, 303 Ballards Lane, London N12 8NP 0044 (0) 208 445 5123

(You can purchase a professionally printed, sound-enabled version of this activity with pre-cut cards from [www.mantralingua.com](http://www.mantralingua.com). Students can use TalkingPEN to record and re-record aurally onto the pages and cards. Recordings can be saved and used for assessment, or shared with other classes and schools via "ShareLINK".)

Chemistry

Collaborative Learning



MANTRA LINGUA  
Listen, record, playback...





## Elements - Instruction Cards

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(cut out along the dotted lines and make into 2 cards)

### Elements Game - Instructions

A game for two teams (A and B) with two or three players in each team.

1. Each team takes a Matrix Card and a piece of scrap paper.
2. Shuffle the Element Cards and place them in a pile face down.
3. Toss a coin to decide which team goes first - this will be Team A.
4. Team B holds but does not look at the Information Check Cards.
5. Place the remaining 5 sets of cards in 5 piles around the table. These can be facing up.
6. Team A takes the top card from the Element pile and places it in the first section of their Matrix.
7. They then go through the 5 sets of cards (Solid Liquid Gas; Metal/non metal; Properties; Symbols; Uses) selecting a card from each set that describes their element, and placing the five chosen cards onto the Matrix.
8. Team B then checks the information and if any cards are incorrect they must be returned to their sets. Using the scrap paper, Team A make a note of the number of gaps on their Matrix. They then take the remaining cards from the Matrix and keep them in a pile with the Element Card at the top, facing up.
9. Repeat steps 1-8, but with Team A and Team B swapping roles. Continue until all the Element Cards are used up. Finally, both teams count up the number of blank spaces marked on their scrap paper. The team with the fewest wins.
10. Finally, both teams look at the cards that have not been used, and work together to add them to the correct piles.

### Elements Quiz - Instructions

A quiz for two teams - each team with two or three players.

Each team has information about six elements.

They take turns asking the opposite team for specific information about an element:

e.g. "Is bromine a liquid or a gas?"

The results of the quiz can be scored on the grids included.

Every correct answer gets a tick in the relevant place on the grid.

Bonus ticks can be received if extra information is given, e.g.

Q: Name a property of Mercury.

A: Mercury expands when heated, *and* it conducts electricity.

This answer would receive 2 ticks in the relevant box.

At the end of the quiz the team with the most ticks wins.

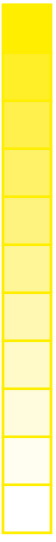
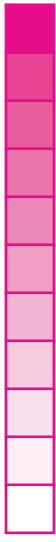


# Elements - Matrix Cards

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(cut out along the dotted lines and make into 2 cards)

MATRIX			

MATRIX			





# Elements - Matrix Cards

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(cut out along the dotted lines and make into 2 cards)

MATRIX			

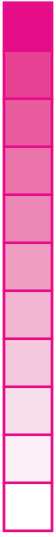
MATRIX			





# Elements - Element Cards

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HELIUM	CARBON	OXYGEN	MAGNESIUM
ALUMINIUM	SULPHUR	CHLORINE	COPPER
ZINC	BROMINE	MERCURY	LEAD

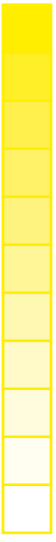
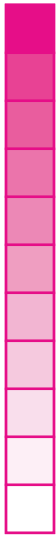




# Elements - Element Cards

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(cut out along the dotted lines and make into cards)

gas	solid	gas	solid
solid	solid	gas	solid
solid	liquid	liquid	solid

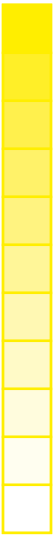
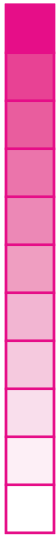




# Elements - Element Cards

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(cut out along the dotted lines and make into cards)

non metal	non metal	non metal	metal
metal	non metal	non metal	metal
metal	non metal	metal	metal

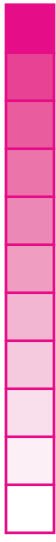






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(cut out along the dotted lines and make into cards)



2  
has very low  
density

6  
exists as coal

8  
reacts  
with lots of  
compounds

12  
helps things  
burn

13  
is very light

16  
is yellow

17  
is poisonous

29  
conducts  
electricity well

30  
reacts  
with oxygen

35  
is poisonous

80  
expands when  
heated

82  
high density

2

2

2

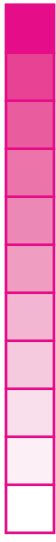
2



# Elements - Element Cards

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(cut out along the dotted lines and make into cards)

2 He	6 C	8 O	12 Mg
13 Al	16 S	17 Cl	29 Cu
30 Zn	35 Br	80 Hg	82 Pb
2	2	2	2





# Elements - Element Cards

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(cut out along the dotted lines and make into cards)

used in  
balloons  
and airships



used as fuel,  
used for drilling,  
used for pencils and  
jewellery



used for  
welding



used in  
fireworks, racing  
cars, planes and bicycles



used in planes,  
high voltage wires,  
light bulbs and  
drink cans




used to  
make sulphuric  
acid and other  
compounds,  
skin ointments  
and fungicides



used in  
disinfectant



used for  
electric  
wires,  
saucepans  
and coins



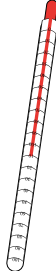
used to  
coat metals  
such as iron  
to prevent  
rusting



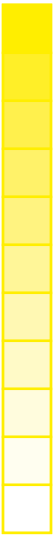
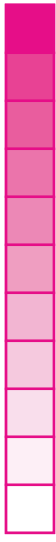
used in compounds  
for photography



used in thermometers  
and to silver mirror



used for  
roofing and  
water pipes





# Elements - Element Cards

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(cut out along the dotted lines and make into cards)

**HELIUM** He  
Atomic no. 2  
non metal gas  
has very low density  
used in balloons and airships

**CARBON** C  
Atomic no. 6  
non metal solid  
exists as coal  
used for fuel, used for drilling,  
used for pencils and jewellery

**OXYGEN** O  
Atomic no. 8  
non metal gas  
reacts with lots  
of compounds  
used for welding

**MAGNESIUM** Mg  
Atomic no. 12  
metal solid  
helps things burn  
used in fireworks, racing cars,  
planes and bicycles

**ALUMINIUM** Al  
Atomic no. 13  
metal solid  
is very light  
used in planes, high voltage wires,  
light bulbs and drink cans

**SULPHUR** S  
Atomic no. 16  
non metal solid  
is yellow  
used to make sulphuric acid,  
skin ointments and fungicides

**CHLORINE** Cl  
Atomic no. 17  
non metal gas  
is poisonous  
used in disinfectant

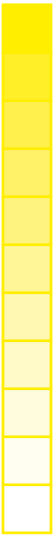
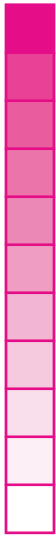
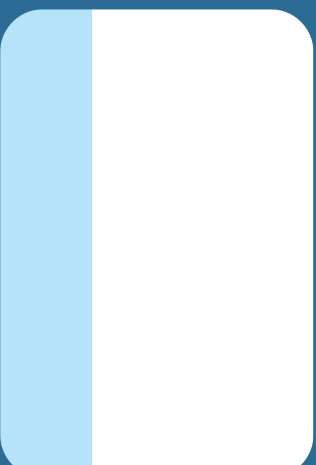
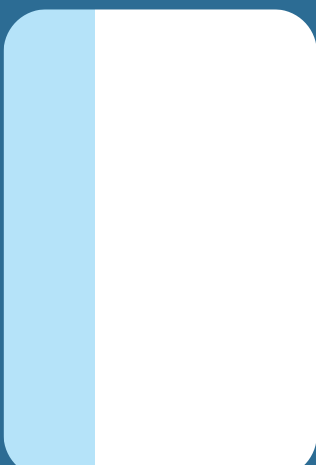
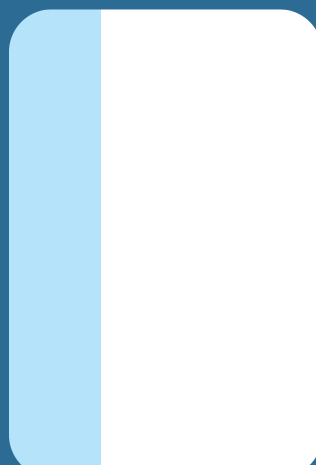
**COPPER** Cu  
Atomic no. 29  
metal solid  
conducts electricity well  
used for electric wires,  
saucepans and coins

**ZINC** Zn  
Atomic no. 30  
metal solid  
reacts with oxygen  
used to coat metals such as iron  
to prevent rusting

**BROMINE** Br  
Atomic no. 35  
non metal liquid  
is poisonous  
used in compounds  
for photography

**MERCURY** Hg  
Atomic no. 80  
metal liquid  
expands on heating  
used on thermometers  
and to silver mirror

**LEAD** Pb  
Atomic no. 82  
metal solid  
high density  
used for roofing  
and water pipes





## Elements - Quiz Score Grid

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elements	symbols	metal / non metal	solid, liquid, gas	properties	uses
HELIUM					
CARBON					
OXYGEN					
MAGNESIUM					
ALUMINIUM					
SULPHUR					

elements	symbols	metal / non metal	solid, liquid, gas	properties	uses
CHLORINE					
COPPER					
ZINC					
BROMINE					
MERCURY					
LEAD					





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CARBON					
OXYGEN					
MAGNESIUM					
ALUMINIUM					
SULPHUR					

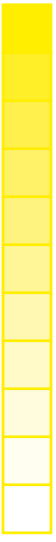
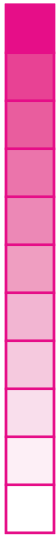
elements	symbols	metal / non metal	solid, liquid, gas	properties	uses
CHLORINE					
COPPER					
ZINC					
BROMINE					
MERCURY					
LEAD					





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elements	symbols	metal / non metal	solid, liquid, gas	properties	uses

elements	symbols	metal / non metal	solid, liquid, gas	properties	uses

