This Checkpoint Task should be used in conjunction with the KS3–KS4 GCSE (9–1) Twenty First Century Combined Science B Transition Guide – Atomic Structure and the Periodic Table.

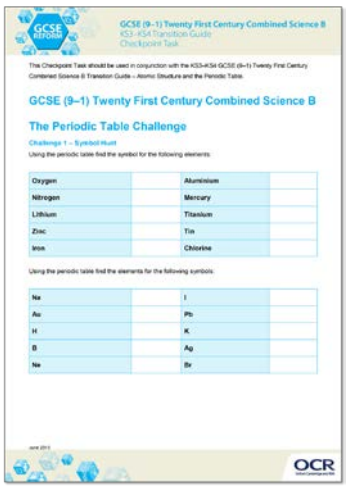
GCSE (9–1) Twenty First Century Combined Science B

PROVISIONAL

The Periodic Table Challenge

Instructions and answers for teachers

These instructions should accompany the OCR resource 'The Periodic Table Challenge' activity *which supports OCR GCSE (9–1) Twenty First Century Combined Science B*


GCSE (9–1) Twenty First Century Combined Science B

The Periodic Table Challenge

Oxygen		Aluminium	
Nitrogen		Mercury	
Lithium		Titanium	
Zinc		Tin	
Iron		Chlorine	

Ne		I	
Au		Pb	
H		K	
B		Ag	
Ne		Br	

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The Activity:

This resource comprises of 2 tasks.

This activity offers an opportunity for English skills development.

This activity offers an opportunity for maths skills development.

Associated materials:

'The Periodic Table' Checkpoint Task learner activity sheet.

KS3–KS4 GCSE (9–1) Twenty First Century Combined Science B Transition Guide – Atomic Structure and the Periodic Table.

PROVISIONAL

This resource is an exemplar of the types of materials that will be provided to assist in the teaching of the new qualifications being developed for first teaching in 2016. It can be used to teach existing qualifications but may be updated in the future to reflect changes in the new qualifications. Please check the OCR website for updates and additional resources being released. We would welcome your feedback so please get in touch.

June 2015

Challenge 1 – Symbol Hunt

Using the periodic table find the symbol for the following elements:

Oxygen	O	**Aluminium**	Al
Nitrogen	N	**Mercury**	Hg
Lithium	Li	**Titanium**	Ti
Zinc	Zn	**Tin**	Sn
Iron	Pb	**Chlorine**	Cl

Using the periodic table find the elements for the following symbols:

Na	Sodium	**I**	Iodine
Au	Gold	**Pb**	Lead
H	Hydrogen	**K**	Potassium
B	Boron	**Ag**	Silver
Ne	Neon	**Br**	Bromine

Challenge 2 – Top 5

Using the periodic table name:

5 Transition metals

Any five metals from transition section on Periodic table.

4 Non metals

Any four from: Hydrogen, Carbon, Nitrogen, Oxygen, Phosphorus, Sulfur, Selenium, any Noble gas, any Halogen.

3 Metals in group 1

Any three from: Lithium, Sodium, Potassium, Caesium, Rubidium, Francium.

2 Elements that are gas at room temperature

Any two from: Helium, Neon, Argon, Krypton, Xenon, Radon, Fluorin, Chlorine, Oxygen, Nitrogen, Hydrogen.

1 Element that is liquid at room temperature

Bromine or mercury.

Challenge 3 – Reactive Rates

List the 6 alkali metals in order of reactivity. Starting with the most reactive.

1. Francium
2. Caesium
3. Rubidium
4. Potassium
5. Sodium
6. Lithium

Challenge 4: Sum in up

In no more than 10 words explain why metals such as bronze are not found on the period table.

Any 10 word answer that explain ideas about alloys forming new metals.

Challenge 5: Equation invasion

Metal Oxide + Acid → Salt + Water

For example:

Copper Oxide + Sulfuric Acid → Copper Sulfate + Water

Name the reactants in the reaction of metal Oxides with acids:

1. Magnesium Oxide + Nitric Acid → Magnesium Nitrate + Water
2. Silver Oxide + Hydrochloric Acid → Silver Chloride + Water
3. Lead Oxide + Sulfuric Acid → Lead Sulfate + Water
4. Copper Oxide + Nitric Acid → Copper Nitrate + Water
5. $SnO + H_2SO_4 \rightarrow SnSO_4 + H_2O$
6. $CuO + 2HCl \rightarrow CuCl_2 + H_2O$

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June 2015