

Development of the periodic table



Task 1: What are properties?

- a) **Define** the term property.
- b) **Circle** the chemical properties and underline the physical properties.

reactivity

colour

flammability

hardness

acidity

melting point

Task 2: The early periodic table

- a) **Draw** lines to match the scientists to their periodic table ideas.

Newlands

left gaps for undiscovered elements

Mendeleev

ordered elements by atomic number

Moseley

saw each eighth element has similar properties

- b) Starting with the earliest, **number** the scientists to show the order in which they contributed to the development of the periodic table:

Moseley

Newlands

Mendeleev

Name _____

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Task 3: The modern periodic table

a) Place a tick to show if the description is for Mendeleev's or the modern periodic table.

Description	Mendeleev's periodic table	The modern periodic table
arranged by atomic number		
Group 0 elements missing.		
Gaps present.		
arranged by atomic weight		

b) Complete the sentences by filling in the gaps.

- John _____ proposed the Law of Octaves. As he spotted that every _____ element had similar _____.
- Dmitri _____ helped create the modern periodic table by leaving gaps for _____ elements.
- Both Newlands and Mendeleev ordered the elements by their atomic _____.
- The modern periodic table is arranged by atomic _____. It has columns called _____ and rows called _____.

c) Whose table of elements improved on Newlands' and how? (3 marks)

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Answers



Task 1: What are properties?

- a) **Define** the term property.

A property is the physical or chemical characteristics of a substance.

- b) **Circle** the chemical properties and underline the physical properties.

reactivity	<u>colour</u>	flammability
<u>hardness</u>	acidity	<u>melting point</u>

Task 2: The early periodic table

- a) **Draw** lines to match the scientists to their periodic table ideas.

Newlands	left gaps for undiscovered elements
Mendeleev	ordered elements by atomic number
Moseley	saw each eighth element has similar properties

- b) Starting with the earliest, **number** the scientists to show the order in which they contributed to the development of the periodic table:

3 Moseley	1 Newlands	2 Mendeleev
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Name _____

Science Development of the periodic table



Task 3: The modern periodic table

a) Place a tick to show if the description is for Mendeleev's or the modern periodic table.

Description	Mendeleev's periodic table	The modern periodic table
arranged by atomic number		✓
Group 0 elements missing.	✓	
Gaps present.	✓	
arranged by atomic weight	✓	

b) Complete the sentences by filling in the gaps.

- John Newlands proposed the Law of Octaves. As he spotted that every eighth element had similar properties.
- Dmitri Mendeleev helped create the modern periodic table by leaving gaps for undiscovered elements.
- Both Newlands and Mendeleev ordered the elements by their atomic weight.
- The modern periodic table is arranged by atomic number. It has columns called groups and rows called periods.

c) Whose table of elements improved on Newlands' and how? (3 marks)

- Mendeleev's table of elements*
- His table left gaps for undiscovered elements.*
- This ensured that elements with similar properties were in the same group.*