SUBJECT: Science YEAR: 8 MTP TITLE: Periodic Table HALF TERM: 2 NO. OF LESSONS (approx): 8

## *Deliberate and specific retrieval of expected prior knowledge (be specific)*

Retrieval should occur regularly throughout the learning journey:

- Discuss whether materials in the periodic table are solids, liquids or gases
- Observe that some materials change state when they are heated or cooled – metals/non-metals (link to burning magnesium exp)
- Using test results to make predictions to set up further comparative and fair tests

## *Academic transformation (be specific)*

Your core curriculum must do all of the following:

**What is your ambitious core curriculum to intellectually transform <u>our</u> students?**

- Recap elements, compounds and mixtures. Look at the periodic table and recap groups and periods
- Comparing the properties of metals and non-metals
- Describe the properties and trends of group 1 and compare them to typical properties of metals
- Describe the properties and trends of group 7
- Use knowledge of reactivity to explain displacement reactions using group 7 elements
- Describe properties of group 0
- Look at principles underpinning the Mendeleev Periodic Table

**Scientific skills**

- Reasoning and discussion on scientific theories
- Writing word and symbol equations
- Recording data

**Maths skills**

- Balancing equations

## *Personal transformation (2 or 3)*

- Mendeleev was the first to publish a version of the table that we would recognise today, but does he deserve all the credit?

**Ambitious vocabulary and high-quality texts**

Development of periodic table – Active reading task

## *Can I Learning Questions*

Can I define an element, compound and mixture?
Can I compare the properties of a metal and non-metal?
Can I describe the trend in reactivity down group 1?
Can I describe the trend in reactivity down group 7?

## *Literacy*

**Tier 2 vocabulary**
Atom, Element, Compound, Mixture, Model, Periodic table
**Tier 3 vocabulary**
Metal, Non-metal, Noble gases, Trends, Reactivity

Texts – Following a practical method – Group 7 displacement reactions

## *Misconceptions*

- Group 1 metals are alkalis. When group 1 metals react with water they make an alkali.
- Chlorine is a liquid at room temperature.
- You can't get a mixture of compounds. Air is a good example of a mixture of elements and compounds.