SUBJECT: Science YEAR: 9 MTP TITLE: Acid Reactions HALF TERM: 10 NO. OF LESSONS (approx): 10

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

Retrieval should occur regularly throughout the learning journey:

- Chemical and physical changes
- Oxidation reactions
- Symbol equations
- Acids and Alkalis
- Reactions of metals and metal oxides with acids
- Neutralisation
- Recall the pH of acids and alkalis

Academic transformation (be specific)

Your core curriculum must do all of the following:

- Examples of laboratory strong and weak acids and alkalis
- Preparing and using universal indicator
- Neutralisation reactions
- Reactivity of metals
- Metals react with oxygen to form metal oxides
- Different metals have different reactivities, which we can put into a series
- Unreactive metals can be extracted using carbon
- Reactions between metals and acids produce soluble salts and hydrogen
- We test for hydrogen with a squeaky pop test
- Metal carbonates react with acids to form salt, water and carbon dioxide
- We test for carbon dioxide by limewater turning cloudy
- Acids and alkalis can neutralise each other to form neutral compounds
- Strong acids fully dissociate into H^+ ions and weak acids only partially
- Making soluble salts from metal oxides
- Recrystallisation
- Safely working with acids and alkalis
- Safely using Bunsen burners

Equations
Metal + oxygen → metal oxide
Metal + acid → salt + hydrogen
Metal carbonate + acid → salt + carbon dioxide + water
Acid + alkali → salt + water

Personal transformation (2 or 3)

Deliberately inviting students and our community to enrich learning by sharing their experiences, history and first hand accounts. Explicitly choose application opportunities for learners to:

Understand the chemical reactions that go on all around them, including corrosion.

Uses of neutralisation reactions in everyday life

Can I Learning Questions

Can I compare an acid to an alkali?
Can I prepare my own indicator?
Can I describe uses of neutralisation reactions?
Can I carry out a practical to find the reactivity of four metals?
Can I carry out a practical to produce a salt from a metal oxide and an acid?
Can I write equations for metal carbonates reacting with an acid?
Can I write equations to form salts?

Literacy

Tier 2 vocabulary
conserved, acids, alkalis, reactions
Tier 3 vocabulary
Reactivity, displacement, ion, dissociate, Neutralisation decomposition oxidation, combustion

Misconceptions (5 or 6 examples)

1. *Acid is the chemical that changes colour rather than the indicator*
2. *Alkalis and bases are the same thing*
3. *All acids and alkalis are dangerous*
4. *Acids burn/ melt what they touch*
5. *Acids dissolve what they touch*