# 9F Reactivity- Revision Worksheet

Describe the difference between a **physical change** and a **chemical reaction**.

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Define the following key terms:

| | |
|---|---|
| Word Equation | |
| Reactants | |
| Products | |

State three ways you could increase the **gas pressure** inside a container.

1.

2.

3.

Complete the following **word equations**.

potassium + water →

calcium + water →

iron + hydrochloric acid →

lithium + sulfuric acid →

copper + oxygen →

zinc + oxygen →

Describe what **rusting** is.

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Explain two methods of preventing **rusting**.

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Explain why **smaller** pieces of a substance will **react** faster.

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Describe the role of an **oxidising agent**.

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Describe the following types of **reaction** and give an example of each

**Exothermic-** ……

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**Endothermic-** ……

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State the test for **oxygen**.

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State the **word equation** for the **combustion** of **methane**.

Complete the table summarising different **metals** below:

| Metal | Reaction with oxygen | Reaction with cold water | Reaction with dilute acid | Method of extracting the metal |
|---|---|---|---|---|
| **Potassium** | | | | |
| | | | | |
| | | | | |
| **Calcium** | | | | |
| | | | | |
| **Aluminium** | | | | |
| **Zinc** | | | | |
| | | | | |
| **Tin** | | | | |
| | | | | |
| | | | | |
| **Silver** | | | | |
| | | | | |
| **Platinum** | | | | |

Describe what a **displacement reaction** is.

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Complete the following **word equations** (if there is no reaction, write 'no reaction').

magnesium + copper nitrate →

zinc + sodium chloride →

iron + silver nitrate →

copper + potassium sulfate →

silver + magnesium nitrate →

Describe what the **thermite reaction** is.

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Describe the process of **electrolysis**.

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Write a **word equation** for how you would **extract tin** from its **ore** (**tin oxide**).

Describe the relationship between a **metal's reactivity** and it's **ease of extraction**.

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Define the following key terms:

| | |
|---|---|
| Native State | |
| Ore | |

Explain the difference in dates when **metals** were first **extracted**.

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Calculate the **percentage loss in mass** when **8.4g** of magnesium carbonate is heated if the mass of magnesium oxide left is **4.0g**. (*Give you answer to 1 decimal place*)

**Rate the following on how well you think you can do them:**

I can…

- ☐ Identify and explain the differences between physical changes and chemical changes.
- ☐ Use particle theory to explain gas pressure and how it can be changed.
- ☐ Present ideas and opinions in the active and passive voices.
- ☐ Evaluate different ways of presenting the same information.
- ☐ Describe the reactions of metals with water, dilute acids and air.
- ☐ Explain how metals are placed in the reactivity series.
- ☐ Explain how physical barriers and sacrificial protection prevent rusting.
- ☐ Describe the test for oxygen.
- ☐ Explain how combustion reactions can be speeded up.
- ☐ Classify changes as exothermic or endothermic.
- ☐ Explain why some reactions need a supply of energy.
- ☐ Express one number as a percentage of another.
- ☐ Calculate percentage change.
- ☐ Explain what happens in a displacement reaction.
- ☐ Predict whether a displacement reaction will occur.
- ☐ Explain why the method used to extract a metal is related to cost and the metal's reactivity.
- ☐ Describe how metals are extracted from their ores by heating with carbon or by electrolysis.
- ☐ Explain what happens in oxidation and reduction reactions.