

Name -

Nickname -

Class -

Date -

## 9Fb – REACTIVITY

1. What is the reactivity series?

2. a. Use the table to help identify the metals below.  
Metal X can catch fire in air, reacts with cold water and reacts quickly with dilute acid. Metal X is likely to be

Metal Y reacts quickly with dilute acid and the oxygen in air but reacts very slowly with water. Metal Y is likely to be

Metal Z catches fire in air, is explosive with dilute acid and reacts very quickly with water. Metal Z is likely to be

| Metal     | Reaction with oxygen in air                                                         | Reaction with cold water                                                            | Reaction with dilute acid                                                           |
|-----------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| potassium |  |  |  |
| sodium    |  | ✓✓✓                                                                                 |  |
| lithium   |  | ✓✓                                                                                  | ✓✓✓                                                                                 |
| calcium   |  | ✓✓                                                                                  | ✓✓✓                                                                                 |
| magnesium |  | ✓                                                                                   | ✓✓                                                                                  |
| aluminium | ✓✓✓                                                                                 | •••                                                                                 | ✓✓                                                                                  |
| zinc      | ✓✓                                                                                  | •••                                                                                 | ✓✓                                                                                  |
| iron      | ✓✓                                                                                  | •••                                                                                 | ✓                                                                                   |
| tin       | ✓                                                                                   | •••                                                                                 | ✓                                                                                   |
| lead      | ✓                                                                                   | •••                                                                                 | ✓                                                                                   |
| copper    | ✓                                                                                   | X                                                                                   | X                                                                                   |
| mercury   | •••                                                                                 | X                                                                                   | X                                                                                   |



### Key

|                                                                                               |                                                                                                      |                              |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------|
|  explosive |  can catch fire | ✓✓✓ reacts very quickly      |
| ✓✓ reacts quickly                                                                             | ✓ reacts                                                                                             | ••• slow or partial reaction |
| X no reaction                                                                                 |                                                                                                      |                              |

b. Complete the following equations.

potassium + water → \_\_\_\_\_ + \_\_\_\_\_

\_\_\_\_\_ + hydrochloric acid → calcium chloride + \_\_\_\_\_

\_\_\_\_\_ + \_\_\_\_\_ → magnesium oxide

lithium + nitric acid → \_\_\_\_\_ + \_\_\_\_\_

sodium + \_\_\_\_\_ → sodium hydroxide + \_\_\_\_\_

magnesium + sulfuric acid → \_\_\_\_\_ + \_\_\_\_\_