METAL AND ACID
WORKSHEET

1. Complete the equations

a. metal + oxygen →

b. metal + water →

c. metal + acid →

2. What is formed when magnesium burns in the air?

3. What happens when copper is put into a beaker of water?

4. How do you test for hydrogen gas?

5. What is formed when sodium reacts with hydrochloric acid?

6. How should metals more reactive than carbon be extracted from their ores?

7. Why is gold used in jewelry?

8. What is the rule for displacement reactions?

9. Tick which reactions would happen. Cross the ones not occurring.

	Copper	Magnesium	Zinc
Copper sulfate			
Magnesium sulfate			
Zinc sulfate			

10. Explain why the ticked reactions happen and the crossed reactions do not happen.

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Answers

1. Complete the equations

a. metal + oxygen → metal oxide

b. metal + water → metal hydroxide + hydrogen

c. metal + acid → salt + hydrogen

2. What is formed when magnesium burns in the air?

It forms magnesium oxide.

3. What happens when copper is put into a beaker of water?

Nothing happens. Copper is not reactive enough to react with water.

4. How do you test for hydrogen gas?

Test for hydrogen gas with a lit spill. A positive result is a squeaky pop

5. What is formed when sodium reacts with hydrochloric acid?

sodium chloride (salt) and hydrogen

6. How should metals more reactive than carbon be extracted from their ores?

By electrolysis

7. Why is gold used in jewelry?

It is very unreactive, so it will not react with your skin.

8. What is the rule for displacement reactions?

A more reactive metal will displace a less reactive metal from a compound

9. Tick which reactions would happen. Cross the ones not occurring.

	Copper	Magnesium	Zinc
Copper sulfate		✓	✓
Magnesium sulfate	✗		
Zinc sulfate	✗		

10. Explain why the ticked reactions happen and the crossed reactions do not happen.

The ticked reactions happen since the metal is more reactive than the metal in the compound. So, a displacement reaction takes place. The reactions with the crosses do not happen since the metal is less reactive than the metal in the compound. So, the former cannot displace the latter.