Why Do Some Things Rust?

Rust is a common compound scientifically known as iron oxide (Fe_2O_3). Rust forms when iron and oxygen react in the presence of water or moisture in the air.

Interestingly, rust isn't always that familiar reddish-brown color. Sometimes, rust can even be green! This happens when iron reacts with chloride in an underwater environment, creating a type of green rust. You might see this greenish rust on steel structures like underwater pillars.

Rusting occurs when iron or iron-based metals, like steel, begin to corrode. The surface of iron corrodes first when exposed to oxygen and water, and over time, any piece of iron will turn entirely into rust and break down.

Rusting is actually a type of combustion reaction, similar to what happens with fire. When iron is in contact with oxygen, it reacts and forms rust. Unlike fire, though, this reaction happens much more slowly and without a flame.

Certain factors can speed up rusting. Water, for instance, accelerates the process. Salt and other substances can also make rusting happen faster.

To prevent rust, iron can be coated to block its contact with oxygen and water. One common method is galvanization, which involves covering iron with a layer of zinc. The zinc helps stop the iron from reacting with oxygen and water, preventing rust.

Another simpler way to prevent rust is by painting. A coat of paint protects the iron, preventing it from reacting with the oxygen and water in the environment.

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A. Short Answer Questions:

1. Which metals are most likely to rust?

   _____

2. What are the three things needed for rust to form?.

   _____

B. True or False:

1. Only metals with iron can rust. *True / False*
2. Painting metal prevents rust by stopping water and air from reaching the surface.

   True / False

3. Rusting happens more quickly in dry conditions. *True / False*

C. Spelling

1. EORDROC → _____	to slowly break apart and destroy (metal, an object, etc.) through a chemical process
2. METISORU → _____	very small drops of water or other liquid that are present in the air
3. ROCUC → _____	to happen
4. ALYOL → _____	A mixture of two or more metals
5. STONMOBUIC → _____	the process of burning
6. TOCA → _____	to cover something with a layer of a substance

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