



2020 Cub Scout Backyard Challenge



Clean Something Rusty

Category: STEM

Difficulty: Intermediate

Description:

The best way to deal with rust is to prevent it by keeping metal surfaces dry. Of course, this is not always possible. You could buy rust removal products containing toxic chemicals that are both bad for the environment and dangerous to keep around young children and pets. But there are many safer solutions, and you probably already have everything you need for them at home. Here are six safe and easy rust removing tricks to get you started.

6 Easy Ways to Remove Rust:

- 1. Scrub.** A good place to begin is simply scrubbing the rusty surface with steel wool, sandpaper, a wire brush, or even a crumpled ball of tin foil. If the metal hasn't rusted too deeply, a little elbow grease will go a long way. But even if the rust is deep, it's a good idea to eliminate outer flakes of rust first before using other methods.
- 2. White vinegar.** For more stubborn rust, try using white vinegar. The acetic acid in this common household product is acidic enough to dissolve rust. You can soak smaller things like earrings, wipe vinegar onto a surface with an old cloth, or just pour it directly over rust spots or bolts and screws that have rusted together. Be sure to rinse items thoroughly after the rust has dissolved, since vinegar left on the metal could damage the surface.

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- 3. Baking soda** is great for cleaning lots of household messes, but have you ever tried it on rust? Make a paste by mixing it with water, making sure it is thick enough to stick to the rusted surface. Let it sit for a while and then scrub it off with steel
- 4. Spuds to the rust rescue.** Have an extra potato lying around? You can use a slice of it to scrub rusted surfaces—this works especially well for knife blades, pots, and pans. Sprinkle a little salt or baking soda onto the potato and then rub it over the rust spot, or just insert the knife into a potato and let it sit. The oxalic acid in the potato helps to dissolve the rust.
- 5. Lemon juice** can also dissolve rust—sprinkle some coarse salt onto the rust, then add lemon juice. Don't let it sit too long, or it might cause damage. Wipe off the juice and rinse. Try mixing lemon juice with a little vinegar for an extra strong solution. Not only will you be rust-free, but whatever you are cleaning will smell like citrus!
- 6. Does cola really remove rust?** If you've ever dropped a penny in a glass of Coke, you were probably impressed (or alarmed) that the penny came out clean. Cola and other soft drinks contain high levels of phosphoric acid (a common ingredient in store-bou

Once you've finished, rinse and dry all surfaces completely—if you leave items wet, they'll just rust again! You may want to prime and repaint things like bicycles, lawn furniture, or any surface that will face continuous exposure to wet weather. Also be sure to check bikes (especially the chains) for any damage deep rust might have caused before you start using them again.

Now, get your gloves and go find something rusty. Make that crumpled up ball of tin foil and rub off all the loose, flaky bits. Now find a container big enough to hold your object, go outside and soak it in white vinegar. Watch the little bubbles start

I bet you are really curious to put a dirty penny some Coke. What are you waiting for?

Do the other methods clean pennies too?

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