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TOPIC: IF I COULD INVENT SOMETHING NEW

Firstly, to invent something means to produce or to come up with a theory after a mental effort. If I were to produce or invent something new that would be beneficial to mankind, it would be a hand washing science experiment. Let's begin with the definition of hand washing? It is the act of washing hand with the soap and water for at least 15 to 20 minutes to cause friction making sure to include all surfaces of the hands and fingers. It was suggested by a scientist named IGNAC SEMMELWEIS [father of hand hygiene]. During the hypothesis of the hand washing experiment, scientists discovered a recent study that revealed laboratory workers often fail to follow hand washing policies. So in recognition of global hand washing day [celebrated annually on October 15]; EHS biology staff wanted to remind everyone about the importance of hand washing. Although appropriate gloves should be worn when handling hazardous materials, gloves do not eliminate the need for regular and proper hand washing. Failure to wash your hand after removing your gloves may result in transmission of pathogens from your hands, causing infection, or contamination of nearby surfaces, posing a risk to others in the lab. Also, washing hands with just water and hand sanitizer is known to be less effective in removing germs compared to washing hands with soap and water, as soap has surfactants that can break down the outer layer of germs more effectively, leading to better germ removal and overall hand hygiene. This is the science behind hand washing: a soap molecule which looks like a tadpole, has a hydrophilic [water-loving] head and a hydrophobic [water-hating] tail. The water-hating part of the soap wants to get away from the water. If the virus is on a person's hand, that water hating tail is drawn to that fatty layer. It pries its way in. just like there are many ways to kill a rat, there are also many steps and guidelines to ensure proper hand washing which are:

- Wet hands with running water
- Apply enough soap to cover wet hand
- Scrub all surface ie the hands- including back of hands , between fingers and under nails- for at least 20 seconds
- Rinse thoroughly with running water.

Evidence suggests that washing hand with soap after defecation / before eating can cut the respiratory infection rate by up 25% .

In conclusion

I'd say and I also believe that the most effective way in washing our hands is with water and soap because the combination of soap help to remove the germs, oil, dirt, enhances the action of water, reduces the risk of cross contamination, and is effective against a wide range of germs ensuring through hand hygiene than plain water according to the experiments results because it is said that "a healthy heart is a healthy mind".