OBJECTIVES
1. To observe how pathogens can spread by direct physical contact.
2. To demonstrate correct hand-washing techniques

A ROTTEN FRIEND!

WHAT YOU NEED
Toothpick
Healthy piece of fruit (e.g. apple, tomato, mandarin, peach)
Rotten piece of fruit (same type as above)
2 x clip seal bag

WHAT TO DO
1. Place the healthy fruit on the table next to but not touching the rotten fruit. Compare the two pieces of fruit and record your observations such as colour, texture and odour.
2. Take a toothpick and place it in the rotten fruit. Then push the contaminated toothpick into the healthy piece of fruit.
3. Place the healthy piece of fruit in a clipseal bag. Place the rotten piece of fruit in a separate clipseal bag.
4. Leave for several days and check the fruit. Record your observations every few days. It may take up to three weeks to clearly see the zone of infection in the healthy fruit.

QUESTIONS
1. How has the healthy fruit changed over time?
2. You used an unhealthy fruit to infect a healthy fruit. In what ways might an ill person infect a healthy person?
3. What are some ways that you can prevent the spread of disease?

INFECTIOUS GLITTER!

WHAT YOU NEED
Plastic bag
Silver glitter

WHAT TO DO
1. Place about one teaspoon of glitter in a plastic bag.
2. Organise your group into a line.
3. If you are the first person in the line, put your hand in the bag so that it becomes coated in glitter.
4. Now shake hands with the person next to you. Ask that person to shake hands with the next person and keep shaking hands down the line.
5. Everyone in the group should examine their hands for glitter.
QUESTIONS
1. How many people became infected with glitter?
2. If you had sneezed on your hand and then shaken hands with a friend, what might have happened?
3. What are some ways that you can prevent the spread of disease?

GLITTER BUG POTION!

WHAT YOU NEED
- Glitter bug potion
- UV lamp
- Liquid soap
- Access to water tap
- Plastic ball

WHAT TO DO
1. Rub the potion onto a plastic ball. Pass the item around your group.
2. Place your hands under a UV lamp. Where the potion is represents germs.
3. Place some potion on your hands. Rub your hands together like you are rubbing in a moisturizer. Check your hands with the UV lamp.
4. Wash your hands and check them again with the UV lamp. Carefully look in creases and around nails.

QUESTIONS
1. The potion was used to represent pathogens (germs). Can pathogens be transferred by passing around objects between friends? How do you know?
2. How effective was your hand washing technique?
3. Why is it important to wash your hands before you eat?

REAL WORLD APPLICATIONS OF DISEASE PREVENTION

Environmental Health Worker: A person who works to develop good hygiene habits in the community.
Hand washing skills are important in:
- Food preparation – there is strict legislation in Australia about how food should be prepared for commercial purposes and this includes keeping hands clean in order to prevent the spread of disease.
- Hospitals —In the late 1840's, Dr. Ignaz Semmelweis was an assistant in the maternity wards of a Vienna hospital. He observed that the mortality rate of deliveries by medical students was up to three times higher than those delivered by midwives. The medical students were coming straight from their lessons in the autopsy room to the delivery room. Ignaz ordered doctors and medical students to wash their hands with a chlorinated solution before examining women in labor and the mortality rate dropped to less than one percent. Despite this, Ignaz was ridiculed by his colleagues and it was not until the early 1900s that hand washing became part of normal hygiene practice. Now, doctors and nurses must wash their hands thoroughly before seeing patients, between patients and after their final patient to prevent the spread of disease.

RESOURCES USED TO DEVELOP THIS ACTIVITY

   http://www.iaff.org/HS/Resi/infdis/What_is_a_pathogen.htm


   http://www.accessexcellence.org/AE/AEC/CC/hand_background.php