

# BE SMART WITH MyPLATE

## Lesson 1 - Clean Hands

### Mad At Germs

#### Topic

Food Safety

#### Audience

2<sup>nd</sup> and 3<sup>rd</sup> Grades

#### Suggested Time

45 minutes

#### NJ Core Curriculum Standards 2.1 Wellness

*By the end of Grade 2, students will:*

##### 2.1 C Diseases and Health Conditions

Have knowledge about diseases and disease prevention promotes health-enhancing behaviors.

**2.1.2.C.2 – Summarize strategies to prevent the spread of common diseases and health conditions. .**

#### Knowledge Objective(s)

The children will learn about germs.

The children will learn the importance of washing hands.

#### Behavioral Objective(s)

The children will follow the proper hand washing procedures.

#### Life Skill(s)

The children will make healthy lifestyle choices.

#### How This Activity Is Behaviorally Focused

The children will use good hand washing techniques to prevent the spread of germs.

#### Supplies Needed

Pump Soap

Bucket

Disposable Towels



Spray Bottle filled with water  
Colored Papers  
GLOW BAR II UV light/ Glitter Bug Potion/batteries for UV light  
Hand washing cards  
FIGHT BAC!® Puppet (Optional)  
Bacteria Pictures  
Picture of Sneeze  
Measuring tape (at least 12 feet) (Optional)  
“One Square Centimeter” laminated sheet  
*Germs are Not for Sharing* book  
Wipes  
“Germs on the Run!” handout  
Laminated Hand Washing Poster (leave with teacher- English or Spanish)

### Teaching Tips

Write new terms on the board.

### New Term(s) For Children & Educators

**Bacteria:** are tiny one cell creatures. They get their nutrients from the environment in order to survive.

**Microscope:** gives us a large picture of a tiny object.

**Intestines:** come after the stomach in our body. They are split into a small intestine and a large intestine. The small intestine is where most of our food is digested. Most of the nutrients in food are absorbed in the small intestine. The large intestine moves things we do not digest out of our body.

### Pre – Lesson Preparation

Give teacher laminated hand washing poster to hang in the classroom.

### Background Information for Educator

**Germs** are so small that they can only be seen under a microscope. You cannot see, smell or taste most germs. There are 4 main types of germs: bacteria, viruses, fungi, and protozoa.

**Bacteria** are tiny one-cell bugs. Bacteria can grow very fast at our body’s normal temperature of 98.6°F. Bacteria can make us sick and cause infections such as sore throats (strep throat), pneumonia and also cavities. Germs can also affect the way our body works. This may be serious and need medical attention because germs will not always go away on their own Germs can get into our body from water, food, and they are in the air when you cough or sneeze. Dirty hands and counter tops can also carry germs.

Not all bacteria are bad and there are some kinds that are good for us. These good bacteria are in our intestines and they help us use the nutrients in the foods we eat. We can also eat foods with this good bacteria that helps us use our food. Yogurt is one food

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that has good bacteria that we need to have healthy digestion. Yogurt is a food in the dairy group that is made by healthy bacteria.

**Salmonella** is a type of bacteria that can cause an infection called salmonellosis. *Salmonella* bacteria harm the intestines and cause cramps, diarrhea, and fever. Foods that can contain *salmonella* when they spoil can be foods like raw and undercooked meats, poultry, eggs, raw dairy, and seafood. *Salmonella* may also be found in the bowel movements of some animals, mostly reptiles like turtles and snakes. If you touch this you can get salmonella on your hands.

**E. coli** is another common type of bacteria. *E. coli* can be found in our intestines. Most *E. coli* in our intestines is not harmful to our body. They are good bacteria. But there is one kind of *E. coli* found in bad food that has spoiled called “*E. coli* 0157:H7.” When this *E. coli* is in the foods we eat it can cause diarrhea and cramps. Most of this bad kind of *E. coli* comes from meat that is not cooked to the right inside temperature like rare or raw ground beef. It can also be in raw fruits and vegetables, raw milk, and unpasteurized apple juice.

**Staphylococcus aureus** bacteria are often called “staph” bacteria. “Staph” bacteria can live harmlessly on the skin and in the noses of healthy people. When you have a cut or open wound “staph” bacteria can enter your body and cause infection. The infection can cause nausea, vomiting, pain, diarrhea, but no fever. Washing hands and chilling food quickly are some of the ways to avoid contamination by “staph” bacteria.

**Viruses** cannot live, grow or reproduce unless they are in or on a “living thing” like plants, animals, or people. These plants, animals or people are called hosts to the virus. When viruses get inside our bodies, they can spread and make us sick. Viruses cause chicken pox, measles, colds, flu, and many other diseases. Most viruses need a living host like a plant, human or animal to multiply, while most bacteria can multiply on non-living places like door knob light switches or sink handles.

**Fungi** are organisms that are like plants. Fungi cannot make their own food from soil, water, and air like other plants do. Fungi get their food from living off of plants, people, and animals. Mushrooms belong to the fungi group. Some fungi can make us sick. Usually if a food has fungi it is spoiled and may have germs that have had a chance to grow. This food is probably not safe to eat.

**Protozoa** are one-cell organisms. They love moisture and often spread diseases through water.

Germs spread through the air in sneezes, coughs, and breaths. They can also spread through sweat, saliva, and blood. Cover your nose and mouth with your arm when you sneeze and when you cough. This will keep the germs from spreading to another person.

It is best to not cover your sneeze with your hand because you can spread germs by touching someone else. Germs do not like soap and water so wash your hands:

- every time you cough or sneeze
- before and after you prepare foods
- after you use the bathroom
- after you handle money
- after you visit a sick relative or friend.

Use tissues for sneezes and sniffles to stop the spread of germs. Do not toss the tissues on the floor. Throw tissues in the trash and then wash your hands again.

### **Good hand washing is the best way to prevent germs from spreading.**

#### **Activity 1 (15-20 minutes)**

Introduce yourself to the class. If this is the first class, tell the children you will be coming in every week to talk about healthy eating.

1. Ask the Children: “What is the very first thing we must do before touching our food?”

*Answer: Wash our hands.*

2. Ask the Children: “Why do we wash our hands?”

*Answer: To get rid of germs.*

Introduce a puppet (optional), whose name is FIGHT BAC!®. Tell the children FIGHT BAC!® is a friendly bacteria. Bacteria are kinds of germs. **Note to the Educator: If you use FIGHT BAC!® be sure to talk with the children using the FIGHT BAC!® puppet (be animated and move around the room) to hold their attention:**

3. Ask the Children: “Do you know what germs are?”

*Answer: Germs are tiny little bugs, or living things, that can make you sick. They are so small and sneaky that they can get inside our bodies and we will not even know.*

4. Ask the Children: “Can you see germs?”

*Answer: You cannot see them with your eyes. You need a microscope to see them.*

5. Ask the Children: “Do you know what a microscope is?”

*Answer: Microscopes help to make things look bigger than they really are. This helps us to see germs and bacteria that are too small to see with our eyes. (Note to Educator: find out if the school has a microscope so that you can show it to the children. If not, bring a picture of one.)*

6. Ask the Children: “Can you smell germs?”

*Answer: No.*

7. Ask the Children: “Can you taste germs?”

*Answer: No.*

Tell the children that bacteria are a kind of germ. Ask them if they knew that one little part of their skin has many, many, many, many bacteria on it. There may be as many as 100,000.

Write the number 100,000 on the board. Show the children a sheet of paper that has one square centimeter drawn on it so they can see for themselves. Ask them to imagine that there are 100,000 bacteria inside this little square.

8. Ask the Children: “Do you think bacteria are good or bad?”

*Answer: They can be both. There are bad bacteria that can make us sick and there are some good bacteria that help our body use food. and keep our digestive system healthy.. The good bacteria live in our intestines where our food goes when it leaves our stomach. Your intestines and the good bacteria help you use the nutrients in the food. These kinds of good bacteria are found in foods like yogurt. They are important “helper” germs.*

If the children ask about intestines, refer to **New Term(s) For Children & Educators** at the beginning of the lesson for an explanation.

9. Ask the Children: “Where do you think germs live?”

*Answers may vary but should include: Germs live in air and water, in food, under your fingernails, in the bathroom, on your pets, in garbage pails, on tabletops.*

10. Ask the Children: “What do you think germs need to grow?”

*Answer: Germs grow best in moist places (where there is water), where they have lots of oxygen (but there are some germs that do not need oxygen to live), and where the temperature is warm but not too hot like in this room.*

11. Ask the Children: “Do you think germs will grow inside of us?”

*Answer: Yes. Bacteria love our body. It is just the right temperature.*

12. Ask the Children: “Do you know what our normal body temperature is?”

*Answer: 98.6°F (write this on the board)*

Show the bacteria pictures. Point to each bacteria and say its name and point out its shape. *E. coli* are rods, *Staphylococcus* or “staph” look like clusters of grapes, and *Salmonella* looks like rods with long squiggly arms that look like spaghetti. Write each name on the board as you say it. Tell the children that you know these are big names and they do not have to worry about remembering them right now. But they are names that they might hear again and again and you wanted to share the names and pictures with them.

Tell the children bacteria multiply very, very quickly, especially in warm and wet places.

Hold up the picture of a sneeze.

13. Ask the Children: “What do you think happens when you sneeze or cough without covering your mouth?”

*Answer: Germs spread throughout the air and can get some people sick.*

Ask them to describe what is happening in the picture.

*Answer will vary but should include: Germs are spreading from the sneeze.*

Show what happens when you sneeze, using colored paper and spray bottle. Spray the water onto the sheet of paper showing how far it reaches and how long it takes to dry.

Hold up the paper and ask the children:

14. Question: Ask the children: “What do you think is happening here?”

*Answer: Germs are growing because the paper is wet and warm. Germs grow best like that.*

After a couple of minutes, take a student’s hand and have him/her touch the paper. It is still wet and germs can grow.

*Optional:* Ask for a volunteer to take one end of the measuring tape (educator holds on to the other end of the tape) and walk 12 feet in the opposite direction. Tell the children that this is how far a sneeze can sometimes travel if you don’t cover your mouth and nose when you sneeze.

## **Activity 2 (15 minutes)**

Read the book Germs Are Not for Sharing. Pause along the way to ask children if they have any comments or questions.

Some things you can point out are:

- There are good germs and bad germs
- Germs are everywhere
- Germs can make you sick
- Germs have lots of enemies

While reading or once finished:

1. Ask the Children: “What do you think the enemies of germs are?”

*Answer: washing your hands with soap and water, covering your mouth, refrigerating leftovers, etc.*

## **Activity 3 (10 minutes)**

1. Ask the Children: “When should you wash your hands?”

*Answers: Answers may vary but should include before meals or snacks, after using the bathroom, after playing outside and after playing with a pet.*

Review “Hand Washing Cards” with the children. Ask the children if they have any other suggestions.

2. Ask the Children: “How long do you think you need to wash your hands to get most of the germs off?”

*Answer: 20 seconds, which is as long as singing Happy Birthday or Row, Row, Row your boat two times. You can also count two twenty saying 1Mississippi, 2Mississippi and so on until you get to 20.*

Tell the children you are going to demonstrate the right way to wash your hands to get most of the germs off their hands, and everyone will participate. The children will sing “1 Mississippi, 2 Mississippi”, etc. up to “20 Mississippi” or “Happy Birthday” two times while they wash their hands. If a sink is available, turn on the water and adjust the temperature to warm. If a sink is not available:

- the community assistant can use the bucket, soap, and the water bottle, OR

- ask the children to pretend they are at a sink, turn on the water, put soap on their hands etc. and supply wipes to the children to remove the glow lotion after they pretend to wash their hands.

#### *Hand washing Steps:*

- 1. Turn on faucet and wet hands thoroughly with warm water.*
- 2. Put soap on hands and wrist area.*
- 3. Wash for 20 seconds. The children can time 20 seconds of hand washing by reciting "1Mississippi, 2Mississippi, up to 20 Mississippi" or "Happy Birthday" two times. Remind the children to wash between fingers and under nails.*
- 4. Rinse thoroughly.*
- 5. Dry with paper towel and use it to turn off faucet.*

Hand out "Germs on the Run" handout to students. If there is time ask the children to share their answers with the class and correct any mistakes. If there is not enough time to complete this activity, then leave them with the teacher.

#### **Activity 4 (Optional)**

Tell the children that you are going to show them that germs are easily spread from one person to the next with a simple handshake.

Apply Glitter Bug Lotion to your hands in front of the children. Tell the children that you are going to show them how germs spread. Shake hands with some of the students to transfer the lotion to their hands (FOR BEST RESULTS SHAKE HANDS WITH ALL CHILDREN IN THE CLASS). Have someone turn off the lights to darken the room. Go around the room and hold the GLOW BAR II UV light over your hand and the hands of the children who participated in the handshaking. Their skin should glow where the Glitter Bug Lotion is on their hands. Ask the children why they think their hands are shining.

*Answer: They touched your hand and got lotion on their hands. Since they have not washed their hands after the handshake, they have lotion on their hands. The lotion could be the germs we have on our hands. This is a way that germs spread from one person to the next person. Washing hands can stop germs from spreading.*

#### **Conclusion ( 5 minutes)**

1. Ask the Children: "What did you learn today?"

Answers will vary but should include:

- *Where germs are found - They are found in air and water, food, hands, tabletops, under your fingernails, in the bathroom, and on pets.*
- *Good germs and bad germs – some germs can make you sick and some germs can help your body use the food you eat.*
- *How germs can spread – sneeze and contact with each other*

2. Ask the Children: “How can we protect ourselves from germs?”

*Answer: Washing hands well is the best defense! Wash your hands every time you cough or sneeze, before and after you touch food, after you use the bathroom, after you handle money, and after you visit a sick relative or friend. Cover your nose and mouth when you sneeze and your mouth when you cough.*

Before you leave, remind the children that directions for proper hand washing will be posted in the classroom.

## References

E Coli (Escherichia Coli) (November 2013). Retrieved February 2014 from [http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/escherichiacoli_g.htm)

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Minch, D. (2000). Keeping Your Child's Food Safe. Rutgers Cooperative Extension, New Brunswick, NJ. <http://njaes.rutgers.edu/pubs/publication.asp?pid=fs948>

Salmonellosis (2004). Retrieved February 3, 2005 from <http://www.cdc.gov/nczved/divisions/dfbmd/diseases/salmonellosis/>

Glitter Bug Potion and GLOWBAR II UV light available from Brevis Corp., <http://www.brevis.com>

Adapted from *SMART FOODS ROCK* Curriculum created by NJ SNAP-Ed Union County staff.

Wash hands after using the bathroom.



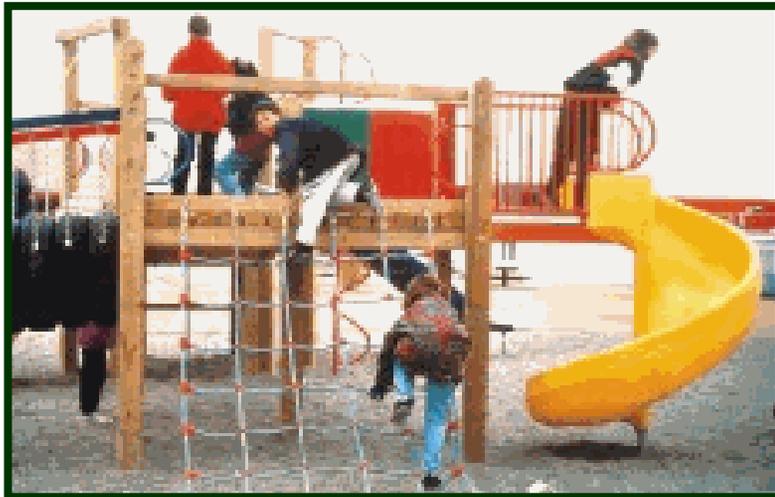
Be sure to wash all fruits and vegetables before eating!



Wash hands after blowing your nose,  
sneezing or coughing.



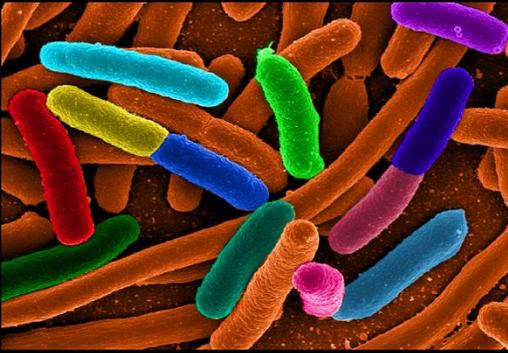
Wash hands after playing  
outside.



Wash hands after handling pets -  
dogs, cats, reptiles etc. . .



# BACTERIA!



[1]

E. COLI



[2]



BOTULISM



STAPHYLOCOCCUS



SALMONELLA



[1] Diverse E. coli, Wiki Commons, public domain

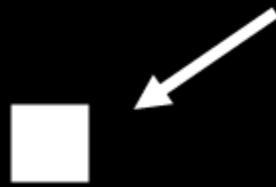
[2] foodsafety.gov

[3] Flickr Commons, EMSL, some rights reserved



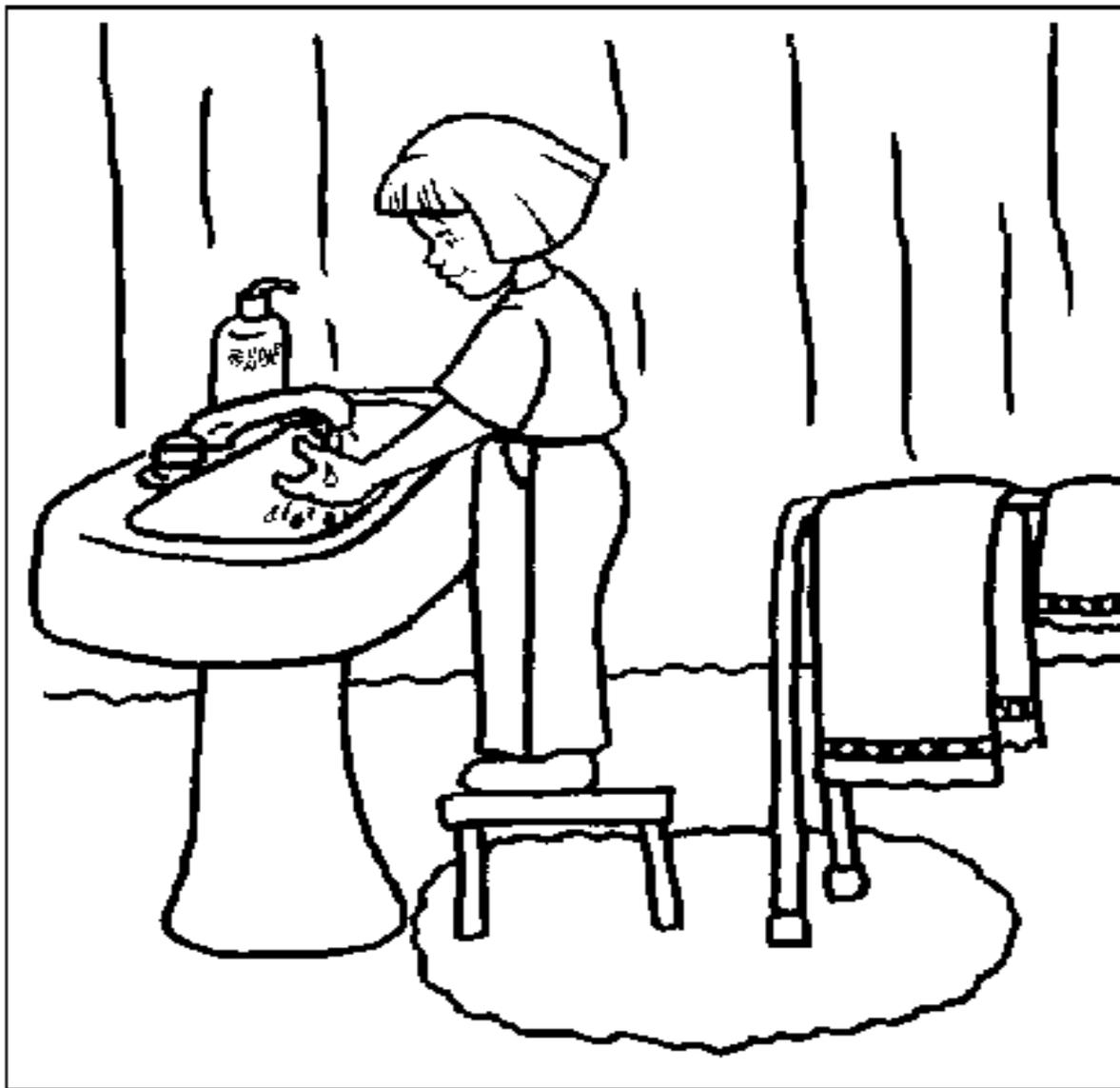
<http://people.rit.edu/andpph/photofile-c/sneeze-k-17.jpg>

# One Square Centimeter



Name \_\_\_\_\_

# GERMS ON THE RUN

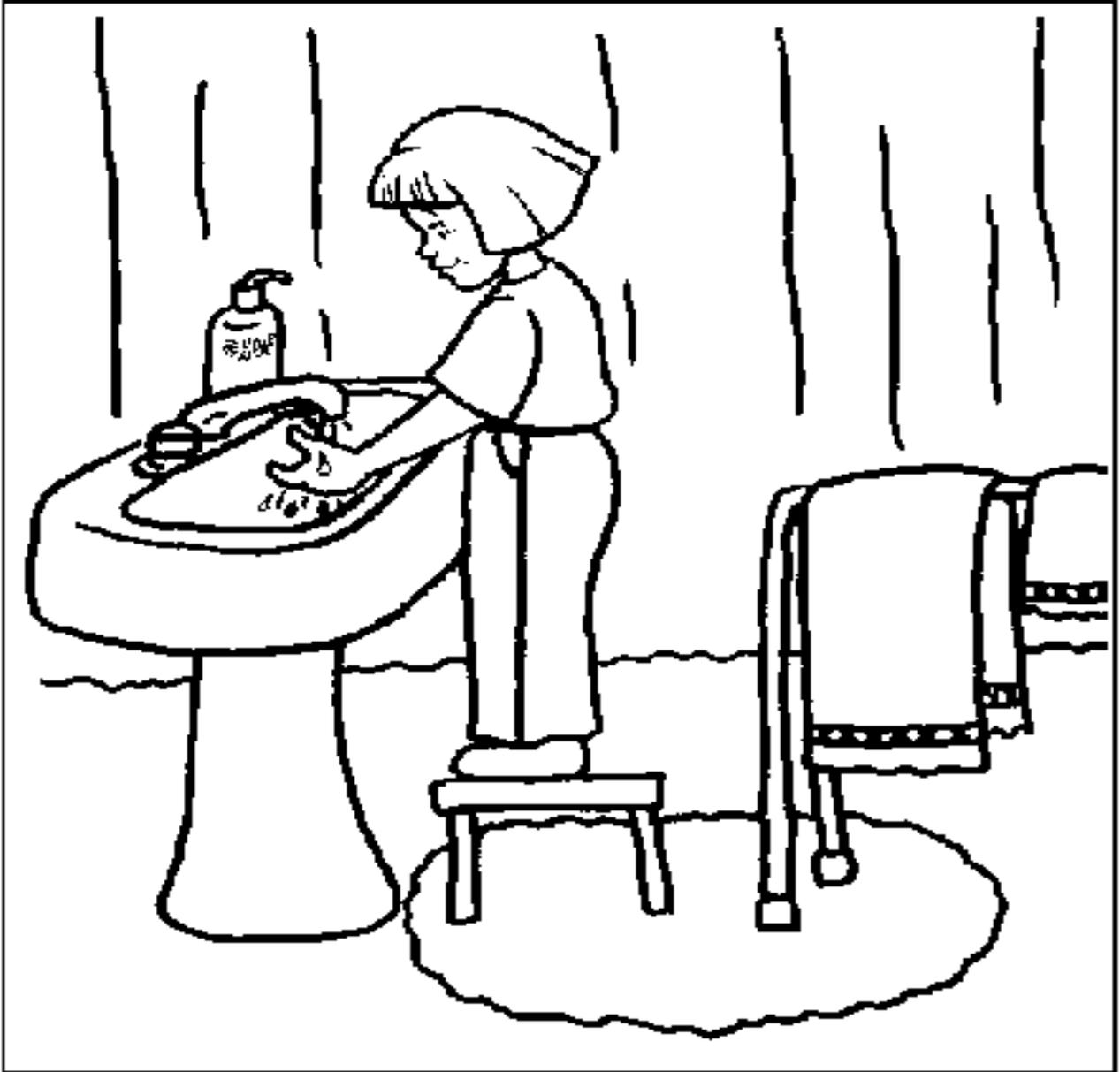


Using numbers 1 to 5, show the proper handwashing steps: (#1 is the first thing you would do and #5 is the last).

- \_\_\_\_\_ Rinse
- \_\_\_\_\_ Wash for 20 seconds
- \_\_\_\_\_ Dry with paper towel
- \_\_\_\_\_ Turn on faucet and use warm water
- \_\_\_\_\_ Put soap on hands

# ANSWER SHEET

## GERMS ON THE RUN



Using numbers 1 to 5, show the proper handwashing steps: (#1 is the first thing you would do and #5 is the last).

\_\_\_ 4 \_\_\_

Rinse

\_\_\_ 3 \_\_\_

Wash for 20 seconds

\_\_\_ 5 \_\_\_

Dry with paper towel

\_\_\_ 1 \_\_\_

Turn on faucet and use warm water

\_\_\_ 2 \_\_\_

Put soap on hands

# REMEMBER

## ***BE SURE TO WASH YOUR HANDS CAREFULLY***



👍 Use Warm Water

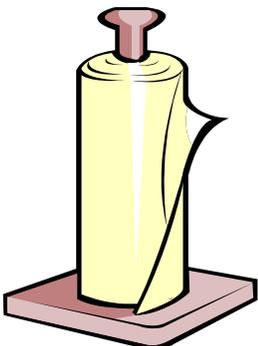
👍 Put Soap on Hands

👍 Rub for 20 Seconds

👍 RINSE WELL

👍 Dry with paper towel

👍 Use paper towel to  
turn off faucets and  
turn door knob.



# RECUERDA

## *Lávate Las Manos Con Cuidado*



**Usa Agua Tibia**



**Ponte el Jábón en las Manos**



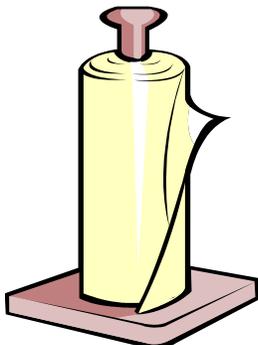
**Frótalas por 20 Segundos**



**Enjuágate Bien**



**Sécate con Toallas de Papel**



**Usa la Toalla de Papel para Cerrar la Llave del Agua y para Abrir la Puerta**