



Resource Guide

Infection Prevention Education

BOOKS

A Sick Day for Amos McGee by Philip C. Stead

Basher Science: Microbiology by Simon Basher

Biscuit Visits the Doctor by Alyssa Satin Capucilli and Pat Schories

Curious George Discoers Germs by H.A. Rey

Cutie Sue Fights the Germs by Kate Melton

Germs Are Not for Sharing by Elizabeth Verdick

Germs: Fact and Fiction, Friends and Foes by Lesa Cline-Ranson and James Ransome

Germs! Germs! Germs! by Bobbi Katz

Handwashing Is No Big Deal by A Alban and AF Cagayan-Chua and M Sanicas

How to Be a Big Kid by DK

Hygiene Heroes! My Personal Hygiene Book by Iren Frost

I Feel Sick! (Little Princess) by Tony Ross

Let Me Tell you How Dad Got Sick! By United States Department of Agriculture Food Safety and Inspection Service

Meet Bacteria! By Rebecca Bielwaski

My Amazing Skin Can Heal: A Book About Boo-Boos, Bandages and Band Aids by A.D. Largie and Sabrina Pichardo

My T-Rex Gets a Bath by Chloe Sanders

Pig the Stinker by Aaron Blabey, Tara Sands, et al.

Sick Simon by Dan Krall

Smelly Melly: Personal Hygiene for Kids and Little Monsters by Tony Densley and Niki Palmer

Stephen Fly and the Hand-Washing Habit by Sam Oliveira and Chris Jaffe

The Bacteria Book by Steve Mould

The Berenstain Bears Go to the Doctor by Stan and Jan Berenstain

The Berenstain Bears Visit The Dentist by Stan and Jan Berenstain

The Fantastic Body: What Makes You Tick & How You Get Sick

When Your Elephant Has the Sniffles by Susanna Leonard Hill

When You're Feeling Sick by Coy Bowles and Andy Elkerton

Why Wash Your Hands? By Sally Huss

SONGS:

“This is the Way We Brush Our Teeth”

Lyrics (to the tune of “The Wheels on the Bus”)

This is the way we brush our teeth
Brush our teeth
Brush our teeth
This is the way we brush our teeth
We do it in the morning!

Brushing up, and
Brushing down
Left and right and round and round...
A nice white smile will then be found!
We’ve brushed really well!

This is the way we brush our teeth
Brush our teeth
Brush our teeth
This is the way we brush our teeth
We do it in the evening!

Brushing left, and
Brushing right
Brushing till our teeth are bright!
Then we say “good night”
We’ve brushed really well!

This is the way we brush our teeth
Brush our teeth
Brush our teeth
This is the way we brush our teeth
We do it twice a day!

<https://youtu.be/Pd4WnsXwdqw>

“The Wiggles Hand Washing Song”

Lyrics (to the tune of “Frère Jacques”)

Wash your hands
(Wash your hands)
Before you eat
(Before you eat)
Wash with soap and water
(Wash with soap and water)
Your hands are clean
You're ready to eat

Wash your hands
(Wash your hands)
After toilet use
(After toilet use)
Wash with soap and water
(Wash with soap and water)
Keep disease away
(Keep disease away)

https://youtu.be/w_RwRoIwe6Q

ACTIVITIES AND GAMES:

Glo Germ Activity

- Supplies: Glo Germ Kit (glo germ gel, UV light)
- Activity: 1. apply glo germ lotion to children's hands 2. use blacklight to show children "germs" on their hands 3. have children wash hands 4. use blacklight on hands again to see if all the "germs" are gone
- Where to buy: amazon.com, glogerm.com, teachersource.com

Personal Hygiene Bingo

- Supplies: Personal Hygiene Bingo Set
- Game: hand out bingo cards to children and have them cover the personal hygiene habit on the card when it is called

Good Hygiene, Bad Hygiene Game

- Supplies: flashcards with hygiene habits (pages 4-5)
- Game: on flashcards, write 10 good hygiene habits (ex: brushing teeth after meals, flossing each night, bathing when dirty) and 10 bad hygiene habits (ex: putting toys in mouth, not brushing teeth). Present a card and have children go to one side of the room if it is a good habit, and the other side of the room if it is a bad habit.

<https://www.livestrong.com/article/104096-games-teach-kids-personal-hygiene/>

Hygiene steps puzzles:

- Supplies: puzzle sheets (pages 6-11)
- give children illustrations of the different steps to each hygiene practice. Have children place steps in order and check their answers.

Sneeze into your hands	Put toys in your mouth	Eat with your hands instead of silverware
Putting your hands in your mouth	Washing your hands without soap	Brushing your teeth only once a day
Picking your nose	Cough into your sleeve	Washing your hands before eating or preparing food

Cut your nails

Cover your mouth
when you cough

Never wash your hands

Brush your teeth after
eating

Bathing daily

Washing your hands
after going to the
bathroom

Keeping your house
clean

Washing your clothes

Washing your hands
after touching an
animal

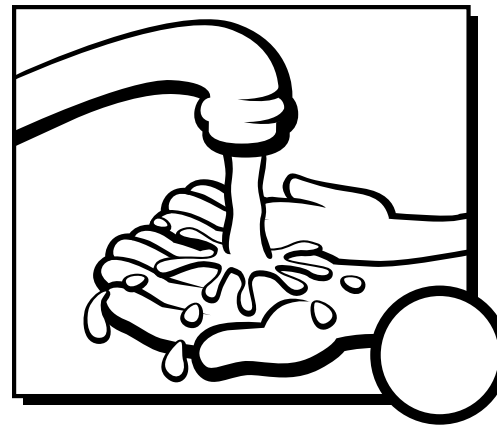
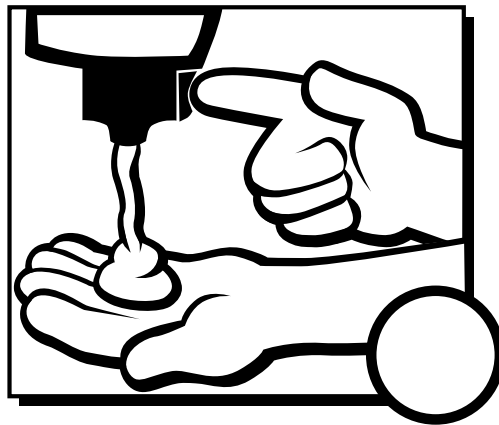
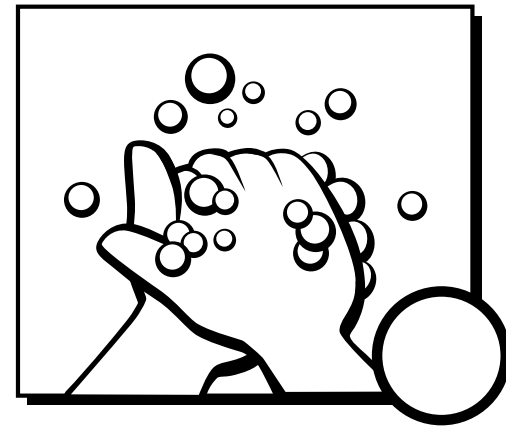
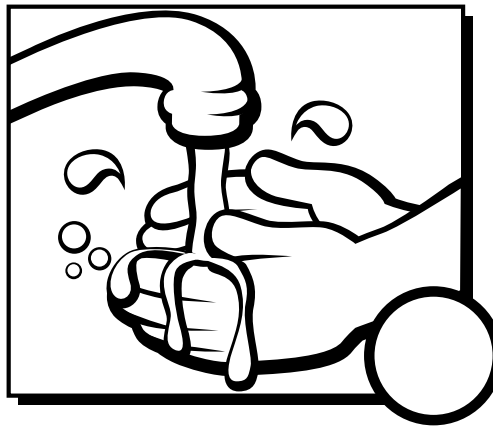
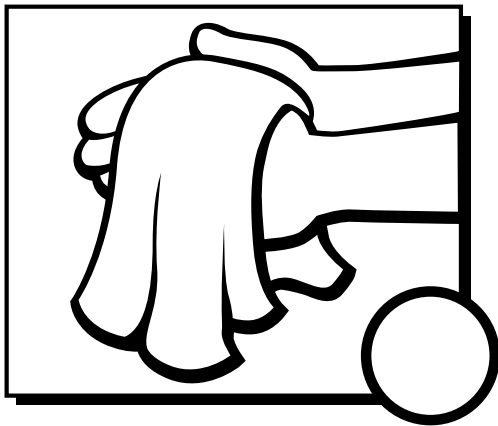


Name:

Date:

Washing My Hands

Instructions: Color the pictures and number each one so they're in the right order.



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Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

Sequence the pictures in order of 1 to 3.







Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

Sequence the pictures in order of 1 to 4.



Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

Sequence the pictures in order of 1 to 4.

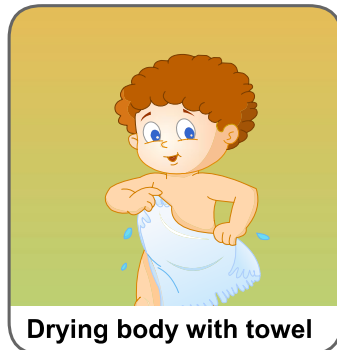


Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

Sequence the pictures in order of 1 to 4.

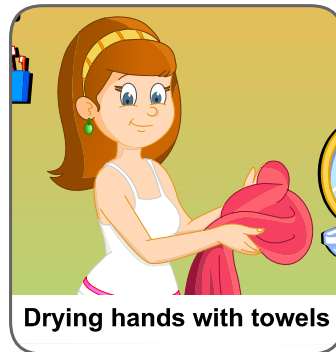


Name: _____

Date: _____

Time: ____ : ____ - ____ : ____

Sequence the pictures in order of 1 to 4.



Hygiene Charades

- Supplies: charades cards with hygiene actions
- Game: have one child pick a card from a bag that contains an action for hygiene (ex: brushing teeth, bathing, coughing into a sleeve, washing hands). Have the child then act out the habit without using any words. The other children will guess what action that the child is acting out.

1 Washing hands	Bathing	Cutting finger nails
Brushing teeth	Cleaning the house	Washing clothes
Covering your mouth during a sneeze	Using silverware to eat	Using dental floss

Clean water vs. dirty water

- Supplies: transparent cups, water, dirt
- Activity: have children put dirt in a cup and fill cup with water. Have them compare this cup with a clean cup of water. Explain that they should not drink water if it looks like the cup with dirt in it.

Food prep practice

- Supplies: fruits and vegetables, water
- Activity: have children practice washing a fruit or vegetable before eating it by rinsing and rubbing the outer skin

Headbanz! Germs

- Supplies: flashcards with different categories of germs, methods for protecting oneself from germs, and illness symptoms. tape
- Game - Heads Up! Germs: make flashcards with different categories of germs, methods for protecting ourselves from germs, and symptoms of illness. Have students choose a card and put it on their head without looking at it. Students will then walk around and ask each other a question about the term on their head with the goal of eventually guessing what it is.

Flu	Bacteria	Virus
Headache	Fever	Parasite
Handwashing	Brushing teeth	Fungus

Stomach ache	Vaccines	Cough
Sneeze	Nausea	Bathing
Pneumonia	Fatigue	Flu


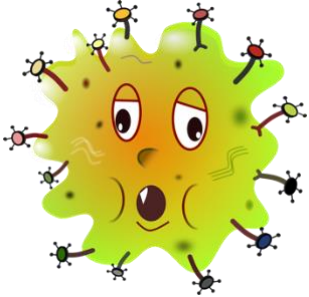
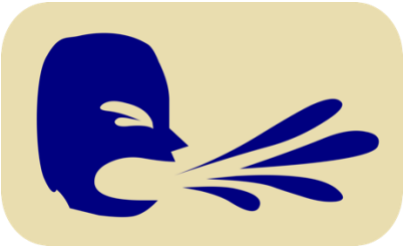


Trivia

- Supplies: flashcards with questions and answers about foodborne illnesses
- Game: divide students into teams and test them on trivia about foodborne and waterborne illnesses

Illness invention Worksheet:

- Supplies: illness invention worksheet, art supplies (crayons, markers, glue, etc.)
- Activity: have children work in groups to design their own infectious disease and fill out the worksheet.

Invent Your Own Illness

<p>Illness and Germ Names</p> 	
<p>Germ Drawing</p> 	
<p>Transmission</p> 	
<p>Symptoms</p> 	
<p>Treatments</p> 	

Foodborne illness simulation

- Supplies: character cards (doctor cards with illness chart and question examples, patient cards)
- Activity: For this activity, students will work in groups and role play to determine the transmission of a particular food borne pathogen.

Divide the students into groups and divide the groups up into “patients” and “doctors”. Each role will have different goals. The doctor’s role will be to determine what illness their patients have and where it came from. The role of the patients is to respond to questions and act out their simulated symptoms.

1. Doctors: The doctor group is given a list of diseases (see Illness Chart). This chart is a list with specific illness, signs and symptoms and if the illness could come from a possible food source. The doctors work as a group to make up questions they will ask their patients to be able to diagnose what their patients’ illness might be. Doctors will hypothesize once learning the symptoms, what the patient is suffering from.
Question examples:
How do you feel? What have you eaten recently? What are your symptoms? When did you start to feel this way?
2. Patients: The patients group will provide the doctors with symptoms and answer the doctors’ questions. If the doctors ask them questions they do not know the answer to, the patients will respond with either “no” or “unsure”. The patient group will follow the symptoms provided on the Patient Chart, which can be found in the resource section.

Once all the questions have been asked, the doctors will come together and attempt to diagnose the patients. Allow for some group discussion and hypothesizing before revealing the illness and cause.

- The illnesses were caused by each patient either eating or coming into contact with spinach that contracted E. Coli due to manure used in its growing process. Proper care wasn’t taken in its preparation, since it was not washed properly before it was served and eaten. This demonstrates how difficult it can be to discover the root of a pathogen and diagnose an illness. It also shows how easily germs can spread through food.
- Conclusion: when humans are sick we don’t always have the symptoms that exactly match the disease’s usual symptoms. It is important to observe the person as a whole and not just the symptoms that are present. By looking at all the factors, you may be able to detect an illness outbreak.

*activity adapted from:




<https://static1.squarespace.com/static/563a8427e4b02d05f44d829d/t/564ce8eae4b0e4c59118f6ee/1447880938890/classroom+activity%3B+Science+%2B+disease+transmission.pdf>



Illness Chart

Common Name of Illness	Onset Time After Ingesting	Signs and Symptoms	Duration	Food Sources
B. cereus food poisoning	10-16 hours	Abdominal cramps, watery diarrhea, nausea	24-48 hours	Meats, stews, gravies, vanilla sauce
Botulism	12-72 hours	Vomiting, diarrhea, blurred vision, double vision, difficulty in swallowing, muscle weakness	Variable	Improperly canned foods, fermented fish, baked potatoes in aluminum foil
Perfringens food	8-16 hours	Intense abdominal cramps, watery diarrhea	Usually 24 hours	Meats, poultry, gravy, dried or precooked foods, time and/or temperature abused foods
E. Coli infection	1-3 days	Watery diarrhea, abdominal cramps, some vomiting	3-7 days +	Water or food contaminated with feces
Hepatitis A	28 days average (15-50 days)	Diarrhea, dark urine, jaundice (yellow skin), flu-like symptoms (fever, headache, nausea, abdominal pain)	Variable. 2 weeks – 3 months	Raw produce, contaminated drinking water, uncooked foods, cooked foods that are not reheated after contact with an infected food handler, shellfish from contaminated waters
Salmonellosis	6-48 hours	Diarrhea, fever, abdominal cramps, vomiting	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables

Patient Cards

<p>Patient 1 Female 20's</p> 	<p>Symptoms: nausea, cramps, fever, vomiting, diarrhea, dark urine</p> <p>Notes:</p> <ul style="list-style-type: none"> - Symptoms began about a day ago - Supper: spinach omelet with biscuits and gravy - Last meal: supper at a restaurant about a day ago - Symptoms started after a workout - Breakfast: bacon and eggs - Severe pain
<p>Patient 2 Male 30's</p> 	<p>Symptoms: nausea, cramps, headache, vomiting, diarrhea, dehydrated</p> <p>Notes:</p> <ul style="list-style-type: none"> - Just got back from vacation in Jamaica 3 days ago - Symptoms started in the morning - Last meal: garden green salad with egg whites - Moderate pain - Completely unrelated to the other two patients
<p>Patient 3 Female 20's</p> 	<p>Symptoms: vomiting, cramps, loss of appetite, runny nose, cough, diarrhea, nausea</p> <p>Notes:</p> <ul style="list-style-type: none"> - On a high protein diet - Went to the same restaurant as patient 1 - Ate chicken salad with bacon and blue cheese at the restaurant - Eating a lot of lean beef, pork, and vegetables - Symptoms started 2 days ago - Pain comes and goes - Went walking in fields with tall grass and noticed a tick but took it off - Last meal: hamburger with fries

Safely separate experiment

- Supplies: 2 clean sponges cut in the shape of chicken legs, red (or other bright color) poster paint, paint brush, cutting board, cucumber, clean and light-colored plate, serrated knife, experiment worksheet
- Activity: This experiment simulates how easy it can be to cross-contaminate food when storing and preparing it. Sponges and paint are used to show how bacteria can spread from raw meat, fish or poultry to cooked foods or vegetables. Remind students that bacteria on a cutting board can spread to other foods, too — like a bagel.

Important points:

- cooked meat, fish or poultry should never be placed back on the same (unwashed) plate that was used for the raw meat, fish or poultry.
- Every cutting board must be thoroughly washed between uses, in a dishwasher or with hot soapy water*. This is especially important when the same cutting board has been used for raw meat, fish or poultry and is going to be used for vegetables that will be eaten raw.

*Hot water should be used with caution.

Procedure:

1. Dampen both sponges. Set one sponge aside to represent the “cooked chicken.”
2. Paint both sides of the other sponge to represent raw chicken. Pretend that the paint is the juice of the chicken that may have been contaminated with salmonella.
3. Place the painted sponge on the cutting board and use a knife to cut the sponge in half. Move the painted sponge onto the plate, and don’t wash the cutting board.
4. Next, cut a slice of raw cucumber on the same cutting board you used in step 3.
5. Now, place the clean sponge (“cooked chicken”) that was cooked well-done on the plate with the “raw chicken” sponge.

*activity adapted from FightBac.org <http://www.fightbac.org/wp-content/uploads/2017/06/grades4-8experiments.pdf>

Safely Separate Worksheet

Question:	Is there a potential danger in using the same equipment to prepare raw meat and other foods?
my hypothesis:	
my observations:	<ul style="list-style-type: none"> - After step 3, this is where I saw the salmonella (red paint) on: - After step 4, this is what happened to the cucumber slices: - After step 5, this is what happened to the “cooked chicken” sponge:
my conclusions:	<p>This is how I can get rid of the bacteria on:</p> <ul style="list-style-type: none"> - The cutting board: - The knife: - My hands: - The plate: <p>If I touch something else without washing my hands, or use the knife again, this is what can happen:</p> <p>To kill the bacteria on the chicken, it is important to:</p> <p>If someone ate the raw cucumber, this is what could happen:</p> <p>This is what can happen when cooked chicken is placed on the same plate as raw chicken:</p>

Epidemic! the handshake game

- Supplies: scraps of paper with each student's name, placed in a hat or box to draw from randomly, notecards and pencils for recording students' handshakes (one per student), masking tape or chalk for marking out boxes on floor
- Activity: In this game, students will learn a simple disease model by being an active participant in a mock "outbreak" of handshake disease. This game was created by Rebecca L Smith, DVM MS PhD, post-doctoral associate at the Cornell University College of Veterinary Medicine.

Vocabulary: there are 3 main model classes used in this activity

1. Susceptible class (S): people in this class don't have the disease but are capable of contracting it. In the beginning of the game, everyone is "susceptible"
 2. Infected class (I): people in this class currently have the disease
 3. Recovered class (R): people in this class have had the disease but are now over it and no longer can pass it to others. People in this class cannot get the disease again (they now have immunity)
- Model: a representation of how something works, often simplified
 - SIR model: a disease model that has susceptible, infected, and recovered classes. This is considered by scientists and mathematicians studying disease epidemics to be one of the simplest examples of a disease model.

How to play:

- Using masking tape or chalk, make 3 boxes on the floor and label them "S," "I," and "R."
- 1. Put each student's name in a hat, then give each student an index card numbered 1-5
- 2. Ask the students to introduce themselves to another student, shake hands, and write down the other student's name down on their cards next to #1. Repeat this 3-5 times (fewer if the group is small, more if the group is large)
- 3. Ask all participants to go stand in the S box. They are susceptible: no one is sick, but anyone can become sick
- 4. Draw one participant's name from the hat and declare that he/she was infected with "handshake disease" before playing. Instruct the participant to move into the I box to represent infection. Explain that he/she will infect the next 3 people he/she shakes hands with.
- 5. Ask the participant in the I box to read the first name from their index card and have that participant move into the I box. Then have each of those 2 participants read the next name on their list (for the new I, it should be the next name after the original I's name), and have those students move over. Repeat with the (probably 4) participants now in the I box. Then declare that the original is cured and have him/her move into the R (recovered) box.
- 6. Repeat until either there is no one in S or all participants in I have read the 3 names after their "infecting" handshake

*notes: You will likely have participants in the I box reading the names of other participants in the I box. Explain that once you have handshaking disease, you cannot get it again. If a participant in the I box reads the name of a participant in the R box, explain that once you have recovered, you will not get sick again. Some participants may remain in the S box.

<https://www.air.cee.vt.edu/assets/EpidemicTheHandshakeGame.pdf>

Research

- Supplies: research worksheet, health information books (information about vaccines and checkups)
- Activity: have students research a specific health screening or vaccine and present what information they found

Health Research Worksheet

Vaccine or Screening	
Description	
When people should receive it	
Benefits	
Other interesting information	




Germ inspector

- Supplies: cotton swab, agar plates
- Activity: divide students into teams. Each team will create a hypothesis as to what surface of the school (ex: doorknob, desk, drinking fountain, dry erase board, cafeteria table, etc.) is most contaminated with germs. Each team will get an agar plate and a cotton swab to test their hypothesis. After an overnight incubation, determine as a class what surface has the most germs. Together brainstorm ways to reduce germs in the most contaminated areas.

Hygiene schedule

- Supplies: hygiene schedule template (example below), art supplies (crayons, markers, glue, etc.)
- Activity: give each child an empty daily schedule with morning, afternoon, and evening sections. Have children fill the schedule in with visual icons that represent all of the different things they do to take care of their hygiene. Examples include bathing, brushing teeth, brushing hair, laundry, dishes, and cleaning their rooms.

My Hygiene Schedule

Morning		
Afternoon		
Evening		

CRAFTS:

Pet Germ

- Supplies: Crayola modeling dough, googly eyes, pipe cleaners, beads, other art supplies
- Activity: have children use Crayola modeling dough to mold their interpretation of what a germ looks like. When the mold dries, have children decorate it with various materials. Have the children display their pet germs by the sink to remind them to wash their hands.

Germ Puff Ball

- Supplies: embroidery floss, forks, googly eyes, glue, scissors
- Activity: use a fork and wrap the embroidery floss around the edges. Tie a small piece of floss around the middle in a knot and slide the floss from the fork and snip the looped edges. Fluff out the puff ball by lightly pulling at the threads. Snip any stray threads with scissors. Finally, glue on the googly eyes.



- Game: have children blow the germ puff ball from their hands to simulate how far germs can spread during a cough or sneeze.

<https://www.theotttoolbox.com/2015/09/germ-craft-to-teach-kids-how-germs-are.html>

Posters

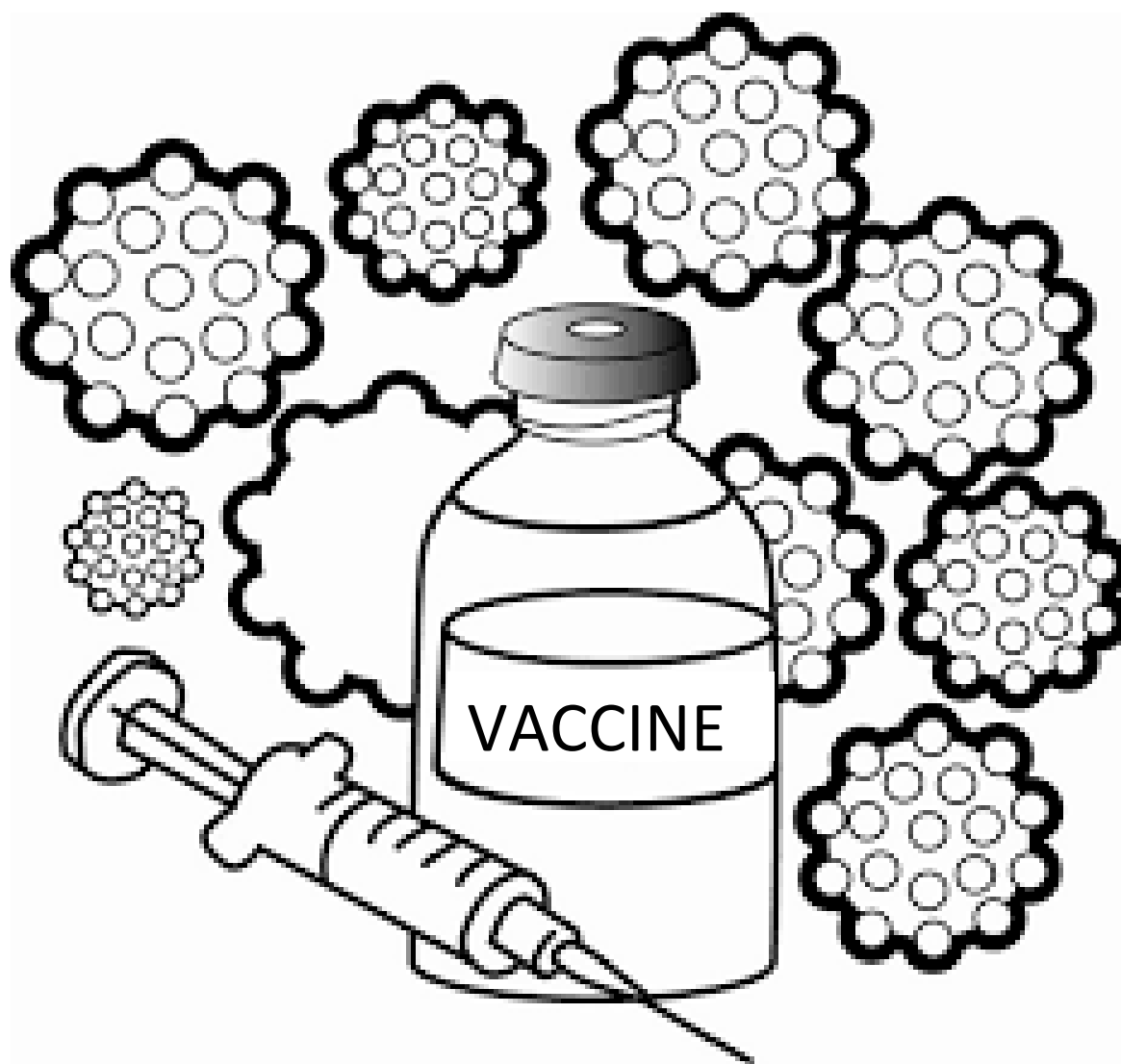
- Supplies: posters, art supplies (crayons, markers, colored pencils, stickers, glue, tape, construction paper, etc.)
- Activity: have students make posters on various topics including food hygiene, preventing food and waterborne illness, diseases, and infection prevention.

Magnets

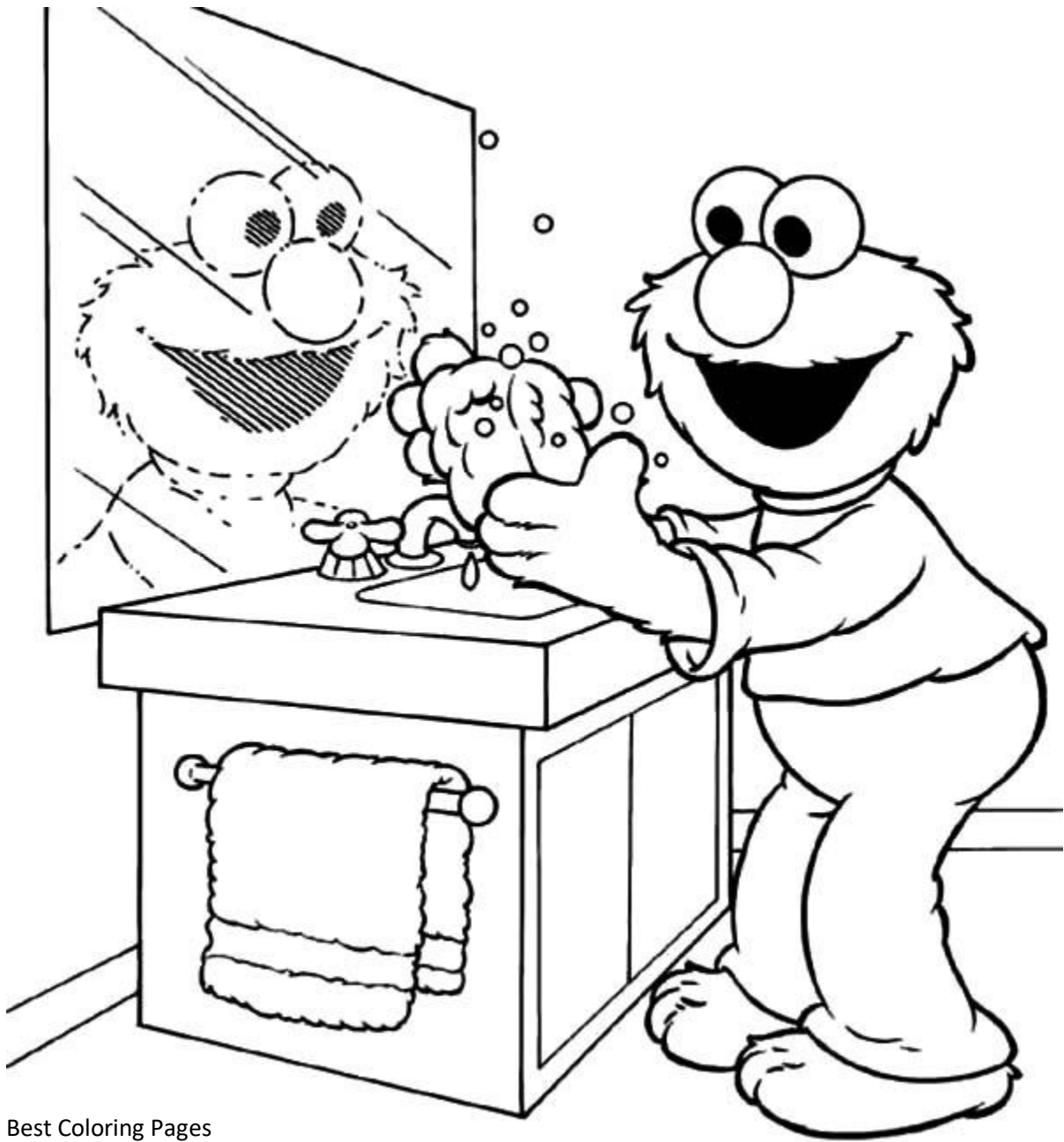
- Supplies: magnets, permanent markers, vaccine and health screening information books
- Activity: have students create magnets for families to provide information on maintaining health and wellness of children

Coloring pages

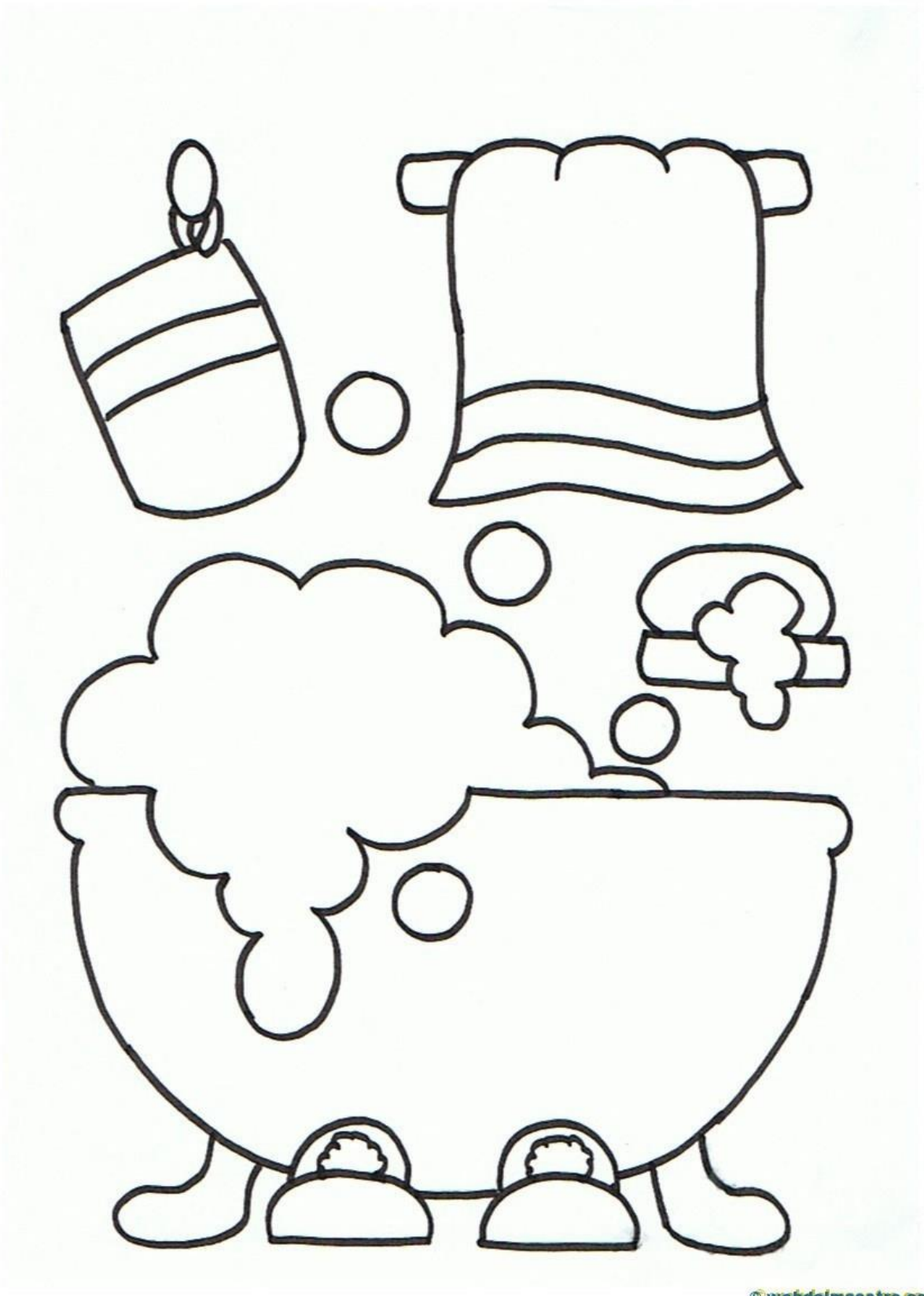
- Supplies: coloring sheets (see following pages for examples), crayons, colored pencils, markers
- Activity: have children color illustrated pictures of different infection prevention topics



Mendoza Ministerio de Salud



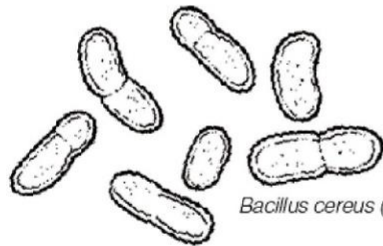
Best Coloring Pages



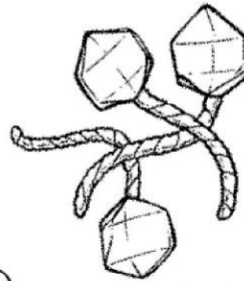
© webdelmaestro.com

CLEAN GENE™

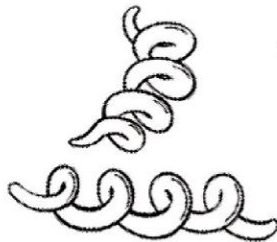
"What Are Germs?" Coloring Sheet



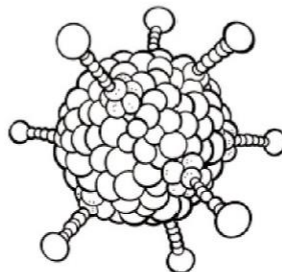
Bacillus cereus (bacteria)



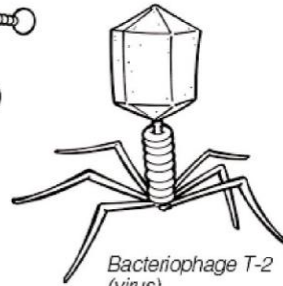
Bacteriophage lambda (virus)



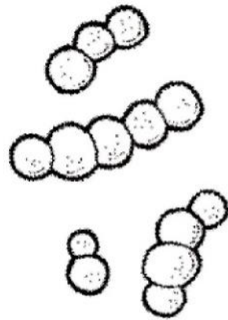
Spirillum (bacteria)



Rhinovirus



Bacteriophage T-2 (virus)



Streptococcus (bacteria)



Rubella virus



Salmonella typhimurium (bacteria)



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6A



Mypersonalhygiene.com

HELPFUL WEBSITES:

- BrainPop.com
- FightBac.Org
- Food.unl.edu
- Kidshealth.org

Resources

- Best Coloring Pages Collection. (2019). Handwashing Coloring Pages. Retrieved 2019, from <http://4chan2.org/handwashing-coloring-pages/>
- GOJO Industries Inc. (2007). Clean Gene. Retrieved 2019, from https://static1.squarespace.com/static/545a7d88e4b04f070d4b2270/t/5b9acc4c03ce64dc380fa85a/1536871500656/25430_PURELL-LessonPlan8.pdf
- Ireland, K. (n.d.). Games to Teach Kids About Personal Hygiene. Retrieved August, 2018, from <https://www.livestrong.com/article/104096-games-teach-kids-personal-hygiene/>
- Mendoza Ministerio de Salud. (n.d.). VACUNAS Actividades de apoyo. Retrieved 2019, from http://www.salud.mendoza.gov.ar/wp-content/uploads/sites/7/2017/11/vacunas_aula.pdf
- MyPersonalHygiene.com. (2019). Personal Hygiene Coloring Pages. Retrieved 2019, from <https://www.mypersonalhygiene.com>
- Rodriguez, M. (2013, September 12). Higiene-corporal-2. Retrieved 2019, from <https://webdelmaestro.com/habilidades-y-destrezas-higiene-corporal/higiene-corporal-2/>
- Saskatchewan Science Centre. (2019). Classroom Activity - Disease Transmission. Retrieved 2019, from [https://static1.squarespace.com/static/563a8427e4b02d05f44d829d/t/564ce8eae4b0e4c59118f6ee/1447880938890/classroom activity; Science 5 disease transmission.pdf](https://static1.squarespace.com/static/563a8427e4b02d05f44d829d/t/564ce8eae4b0e4c59118f6ee/1447880938890/classroom+activity;+Science+5+disease+transmission.pdf)
- Smith, R. L. (2011, September 07). Epidemic! The Handshake Game. Retrieved 2019, from <http://ec2-23-21-117-9.compute-1.amazonaws.com/blogs/09/07/2011/epidemic-the-handshake-game.html?series=1&interest=&audience=1&author=>
- The Nemours Foundation/KidsHealth. (2015). Washing My Hands. Retrieved 2019, from <https://kidshealth.org/>
- The OT Toolbox. (2015, September 08). Germ Craft to Teach Kids How Germs are Spread. Retrieved 2019, from <https://www.theotttoolbox.com/2015/09/germ-craft-to-teach-kids-how-germs-are.html>
- The Partnership for Food Safety Education. (n.d.). Grades 4-8 Experiments. Retrieved 2019, from <http://www.fightbac.org/wp-content/uploads/2017/06/grades4-8experiments.pdf>
- This Is The Way We Brush Our Teeth. (2014). On *El Bebe Productions Limited - part of LittleBabyBum*. El Bebe Productions Limited - part of LittleBabyBum. Retrieved 2019, from <https://youtu.be/Pd4WnsXwdqw>
- Turtlediary.com. (n.d.). TurtleDiary Worksheets. Retrieved from turtlediary.com
- Wash Your Hands [Recorded by The Wiggles]. (2011). On *The wiggles. lets eat*. RAZOR & TIE. Retrieved 2019, from <https://youtu.be/pz5Xsums6b4>