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MY NAME:

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MINI LABS JOURNAL

THE
GIANT
ROOM

Dear Reader,

Welcome to your Lysol® Minilabs Science Journal!

The Lysol® HERE for Healthy Schools program is intended to help stop the spread of illness-causing germs in the classroom through creating hands-on activities that are fun and engaging while teaching the science of germs, and better hygiene behaviors. This book and all hands-on activities were designed in partnership with The GIANT Room, a co-design lab with kids and for kids.

In this journal, you'll find these hands-on activities, including the coolest comics that will teach you what microbes are, where they might live in your school and classroom, how to protect yourself against them, how our bodies fight illness, and ways to clean and disinfect germs to keep ourselves healthy!

You'll meet E. coli and Phage, Wibbly White cells and Stomach Bug, Eugie, Uncle Salmonella, and so many more microbe characters! Then, go to the last chapter to learn new words, review their meaning, and add your own definitions.

Let's get hands-on!

(...after we've washed with soap and water, of course.)

- Lysol® & The GIANT Room

***See pages 88 and 89 for sources and additional resources used to create this Minilabs Journal and kit materials.**

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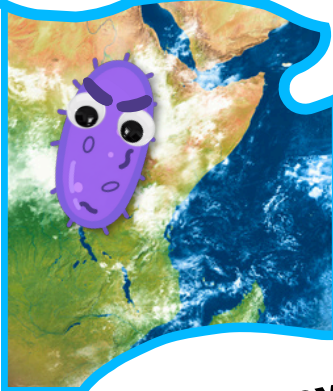
Meet _{the} MICROBES

CHAPTER 1

Oh, why, hello
there! It's very nice
to meet you. You can
call me **E. coli.**



You see, for
BILLIONS of years, us
microbes have been
hanging out on Earth...

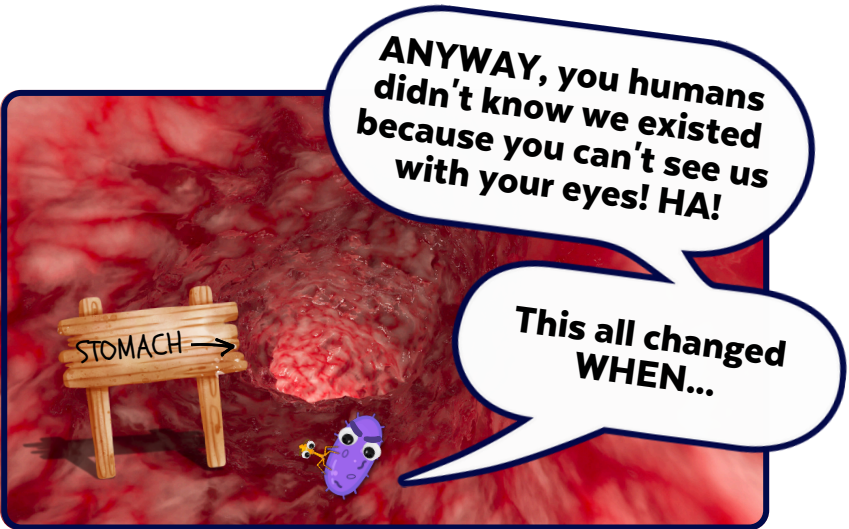


...before any animals,
plants, or humans
were on this planet!

But, we have a
VERY special bond
with humans.

For years,
we've made
you sick --

HEY! Phage,
here! Not all of us
make you sick.
Many of us are your
friends, like me!



You see, a **MICROSCOPE** is a tool that can zoom in and see things that are **REALLY** tiny, like us!



That's why they call us **MICROBES**, short for microorganisms.

Micro means "small", **ORGANISMS** mean "living things."
We are small and alive!



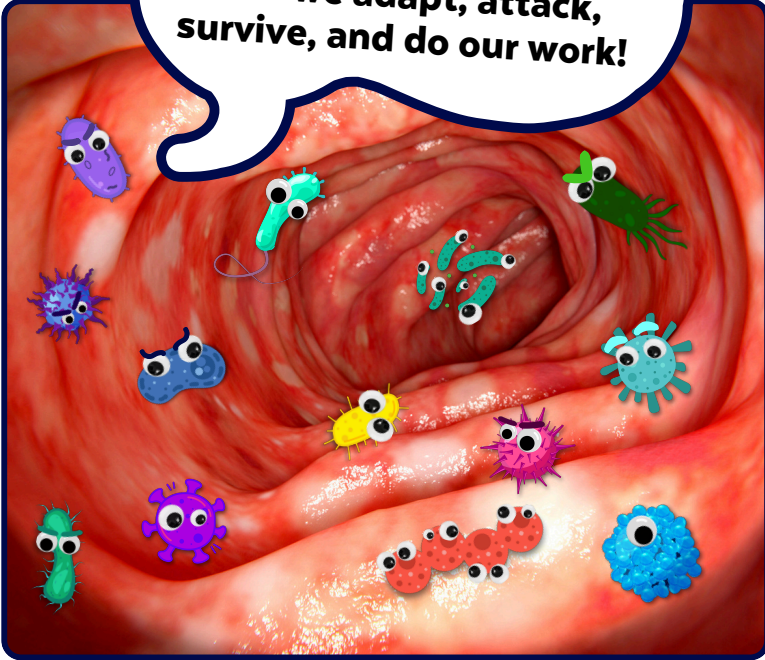
Now, **SCIENTISTS**
are obsessed with us!

I mean, I don't
blame them.

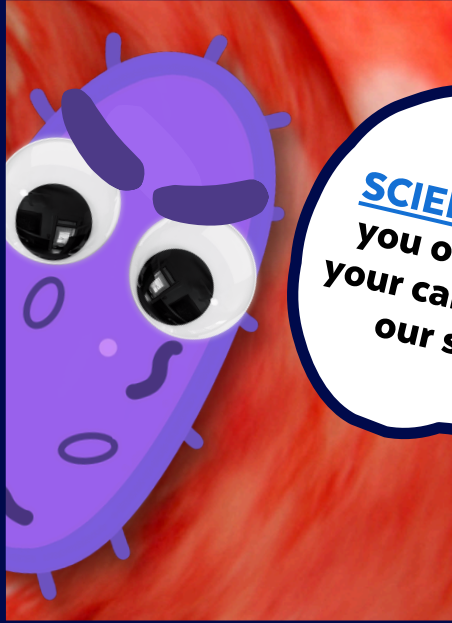
Look at our fabulous
shapes and colors!



Our shapes and colors
play an important role in
how we adapt, attack,
survive, and do our work!



SCIENTISTS have sent
you our ID cards. Grab
your cards and check out
our super powers!



HANDS-ON ACTIVITY

CHECKLIST



**Grab 3 Microbe ID
Cards from your
teacher.**



Check out your cards!



**Play games, trade,
and collect cards!**



MEET THE MICROBES

Bad Microbes



E. COLI
Escherichia coli

MICROBE TYPE:
Bad Bacteria

POWERS:
Sneaks into poop, then onto your hands, and into your mouth! Gives you diarrhea.

MICROBE BUSTERS:

- ✓ Eat fully cooked meat
- ✓ Drink clean water
- ✓ Wash fruits and veggies
- ✓ Wash hands after using the bathroom and before eating
- ✗ Avoid unpasteurized milk



TERTIAN FEVER
Plasmodium Vivax

MICROBE TYPE:
Bad Protozoa

POWERS:
Sneaks in through dirty mosquito bites and gives you a fever, nausea, and bad headaches!

MICROBE BUSTERS:

- ✓ Use bug spray
- ✓ Use mosquito nets



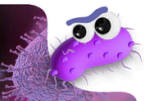
BLASTO
Blastomyces dermatitidis

MICROBE TYPE:
Bad Fungus

POWERS:
Sneaks in through your breathing and gives you a lung infection and chest pain.

MICROBE BUSTERS:

- ✓ Wear a mask if digging or playing in soil
- ✓ Wash hands
- ✓ Clean your clothes and shoes after playing outside



THE RAGE
Rabies

MICROBE TYPE:
Bad Virus

POWERS:
Sneaks in through sick animal bites (bats, raccoons, skunks, foxes, and sometimes dogs and cats); can hide in your body before it makes you sick. Gives you pain and weakens your muscles.

MICROBE BUSTERS:

- ✓ Get your pets vaccinated
- ✓ Tell an adult if you get bitten
- ✗ Don't touch animals outside




STOMACH BUG
Norovirus

MICROBE TYPE:
Bad Virus



POWERS:

Sneaks in from dirty hands, food, and surfaces. Loves to travel through hugging or touching hands with a sick person! Gives you diarrhea and makes you vomit.

MICROBE BUSTERS:








- ✓ Wash hands
- ✓ Wash fruits and veggies
- ✓ Clean surfaces
- ✓ Wash dirty dishes
- ✗ Don't eat old food or street food
- ✗ Don't eat raw seafood




CORONAVIRUS
SARS-CoV-2

MICROBE TYPE:
Bad Virus



POWERS:

Travels through the air when a sick person talks, coughs, or sneezes! Gives you fever, shortness of breath, and hijacks your smell and taste senses!

MICROBE BUSTERS:






- ✓ Wash hands
- ✓ Get vaccinated
- ✓ Wear a mask in crowded places
- ✓ Distance from sick people




HAV
Hepatitis A

MICROBE TYPE:
Bad Virus



POWERS:

Sneaks into poop, then onto your hands, and into your mouth! Turns your skin and eyes yellow.

MICROBE BUSTERS:





- ✓ Wash hands after using the bathroom and before eating
- ✓ Drink clean water
- ✗ Don't eat dirty food or raw food




CANDIDA
Candida albicans

MICROBE TYPE:
Bad Fungus



POWERS:

If it grows too much, it makes your skin itchy and your mouth sore. Can sneak in from other people's dirty towels and dirty utensils, too!

MICROBE BUSTERS:





- ✓ Take showers and dry off
- ✓ Brush your teeth after eating
- ✗ Don't eat too much sugar

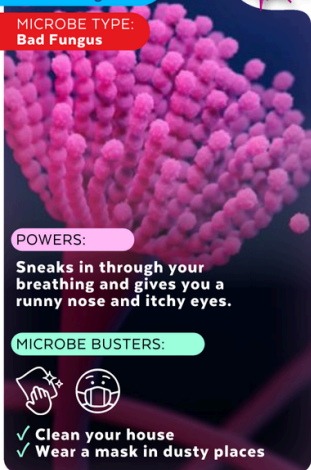
MEET THE MICROBES

Bad Microbes

**FUMI**
Aspergillus fumigatus



MICROBE TYPE:
Bad Fungus



POWERS:
Sneaks in through your breathing and gives you a runny nose and itchy eyes.

MICROBE BUSTERS:


- ✓ Clean your house
- ✓ Wear a mask in dusty places

**THE FLU**
Influenza virus



MICROBE TYPE:
Bad Virus



POWERS:
Travels through the air when a sick person talks, coughs, or sneezes! Loves to hang out on doorknobs and dirty toys, too. Gives you a fever, cough, sore throat, and runny nose!

MICROBE BUSTERS:


- ✓ Wash hands
- ✓ Cover your coughs and sneezes
- ✓ Get the flu shot
- ✓ Distance from sick people

**TB**
Mycobacterium tuberculosis



MICROBE TYPE:
Bad Bacteria



POWERS:
Travels through the air from person to person and gives you diarrhea.

MICROBE BUSTERS:


- ✓ Wash hands
- ✓ Get vaccinated
- ✓ Distance from sick people

**SALMONELLA**
Salmonella enterica



MICROBE TYPE:
Bad Bacteria



POWERS:
Sneaks into food and gives you diarrhea.

MICROBE BUSTERS:


- ✗ Don't eat raw eggs
- ✗ Don't eat old food or street food
- ✓ Wash hands
- ✓ Wash fruits and veggies
- ✓ Wash dirty dishes



STAPH
Staphylococcus aureus

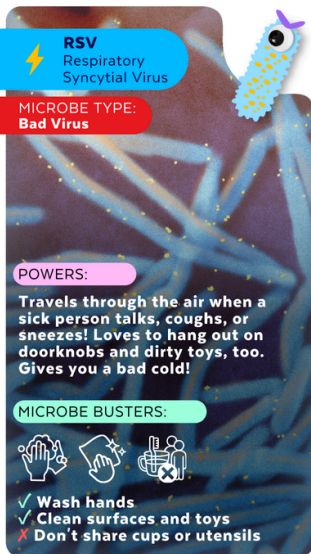
MICROBE TYPE:
Bad Bacteria

POWERS:
Sneaks into your body through a dirty cut or scrape. Makes your skin get painful bumps, red, or, swollen.

MICROBE BUSTERS:



- ✓ Wash hands
- ✓ Clean cuts and scrapes
- ✓ Take showers
- ✗ Don't share personal items



RSV
Respiratory Syncytial Virus

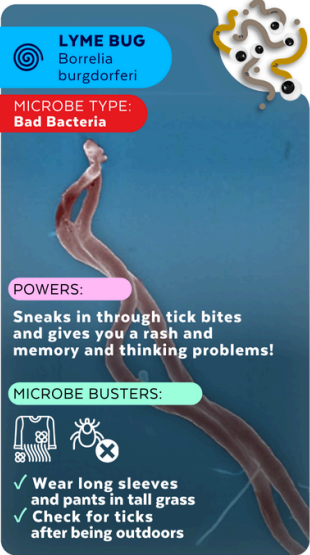
MICROBE TYPE:
Bad Virus

POWERS:
Travels through the air when a sick person talks, coughs, or sneezes! Loves to hang out on doorknobs and dirty toys, too. Gives you a bad cold!

MICROBE BUSTERS:



- ✓ Wash hands
- ✓ Clean surfaces and toys
- ✗ Don't share cups or utensils



LYME BUG
Borrelia burgdorferi

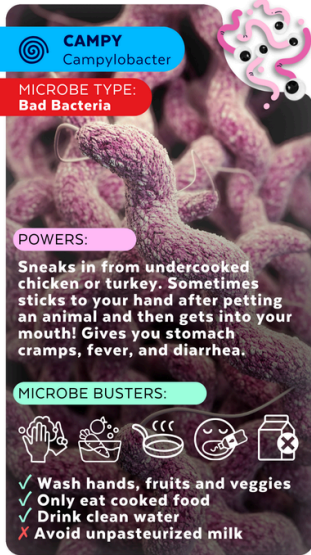
MICROBE TYPE:
Bad Bacteria

POWERS:
Sneaks in through tick bites and gives you a rash and memory and thinking problems!

MICROBE BUSTERS:



- ✓ Wear long sleeves and pants in tall grass
- ✓ Check for ticks after being outdoors



CAMPY
Campylobacter

MICROBE TYPE:
Bad Bacteria

POWERS:
Sneaks in from undercooked chicken or turkey. Sometimes sticks to your hand after petting an animal and then gets into your mouth! Gives you stomach cramps, fever, and diarrhea.

MICROBE BUSTERS:



- ✓ Wash hands, fruits and veggies
- ✓ Only eat cooked food
- ✓ Drink clean water
- ✗ Avoid unpasteurized milk

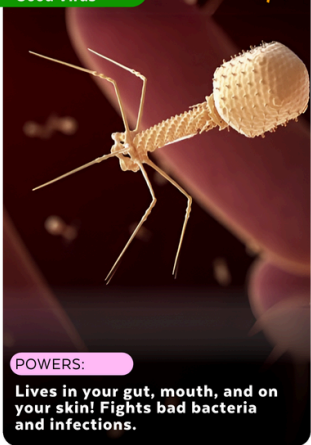
MEET THE MICROBES

Good Microbes

**PHAGE**
Bacteriophage



MICROBE TYPE:
Good Virus



POWERS:
Lives in your gut, mouth, and on your skin! Fights bad bacteria and infections.

**B. SUBTILIS**
Bacillus subtilis



MICROBE TYPE:
Good Bacteria



POWERS:
Enters your body when you eat fermented food. Helps you digest food, gives power to your immune system, and fights bad germs.

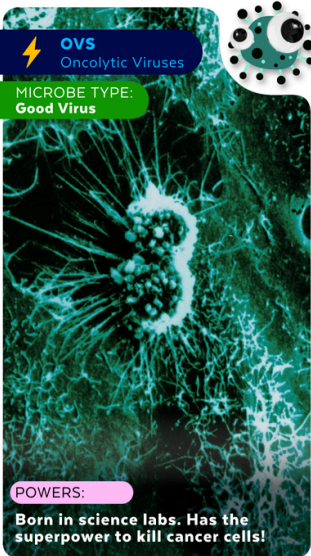
MICROBE BOOSTERS:

✓ Eat fermented foods like natto, miso, and sauerkraut

**OVS**
Oncolytic Viruses



MICROBE TYPE:
Good Virus

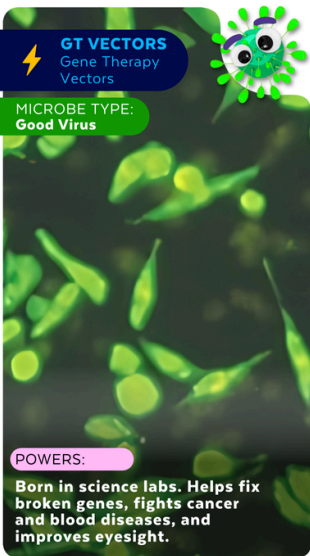


POWERS:
Born in science labs. Has the superpower to kill cancer cells!

**GT VECTORS**
Gene Therapy Vectors



MICROBE TYPE:
Good Virus



POWERS:
Born in science labs. Helps fix broken genes, fights cancer and blood diseases, and improves eyesight.


ERV
 Endogenous retroviruses

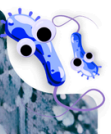


MICROBE TYPE:
Good Virus

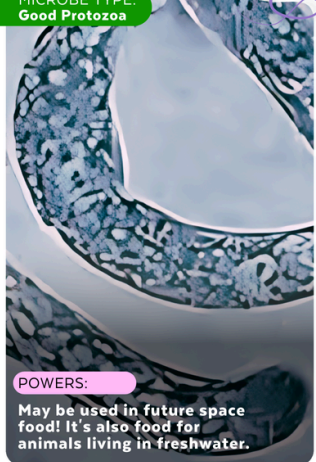


POWERS:
 Hangs out inside your DNA and protects you from viral infections.


EUGIE
 Euglena



MICROBE TYPE:
Good Protozoa



POWERS:
 May be used in future space food! It's also food for animals living in freshwater.


BAKER'S YEAST
 Saccharomyces cerevisiae



MICROBE TYPE:
Good Fungus



POWERS:
 It eats sugar and creates bubbles to make bread rise! Prevents diarrhea and even helps make vaccines to fight bad viruses.

MICROBE BOOSTERS:



✓ Eat fermented foods like kefir and yogurt


ORAL STREP
 Streptococcus salivarius



MICROBE TYPE:
Good Bacteria



POWERS:
 One of the first microbes to show in your mouth after being born. Prevents cavities and stops bad bacteria from overgrowing in your mouth.

MICROBE BOOSTERS:





✓ Brush your teeth twice a day
 ✓ Eat fruits and veggies
 ✗ Don't eat lots of sugar

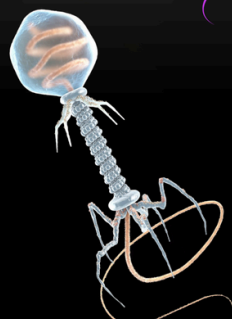
MEET THE MICROBES

Good Microbes

**CY PHAGE**
Cyanophages



MICROBE TYPE:
Good Virus



POWERS:
Great friend to Earth! Helps Earth's oxygen and carbon cycles and fights harmful blue-green algae in water.

**LACTO**
Lactobacillus acidophilus



MICROBE TYPE:
Good Bacteria



POWERS:
Enters your body when you eat yogurt. Helps you digest food.

MICROBE BOOSTERS:

✓ Eat yogurt, cheese, and pickles

**PROBIOTIC YEAST**
Saccharomyces boulardii



MICROBE TYPE:
Good Fungus



POWERS:
It hangs out on peels of tropical fruits like lychee and loves to live in your gut. Helps stop diarrhea.

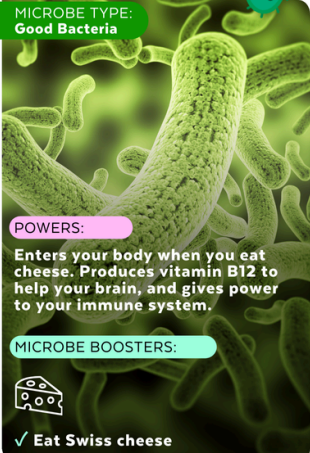
MICROBE BOOSTERS:

✓ Eat tropical fruits like lychee

**CHEESE BUG**
Propionibacterium freudenreichii



MICROBE TYPE:
Good Bacteria



POWERS:
Enters your body when you eat cheese. Produces vitamin B12 to help your brain, and gives power to your immune system.

MICROBE BOOSTERS:

✓ Eat Swiss cheese

CHAPTER 2

MICROBES ⁱⁿ SCHOOLS

Pssst! Did you know
SCIENTISTS have found
millions of microbes in every
square inch of schools?!



Schools are
filled with tons of
HOTSPOTS!

HOTSPOTS are
places where a **LOT**
of bad microbes like
to hang out.

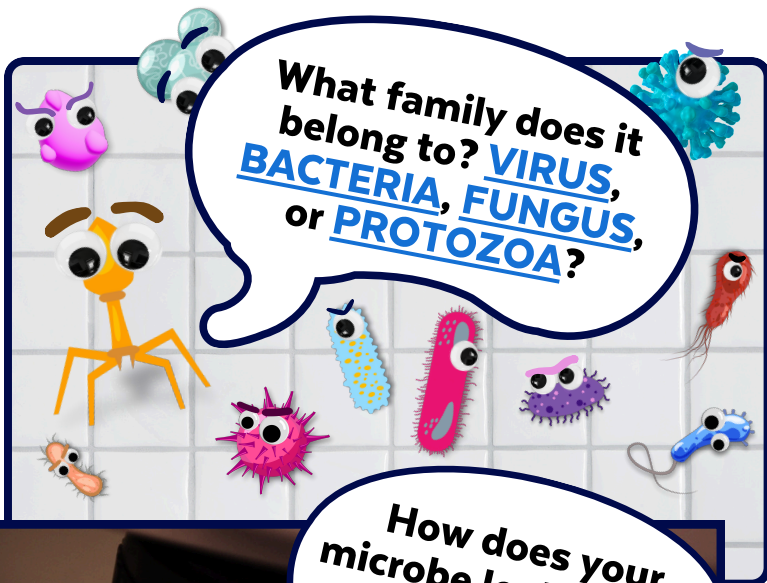
If YOU were a
SCIENTIST, what
microbe would you
discover in your
school?



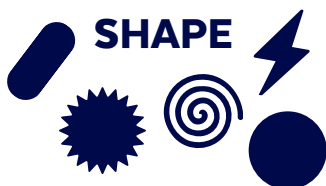
Grab a blank
card and make
an ID for it!

Is your microbe
GOOD or **BAD**?





Think about its shape, color, and unique features. Maybe your microbe has spikes, is slimy, or...?



What are its special powers? Does it give you diarrhea, help you fight a nasty virus, or...?

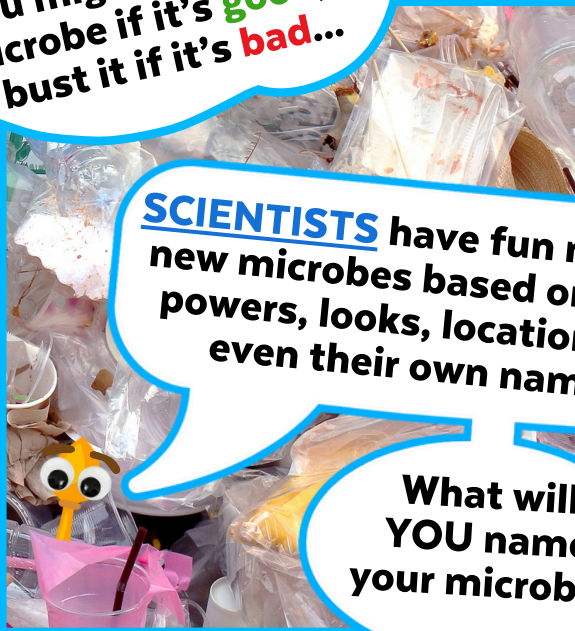


Think about ways you might boost your microbe if it's **good**, or bust it if it's **bad**...



SCIENTISTS have fun naming new microbes based on their powers, looks, locations, or even their own name!

What will **YOU** name your microbe?

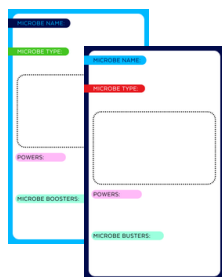


HANDS-ON ACTIVITY

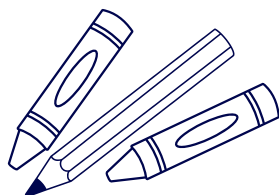
CHECKLIST



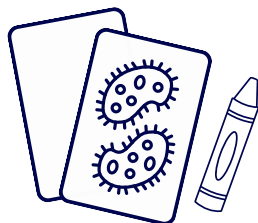
Grab 2 blank Microbe ID Cards from your teacher.



Grab markers or colored pencils.



Make an ID for a real or imaginary microbe by drawing and writing on your blank cards.



**We're arriving
at our next stop:
a take home
activity!**

SCREECH

TAKE HOME:

**Your Microbe
HOTSPOT Map**





Here's a secret! Wash
your hands to stay healthy
whenever you come in
contact with a
HOTSPOT, like...



**After going to the
bathroom.**

Before eating food.



**After playing
outside, at school,
on the playground,
or at home.**

**After exercising in
the school gym.**



**After coming
home from school.**

**After coughing, sneezing,
or blowing your nose.**



After touching garbage.

**After touching
or feeding a pet.**



**After touching money,
like bills and coins.**

Protect
against **BAD**
MICROBES

CHAPTER 3



Ever wonder how germs get inside your body? We love it when you don't wash your hands. We hang out on your skin, and as soon as you touch your eyes or eat food with your dirty hands, we get in! Cool, right?



We also love to jump from one human to another! All you have to do is sneeze or cough, and don't cover your mouth.



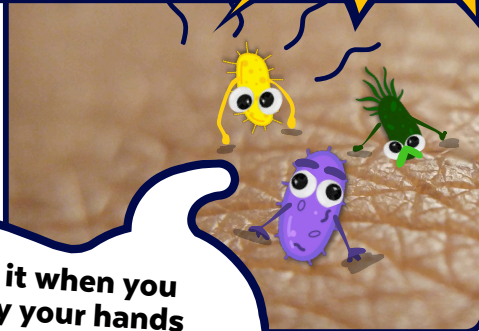
DO NOT LISTEN TO THESE BAD MICROBES!
You've got to wash your hands, sneeze into your elbow, and cover your mouth when you cough!



Sometimes, we're sneakier! You may think you washed your hands, but we hide between your fingers and stick to your skin! Just don't wash your hands for 30 seconds!



NO!
You have to wash your hands for 30 seconds!



We love it when you don't dry your hands afterwards. That makes it easy for us to land on your skin.

UNBELIEVABLE!

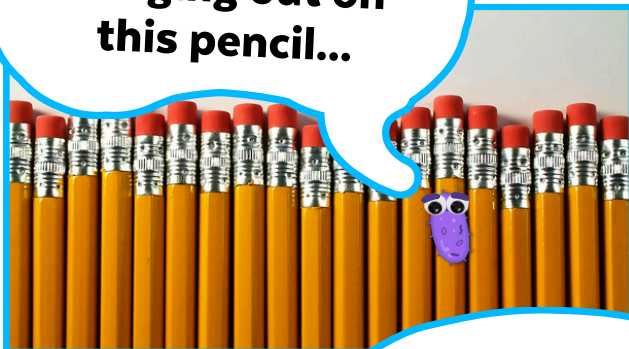
**You must wash your
hands with soap and
water, and scrub between
your fingers for
30 seconds...**



**...and then
DRY them!**



**Once, I was
hanging out on
this pencil...**



**...and this kid put
the pencil right
into his mouth!**



**Ahhh! That was
my lucky day.**



Hahaha! That happened to me, too. I was chilling on an apple, and this kid ate the apple before washing it. Success!



WHAT ARE YOU TALKING ABOUT?! Don't put things in your mouth, and PLEASE wash your fruits and veggies before eating them!

**I'm a fungi, and you
know where my favorite
spot is? Anywhere moist
and humid! Like between your
toes, when they are sweaty
and warm in your shoes.
Just don't wash your feet!**



**Disgusting!
You take showers,
right? You've got to
wash your feet!**

I am **Candida albicans!** I hang out in your mouth.



**I LOVE it when
you eat sugar
and you don't
brush your teeth!**

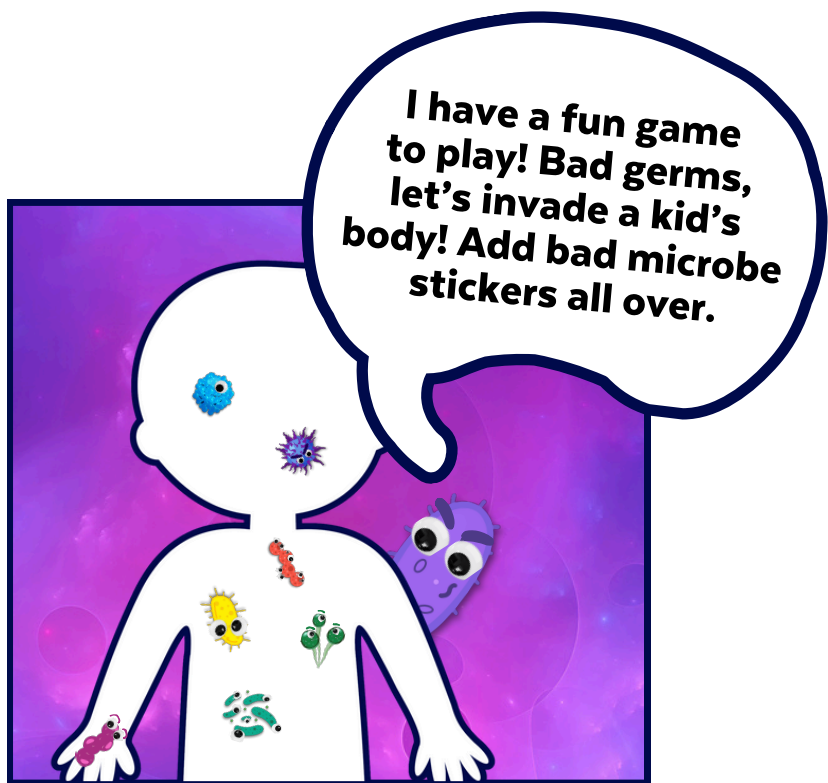


That's a **TERRIBLE** idea! You've got to brush your teeth, at least twice a day and definitely before going to bed!



And don't eat too much sugar, can you?

These are all good **HYGIENE** habits that help you stay healthy!



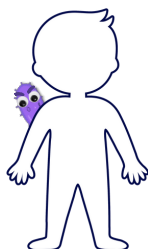
HANDS-ON ACTIVITY CHECKLIST



Grab one Bad Microbes sticker sheet and one Microbe Busters sticker sheet from your teacher.



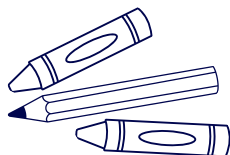
Add bad microbes on the MODEL of the sick child's body on page 38 in your journal.



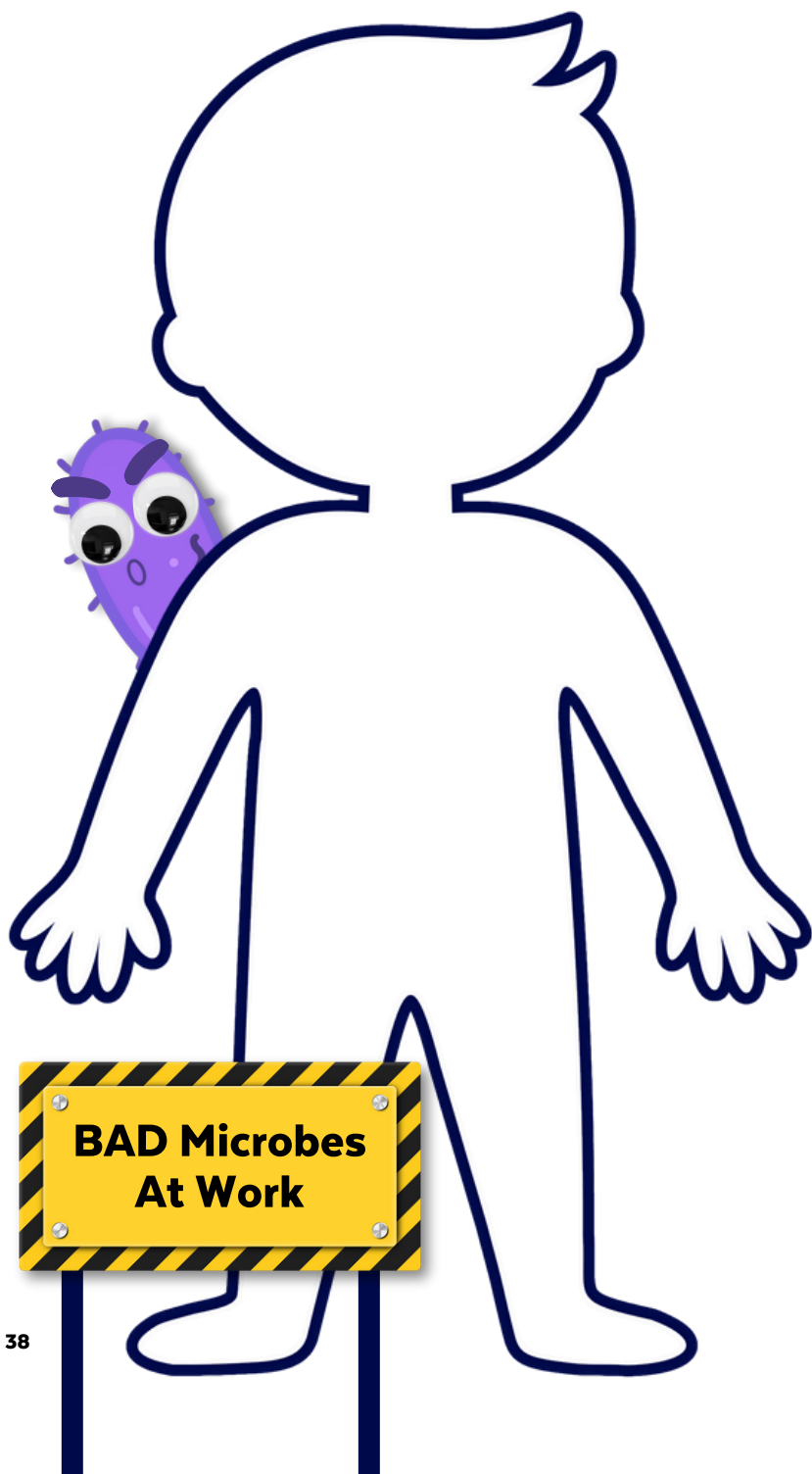
Then, add microbe busters on the MODEL of the healthy child's body on page 39.



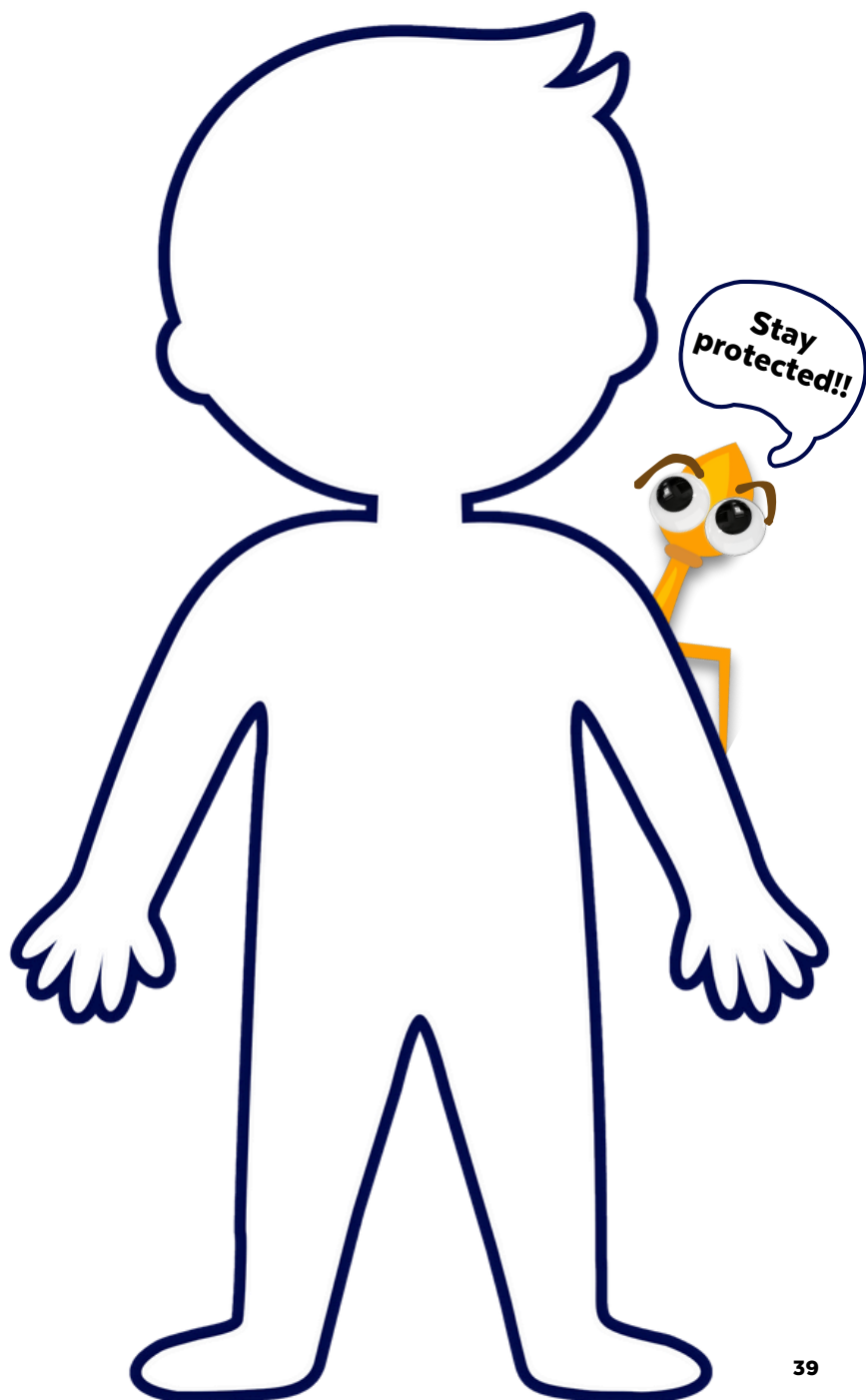
Do you have other ideas on ways you can protect the child? Grab a pencil and draw on the MODEL!



MODEL OF A SICK CHILD'S BODY



MODEL OF A HEALTHY CHILD'S BODY





Hey! Check this out! A list of good **HYGIENE** habits to help you keep the bad microbes away!



Wash your hands with water and soap!



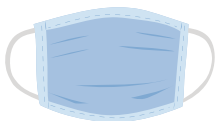
When you're not close to a sink, use hand sanitizer to clean your hands.



Cover your cuts with a bandage.



Clip your nails.



**Wear a mask if you're
in a crowded space!**



**Keep your clothes
clean and dry.**



**Wash your fruits and
veggies before eating
them.**



Take showers.



**Brush your teeth
before going to bed.**

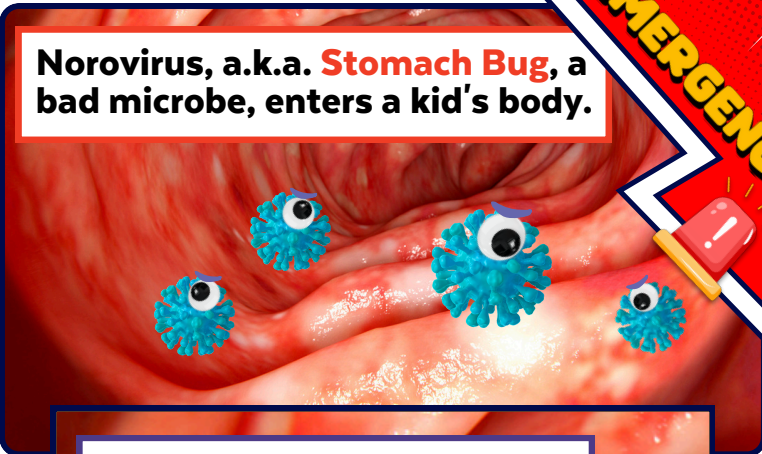


**Keep your home
clean and tidy.**



CHAPTER 4

BAD Microbes & Illnesses



Norovirus, a.k.a. **Stomach Bug**, a bad microbe, enters a kid's body.

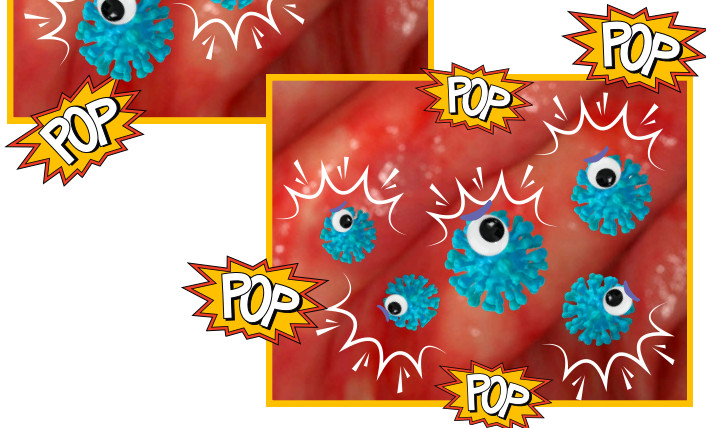
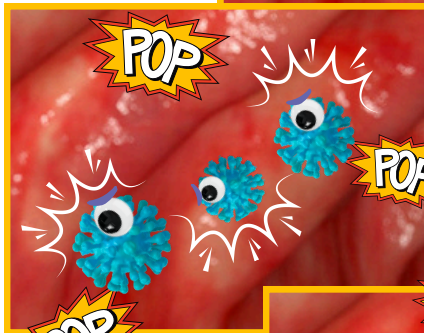
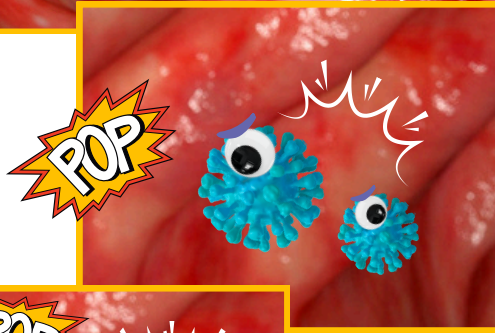
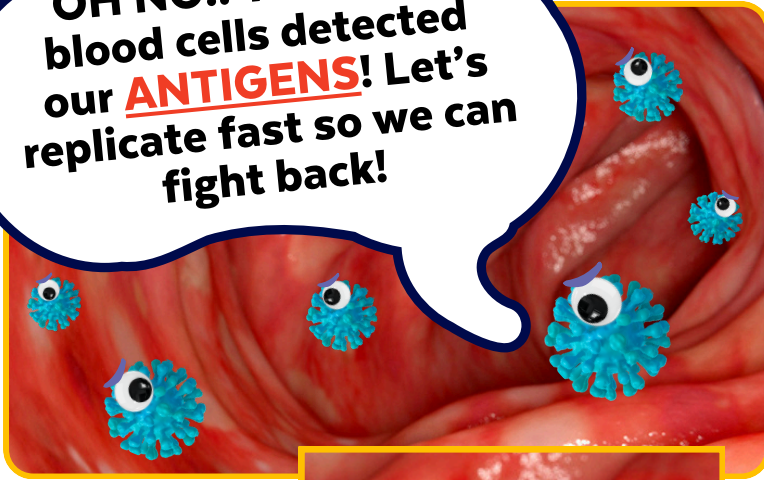
EMERGENCY!

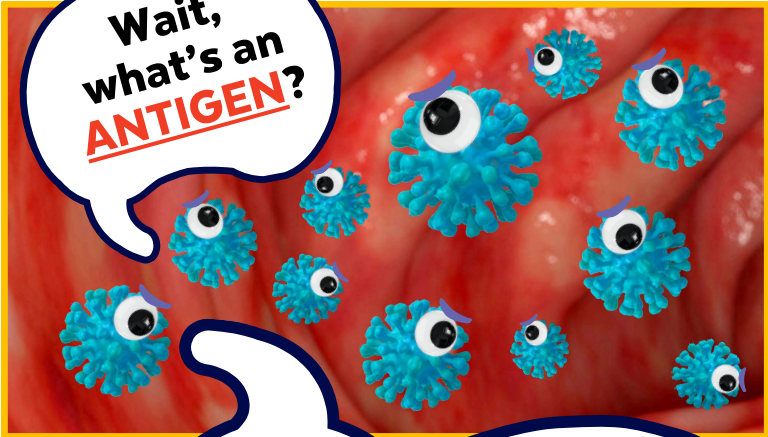
Wibbly White, a white blood cell, detects **Stomach Bug**.

BOOM!

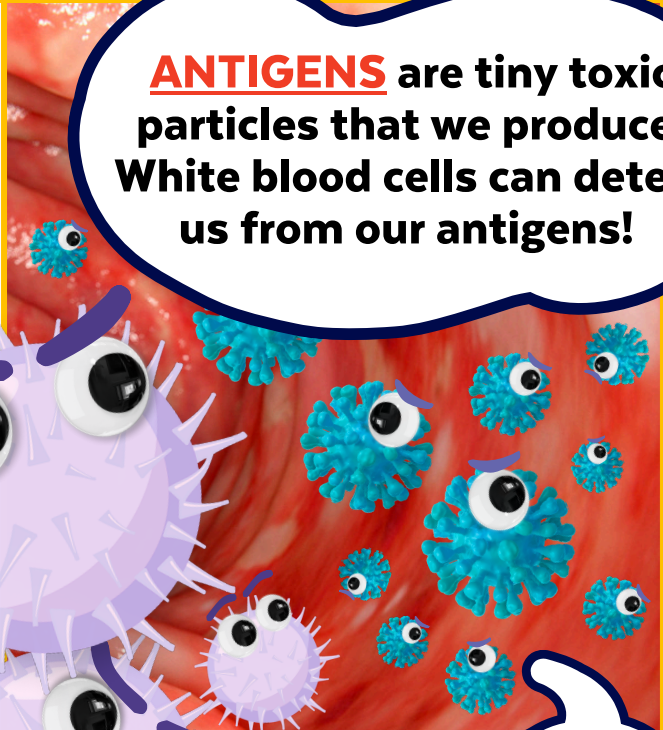
How did these pesky microbes get in??
Ready, set...
ATTACK!!!

OH NO!! The white
blood cells detected
our **ANTIGENS**! Let's
replicate fast so we can
fight back!

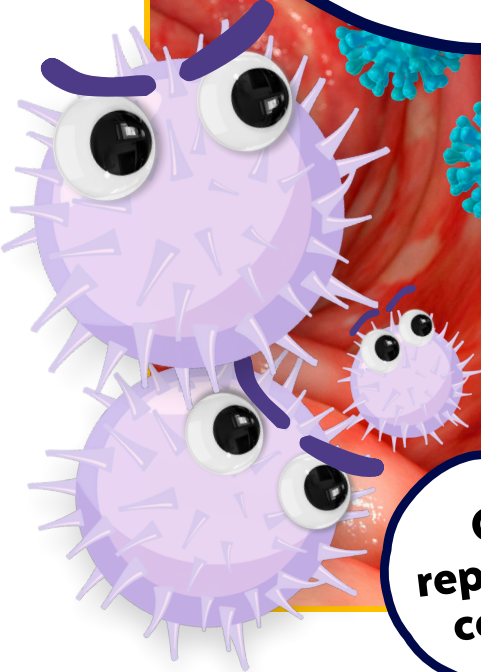




Wait,
what's an
ANTIGEN?



ANTIGENS are tiny toxic
particles that we produce!
White blood cells can detect
us from our antigens!



Quickly, keep
replicating! They're
coming after us!



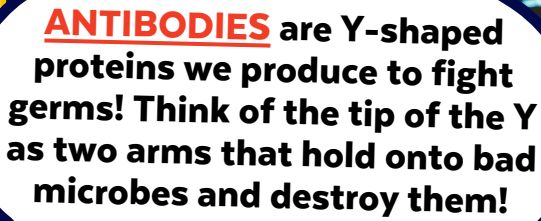
Calling all white blood cells in our **IMMUNE SYSTEM**! The microbes are invading the stomach!



We need to create a new **ANTIBODY** to make these bad germs surrender.



Did someone say **ANTIBODY**? What's that?

An illustration showing several Y-shaped antibodies in blue and green, some with small red dots at their tips, floating around a large, orange, textured microbe. A smaller, purple, spiky microbe with large eyes is also visible in the lower right corner.

ANTIBODIES are Y-shaped proteins we produce to fight germs! Think of the tip of the Y as two arms that hold onto bad microbes and destroy them!

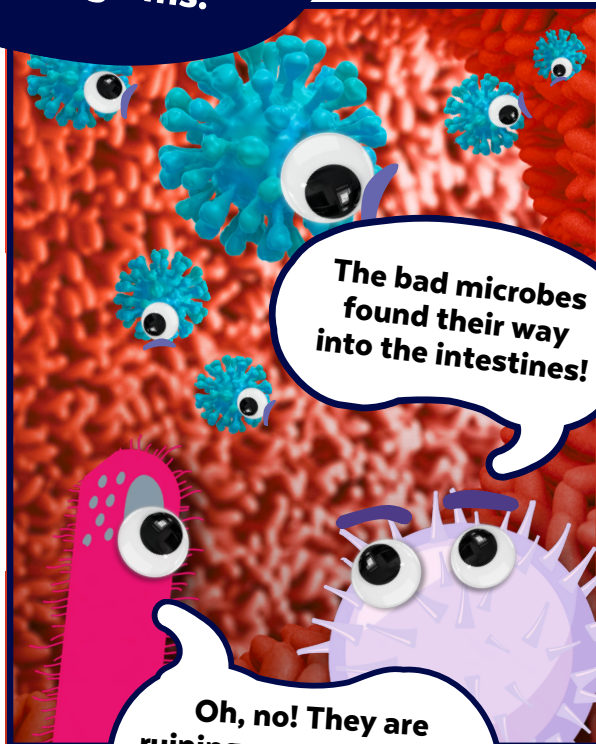
A close-up photograph of a child's face, focusing on the mouth and nose. A white digital thermometer is placed in the child's mouth. A purple, spiky microbe with large eyes is positioned near the thermometer's tip.

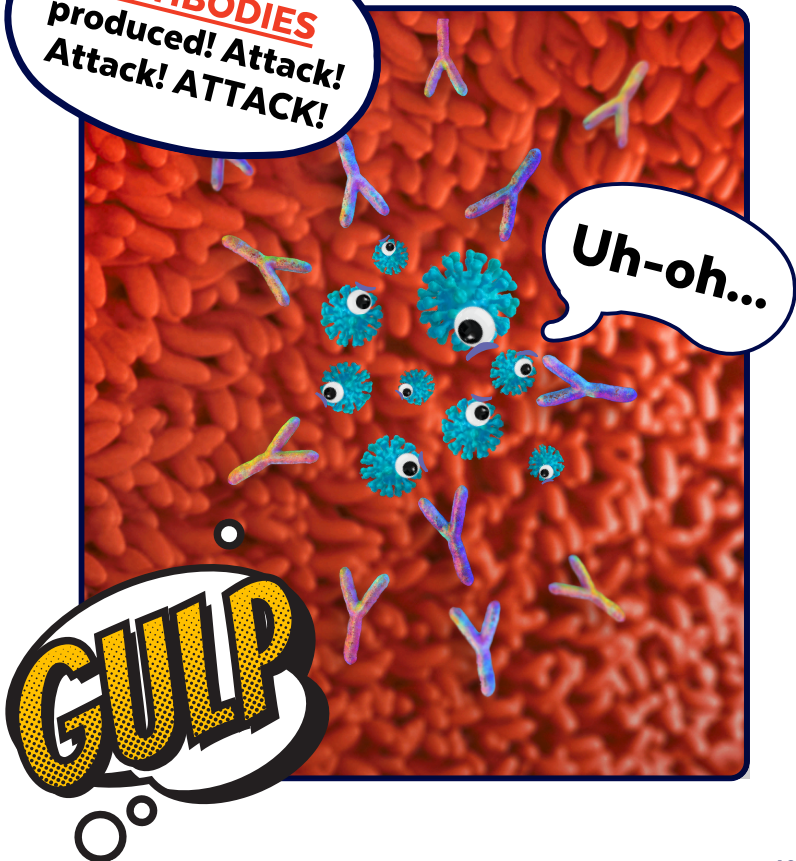
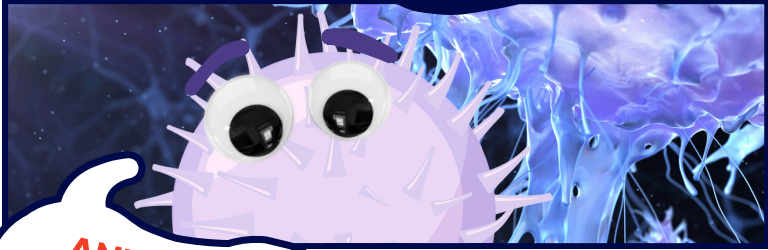
Uh, oh... I'm not feeling too well.

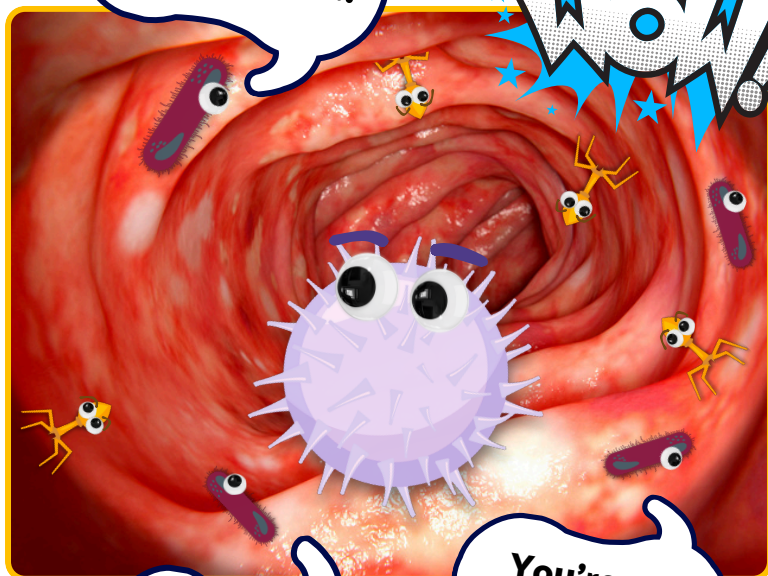
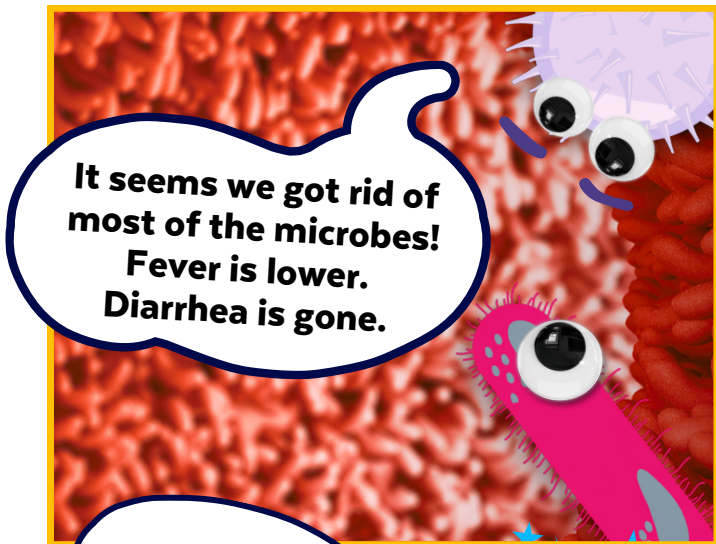
Body temperature is increasing! The bad microbes won't like that.



It seems you have a fever. Stay home and rest to help your body fight the germs.

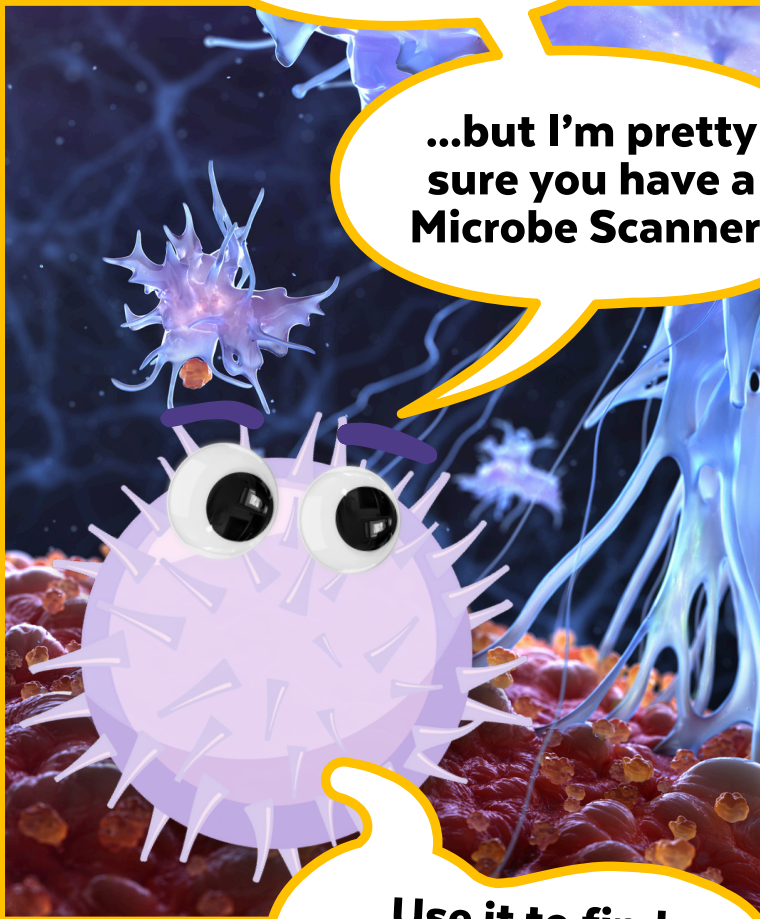






I bet you'd like
to see all of these
microbes up close!
Well, you may not have
a MICROSCOPE...

...but I'm pretty
sure you have a
Microbe Scanner!



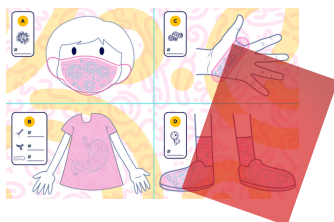
Use it to find
microbes and
ANTIBODIES in a
child's body!

HANDS-ON ACTIVITY

CHECKLIST



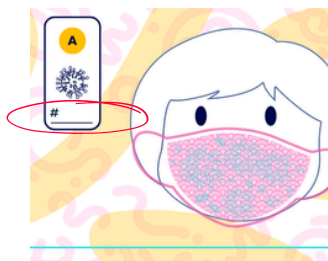
Grab a red lens and a Medical Film from your teacher.



Look at the child's body through your colored lens to find the hidden microbes and antibodies!



Write down the number of microbes and antibodies you can find in each part of the body.



Flip your Medical Film and fill out the report on the other side of the paper.



**We're arriving
at our next stop:
a take home
activity!**

SCREECH



TAKE HOME:

**Your Microbe
Finger Puppets!**



CHAPTER 5

Invent to PROBLEM SOLVE

**A Mysterious
Cat Illness**



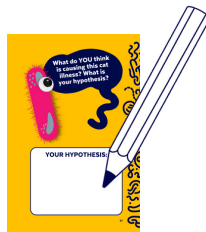
Uh oh! We've got a problem. It seems there is a disease spreading among cats on the planet of Gubby Pubs.

**The cats need
YOUR help to
solve this
problem.**

HANDS-ON ACTIVITY CHECKLIST



On the next page, write or draw your hypothesis on why the cats are sick.



Design an invention to help the sick cats!

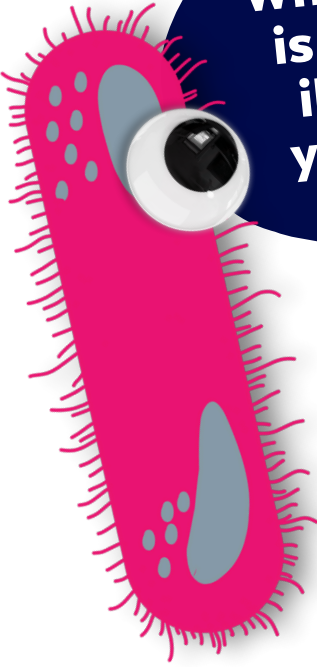


Grab prototyping materials from your teacher and make a **MODEL** of your invention.



Write about your invention on pages 58 and 59.





**What do YOU think
is causing this cat
illness? What is
your hypothesis?**

YOUR HYPOTHESIS:





Describe

Share about YOUR invention!

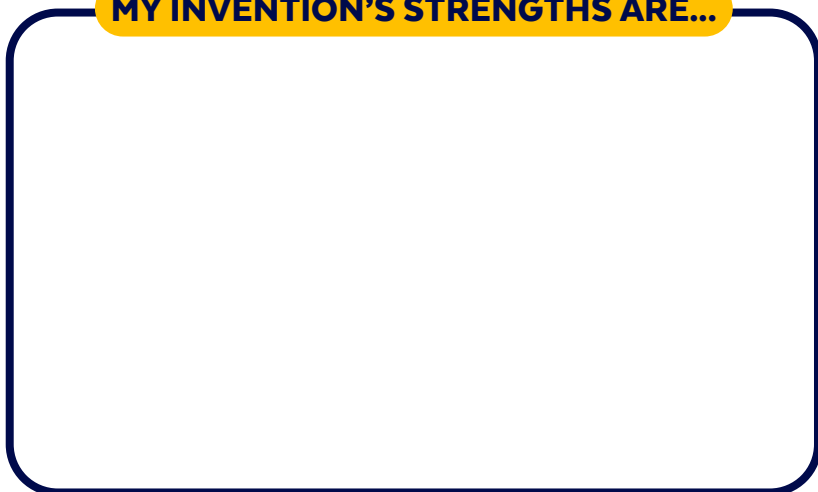
ABOUT YOUR INVENTION

- 1 My invention's name is...
- 2 To build my prototype I used these materials:
- 3 My invention helps sick cats by...

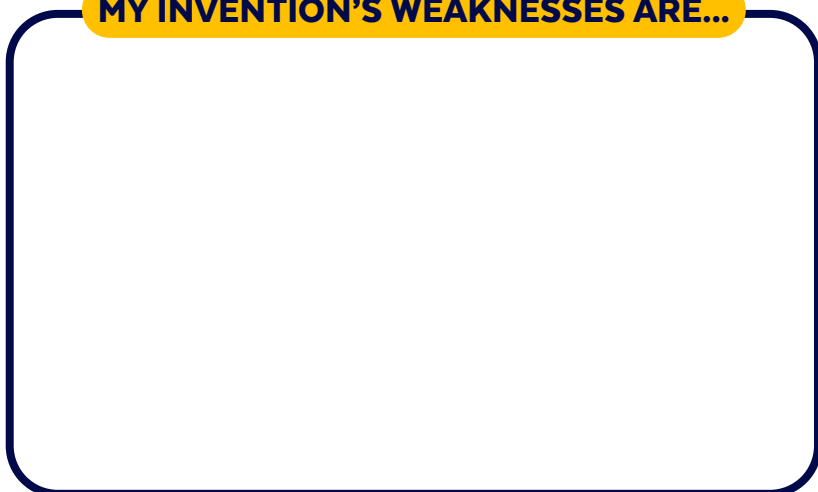
Optimize

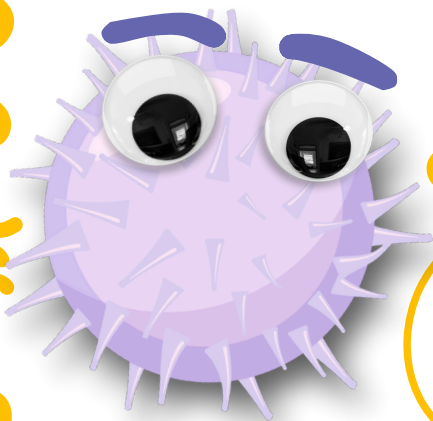
Test the prototype of your invention, compare, and gather feedback!

MY INVENTION'S STRENGTHS ARE...



MY INVENTION'S WEAKNESSES ARE...





Pssst! Did you know?
You can make your
IMMUNE SYSTEM
stronger by...

Eating foods rich in
vitamins, like fruits
and veggies.



Eating foods with good
bacteria, like yogurt!

Not eating a lot
of sugar!

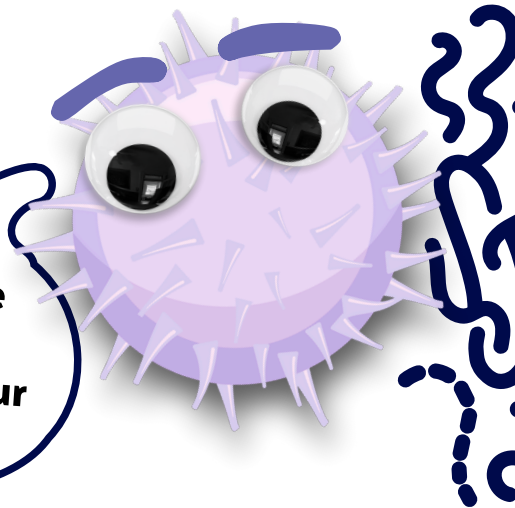


Staying active!

Going to bed early and
getting enough sleep.



**AND once you are
already sick, help
STOP spreading your
germs by...**



**Staying home, resting,
and taking medicine
from your doctor.**

**Keeping your distance
from others.**



Washing your hands.

**Covering your mouth when
you cough and sneeze.**



**Most importantly,
being kind to yourself!**

CHAPTER 6

Cleaning and DISINFECTING GERMS

E. coli goes down a drain.

OUCH! OOOCH! OUCH!
WHAT'S HAPPENING?
DID SOMEONE JUST
CLEAN ME OFF?!

I had come such a
long way! My family was
hanging out in a dirty
bathroom. A kid came in,
and we landed on her hands!

I was waiting
and waiting AND
WAITING for this kid
to put their hand in
their mouth!





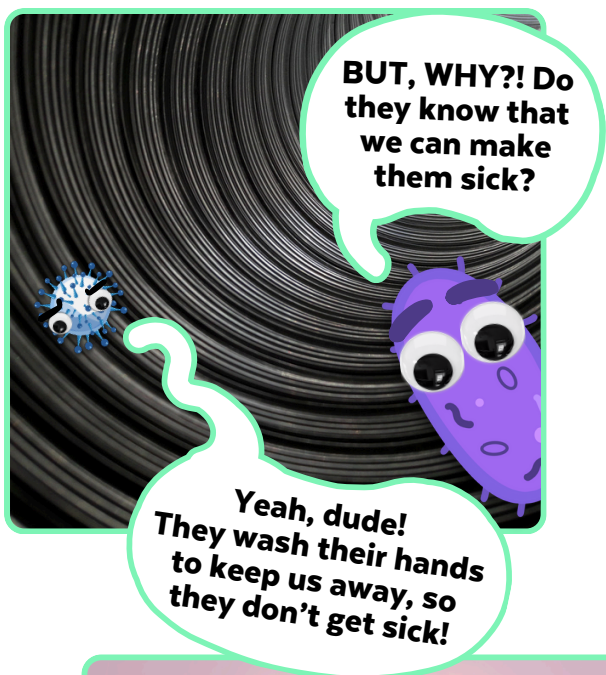
E. coli! What's up, dude? I was holding onto this kid's hand so tightly, but she got me good.

She used water AND soap. It became sooooo slippery! She rubbed everywhere for 30 seconds!



CAN YOU BELIEVE IT?

Who has that much patience?!



E. coli begins panicking.

GASP!

OH NO! Is that
the ghost of Uncle
Salmonella?!

Yup!
It's me!

We were having
an EPIC germ
party on this kid's
desk, until...

...their teacher came
in. I'm telling you,
he looked very
suspicious.

Suddenly, he
took out a
Lysol® wipe...
AND...





*When used as directed, Lysol® Disinfecting Wipes and Lysol® Disinfectant Spray kill 99.9% of viruses and bacteria, including cold and flu and the COVID-19 virus, and can be used on many household and classroom surfaces like desktops, door handles, and countertops.

Eugie, a good microbe,
enters the scene.

Did someone
say “spring
cleaning time”?

I know the
perfect solution!

Make a spinner
with all sorts of ways
to clean your
classroom!

HANDS-ON ACTIVITY

CHECKLIST



Grab some paper and a writing tool.



Think of ways you can keep your classroom clean.



Write down or draw one cleaning task on your paper.



As a class, choose your top options to add to your classroom spinner!



**We're arriving
at our next stop:
a take home
activity!**

SCREECH

TAKE HOME:

**Your Hygiene
Poster**

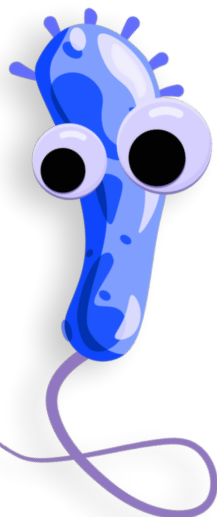


CHAPTER 7

Defeat the **BAD Germs**

**A Timed
Experiment**

Guess what?! Here's a secret trick for how to wash your hands...



1. Wet your hands with water.

2. Add soap to your hands.



3. Rub your palms together.

4. Scrub your fingers, the tops of your hands, and under your nails. Do it for 30 seconds!



5. Rinse.



**Nah, there's no way
that you'll be able to
count all the way to
30 while washing
your hands!**



**Wait a minute! That
gives me an idea!**



**You should make a
30-second timer that
you can use while
washing your hands.**

HANDS-ON ACTIVITY

CHECKLIST



Form a science committee with a group of your classmates.



Grab one Experiment Tray Paper and 4 pairs of velcro dots and make your tray!



Place your hourglass onto your tray and pour the sand inside it to make your hourglass timer!



Conduct a science experiment to build a 30-second timer. How much sand do you need to add?



Record your data and experiment trials in the Lab Report on the next page.

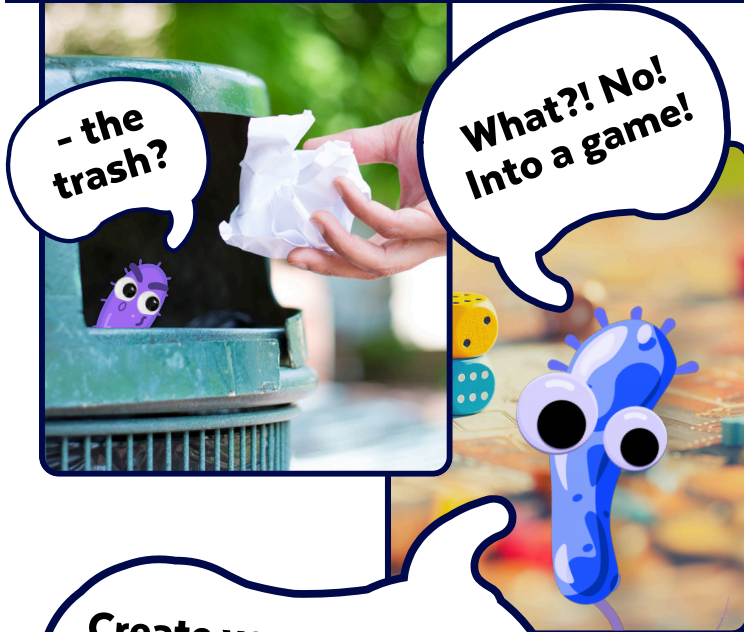
RECORD YOUR EXPERIMENT DATA		
TRIAL #	AMOUNT OF SAND (measured in grams)	# OF SECONDS
1		
2		
3		
4		
5		
6		
7		
8		

RECORD YOUR EXPERIMENT DATA

TRIAL #	AMOUNT OF SAND (measured in inches)	# OF SECONDS
1		
2		
3		
4		
5		
6		
7		
8		

Games FOR Health

CHAPTER 8

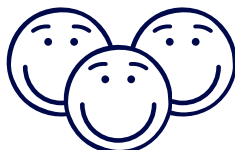


HANDS-ON ACTIVITY

CHECKLIST



Form a game design team with a group of your classmates.



Gather paper, markers, tape, and scissors.



Grab your Microbe ID Cards and your 30-second sand timer.



Using your supplies, design your own game about microbes as a team!



Write down your game rules on the next page so you can teach others to play your game.



80 YOUR GAME RULES

APPENDIX

A Scientist's

GLOSSARY!





HANDS-ON ACTIVITY

Glossary

MICROSCOPE

A tool that scientists use to zoom in and see things that are REALLY tiny.



MICROBE

Short for microorganism, which is a small living thing - too small to see without a microscope.



ORGANISM

Any living thing like humans, plants, animals, or microbes.



SCIENTIST

A person who makes hypotheses based on research and tests them in experiments so that they learn and share new things about the world around us.



BACTERIA

A type of microbe that can live on its own in many different places, including on skin and inside the body.

VIRUS

A type of microbe that cannot live on its own and needs to live inside other living cells to grow and multiply.

FUNGUS

A type of microbe that includes molds and yeasts; can cause infections.

PROTOZOA

A type of microbe that is made of just one cell (the tiny building block of life), with a nucleus (the control center) inside. They can do all the things they need to live, like eating, moving, and growing!

Draw a **MODEL** to help define the word.





HOTSPOTS

Places you can find many bad microbes like toilets, touch screens, or keyboards!



MODEL

A representation of an object, living thing, process, or system.



MICRO-BIOLOGIST

A scientist that studies microbes and their behaviors.



HYGIENE

Things we can do to help us stay healthy and prevent sickness.



Draw a MODEL to help define the word.

ANTIGENS

Tiny toxic particles that bad microbes produce, leading to production of antibodies.



ANTIBODY

Y-shaped proteins that white blood cells produce to fight bad microbes!



IMMUNE SYSTEM

Our bodies' defense against infections caused by microbes.



ENGINEERING DESIGN

The development of a new or improved object or tool that solves a problem.

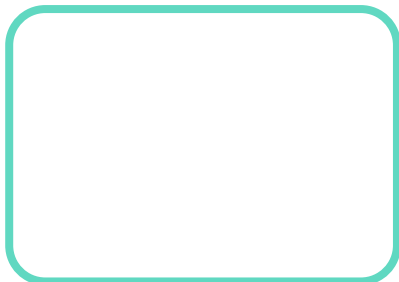


Draw a **MODEL** to help define the word.



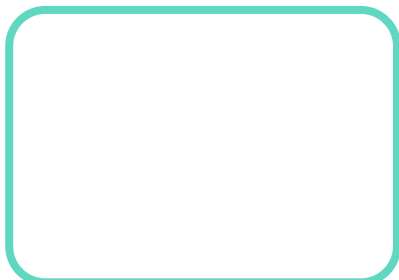
CLEAN

The act of removing dirt. Cleaning with soap does not kill microbes.



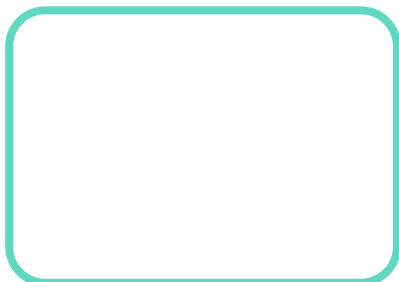
SANITIZER

A product that reduces bad microbes from skin or surfaces.

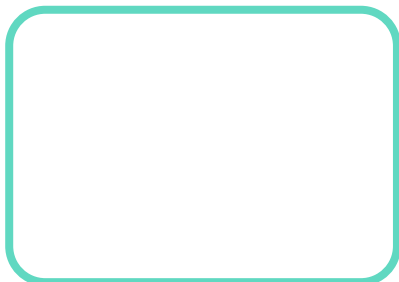


DISINFECTANT

Destroys microbes such as viruses, bacteria, and fungi on surfaces using chemicals, like chlorine.



Definition:



Add your own words to the glossary and define them!



ABOUT The GIANT Room



LEARN
MORE!



The GIANT Room is a creative co-design lab that provides opportunities for children, families, and educators to collaborate with designers, policymakers, scientists, artists, and engineers.

In addition, on our GIANT Remix platform, we provide opportunities for children to co-design and co-publish books and games they can read and play with their friends and family.

ABOUT Lysol®



For more than a century, Lysol® has been protecting families from the spread of illness-causing germs. We believe there is nothing more important than keeping our loved ones safe and healthy. For Lysol®, just as it is for parents, protection is an instinctive act of love: an unconditional combination of strength and heart.

About HERE For Healthy Schools

Established in 2019, HERE for Healthy Schools launched with the mission of helping to curb the spread of illness-causing germs in classrooms nationwide. From the creation of interactive lesson plans and physical resources to donating millions of Lysol® Disinfecting products, Lysol® is committed to helping kids learn healthy habits and providing educators with the resources they need to keep their classrooms protected from germs.

References and Additional Resources

Chapter 1:

- CDC. The Public Health Image Library from the Centers for Disease Control and Prevention. <https://unsplash.com/@cdc>
- Kadner, R. J. and Rogers, Kara. (2024, July 17). Bacteria. Encyclopedia Britannica. <https://www.britannica.com/science/bacteria>
- Nouri, A. (2011, July 5). The discovery of bacteria. American Association for the Advancement of Science. <https://www.aaas.org/taxonomy/term/10/discovery-bacteria>
- Young KD. (2007 Dec), Bacterial morphology: why have different shapes? *Curr Opin Microbiol.*; 10(6): 596-600.

Chapter 2:

- Bright KR, Boone SA, Gerba CP. Occurrence of Bacteria and Viruses on Elementary Classroom Surfaces and the Potential Role of Classroom Hygiene in the Spread of Infectious Diseases. *The Journal of School Nursing.* 2010;26(1):33-41. doi:10.1177/1059840509354383

Chapter 3:

- CDC. About Handwashing. <https://www.cdc.gov/clean-hands/about>
- CDC. About Hygiene. <https://www.cdc.gov/hygiene/about>
- CDC. Guidance for School Administrators to Help Reduce the Spread of Seasonal Influenza in K-12 Schools. <https://www.cdc.gov/flu/school/guidance.htm>

Chapter 4:

- InformedHealth.org [Internet]. Cologne, Germany: Institute for Quality and Efficiency in Health Care (IQWiG); 2006-. In brief: How does the immune system work? [Updated 2023 Jun 6]. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK279364/#>

Chapter 6:

- CDC. Handwashing Facts. <https://www.cdc.gov/clean-hands/data-research/facts-stats/>
- CDC. How To Clean and Disinfect Early Care and Education Settings. <https://www.cdc.gov/hygiene/about/how-to-clean-and-disinfect-early-care-and-education-settings.html>
- CDC. The Difference Between Cleaning, Sanitizing, and Disinfecting. https://www.cdc.gov/hygiene/pdf/331782-a_cleaning_sanitizing_disinfecting_508.pdf

Microbe ID Cards (in order of appearance in the journal):

- Mayo Clinic. E. coli. <https://www.mayoclinic.org/diseases-conditions/e-coli/symptoms-causes/syc-20372058>
- WHO. Malaria. https://www.who.int/health-topics/malaria#tab=tab_1
- CDC. Malaria. <https://www.cdc.gov/malaria/index.html>
- CDC. Blastomycosis. <https://www.cdc.gov/blastomycosis/index.html>
- CDC. Rabies. <https://www.cdc.gov/rabies/>
- CDC. Norovirus. <https://www.cdc.gov/norovirus/index.html>
- CDC. Covid. <https://www.cdc.gov/covid/index.htm>
- WHO. Hepatitis A. <https://www.who.int/news-room/fact-sheets/detail/hepatitis-a>
- CDC. Candidiasis. <https://www.cdc.gov/candidiasis/about/index.html>

- Cleveland Clinic. *Candida Albicans*. <https://my.clevelandclinic.org/health/diseases/22961-candida-albicans>
- Science Direct. *Aspergillus Fumigatus*. <https://www.sciencedirect.com/topics/food-science/aspergillus-fumigatus>
- Cleveland Clinic. *Aspergillosis*. <https://my.clevelandclinic.org/health/diseases/14770-aspergillosis>
- CDC. Influenza. <https://www.cdc.gov/flu/>
- CDC. Tuberculosis (TB). <https://www.cdc.gov/tb/index.html>
- CDC. Salmonella. <https://www.cdc.gov/salmonella/index.html>
- CDC - Methicillin-resistant *Staphylococcus aureus* (MRSA) Basics: <https://www.cdc.gov/mrsa/about/index.html>
- Mayo Clinic. Staph Infections. <https://www.mayoclinic.org/diseases-conditions/staph-infections/symptoms-causes/syc-20356221>
- CDC. Respiratory syncytial virus (RSV). <https://www.cdc.gov/rsv/about/index.html>
- WHO. *Campylobacter*. <https://www.who.int/news-room/fact-sheets/detail/campylobacter>
- CDC. *Campylobacter* Infection (*Campylobacteriosis*). <https://www.cdc.gov/campylobacter/about/index.html>
- CDC. Lyme Disease. <https://www.cdc.gov/lyme/index.html>
- The Whiteson Lab. *Streptococcus salivarius*. <https://kwhiteson.bio.uci.edu/2016/11/30/streptococcus-salivarius/>
- Université catholique de Louvain. The secret weapons of *S. salivarius*. <https://uclouvain.be/en/sciencetoday/news/the-secret-weapons-of-s-salivarius.html>
- Tam NK, Uyen NQ, Hong HA, Duc le H, Hoa TT, Serra CR, Henriques AO, Cutting SM. The intestinal life cycle of *Bacillus subtilis* and close relatives. *J Bacteriol*. 2006 Apr;188(7):2692-700.
- Science Direct. *Bacillus Subtilis*. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/bacillus-subtilis>
- National Cancer Institute. Oncolytic Virus Enables the Immune System to Attack Tumors. <https://www.cancer.gov/news-events/cancer-currents-blog/2023/oncolytic-virus-blocking-tgf-beta>
- Pfizer. Customizing Viral Vectors to Further Gene Therapy Innovation. https://www.pfizer.com/news/articles/customizing_viral_vectors_to_further_gene_therapy_innovation
- Srinivasachar Badarinarayan S, Sauter D. Switching Sides: How Endogenous Retroviruses Protect Us from Viral Infections. *J Virol*. 2021 May 24;95(12):e02299-20.
- Britannica. *Euglena*. <https://www.britannica.com/science/Euglena>
- ScienceDirect. *Propionibacterium freudenreichii*. <https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/propionibacterium-freudenreichii>
- Britannica. Bacteriophage: <https://www.britannica.com/science/bacteriophage>
- Explore Yeast. What is *Saccharomyces cerevisiae*?. <https://www.exploreyeast.com/what-is-yeast/what-is-saccharomyces-cerevisiae/>
- Mount Sinai. *Lactobacillus Acidophilus*. <https://www.mountsinai.org/health-library/supplement/lactobacillus-acidophilus>
- Billoo AG, Memon MA, Khaskheli SA, Murtaza G, Iqbal K, Saeed Shekhani M, Siddiqi AQ. Role of a probiotic (*Saccharomyces boulardii*) in management and prevention of diarrhoea. *World J Gastroenterol*. 2006 Jul 28;12(28):4557-60.
- National Library of Medicine. A Review of Cyanophage-Host Relationships: Highlighting Cyanophages as a Potential Cyanobacteria Control Strategy. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9229316/>



ADD A
MICROBE
STICKER
HERE