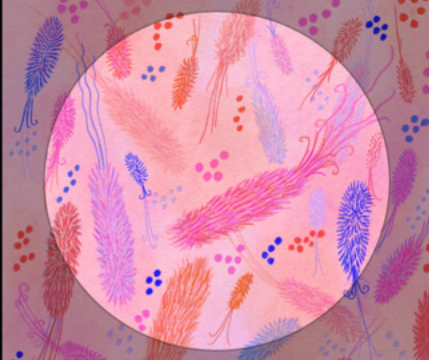


Escherichia coli

6 Pts



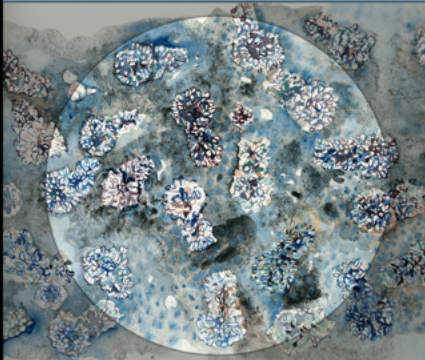
These bacteria are often studied by scientists to learn more about bacteria. They live in our intestines but can sometimes make us sick too.

Image by
Chelsea O'Byrne



Tupanvirus

4 Pts



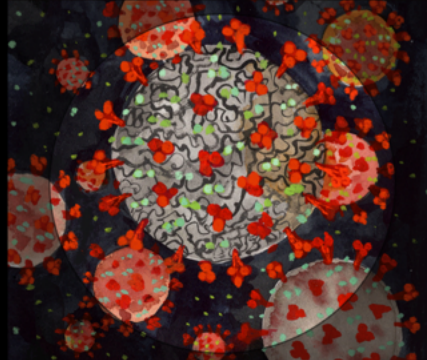
These viruses live in the ocean and infect the other microbes that live there.

Image by
Emilie Clark



SARS-CoV-2

4 Pts



These viruses caused the COVID-19 pandemic and can make us feel very sick. We can wear masks and get vaccinated to protect ourselves from them.

Image by
Diana Sudyka



Clostridium perfringens

4 Pts



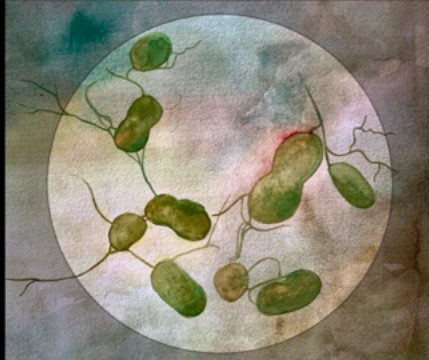
These bacteria can make us very sick if we eat them. We call this "food poisoning" and it often means we feel nauseous and vomit.

Image by
Emilie Clark



Azospirillum brasilense

3 Pts



These bacteria make nutrients that are good for plants, so farmers use them to grow healthy crops.

Image by
Aviva Reed



Bacteroides vulgatus

3 Pts



These bacteria live in our intestines. We help them by giving them a place to live and they help us break down food during digestion.

Image by
Emilie Clark



Yersinia pestis

3 Pts



These bacteria caused the biggest pandemic in history: the Black Death. They make us feel very sick but can be treated with antibiotics.

Image by
Diana Sudyka



Vibrio cholerae

4 Pts



These bacteria infect our intestines and give us diarrhea. To feel better we drink lots of water to replace the liquids we lost.

Image by
Aviva Reed



Influenza

3 Pts



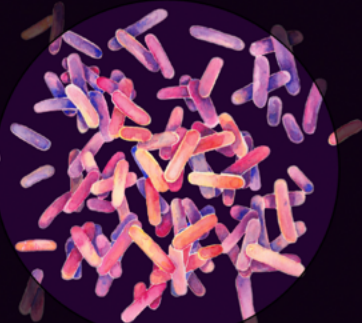
These viruses make us feel sick with a cough, sore throat, and fever. They can spread between people through the air, but we can protect ourselves by washing our hands and getting vaccinated.

Image by
Aviva Reed



Pseudomonas denitrificans

4 Pts



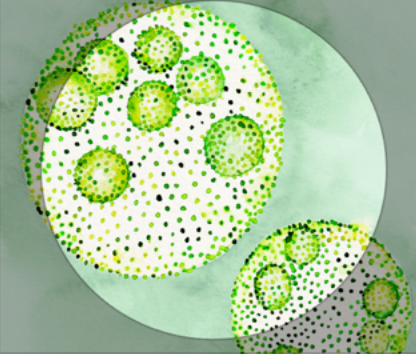
These bacteria make vitamins that we can eat to be healthy and grow.

Image by
Sandra Black



Volvox

5 Pts



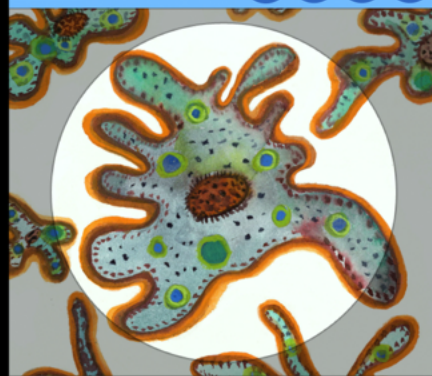
These protists form groups so large that we can see them without microscopes. They also produce lots of oxygen.

Image by
Sandra Black



Amoeba

4 Pts



These protists use special feet called pseudopods to move around! They are mostly microscopic but the largest can be as big as 4 inches long!

Image by
Diana Sudyka



Thermus aquaticus

4 Pts



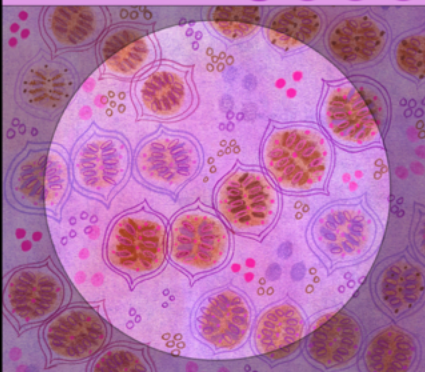
These bacteria can survive in super hot places like hot springs and scientists can use them to change an organism's DNA.

Image by
Diana Sudyka



Alexandrium

4 Pts



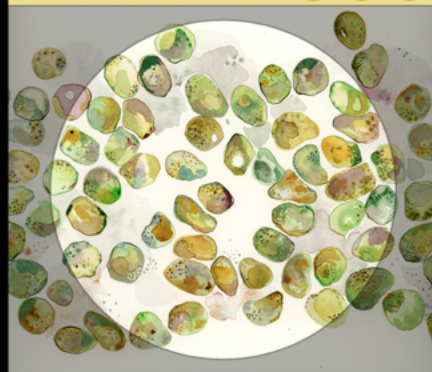
These protists use energy from the sun to make food and stick together to form chains. If we eat them, they can make us feel sick.

Image by
Chelsea O'Byrne



Plasmodium

3 Pts



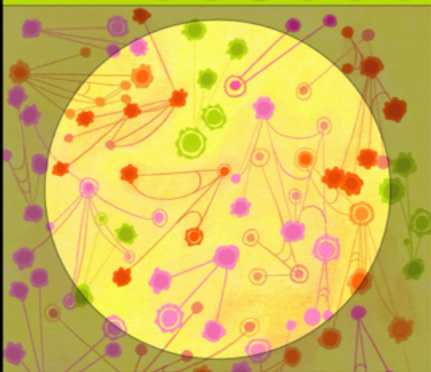
These protists live inside mosquitoes and can cause a sickness called malaria.

Image by
Emilie Clark



Methanogens

6 Pts



These archaea make a gas called methane that we can use to power machines.

Image by
Chelsea O'Byrne



Archaea

CLASSIFICATION CARD



CLASSIFICATION CARD
Archaea

Archaea

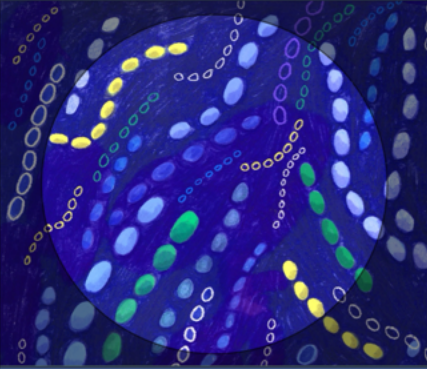
CLASSIFICATION CARD



CLASSIFICATION CARD
Archaea

Streptococcus mutans

3 Pts



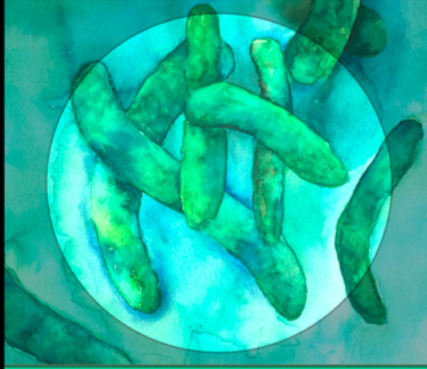
These bacteria are very common in the human mouth. They are usually harmless but can help other harmful bacteria to grow.

Image by
Chelsea O'Byrne



Aliivibrio fischeri

4 Pts



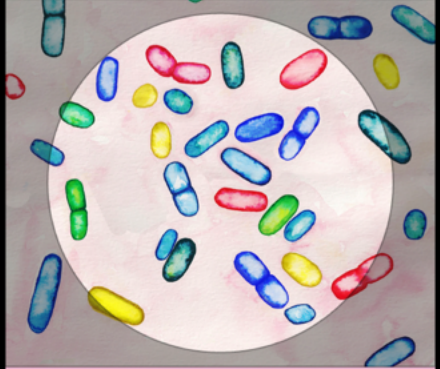
These bacteria can glow in the dark. They live inside bobtail squids and make them glow too!

Image by
Aviva Reed



Lactobacillus plantarum

3 Pts



These bacteria help us make food like pickles and cheese.

Image by
Sandra Black



Foraminifera

5 Pts



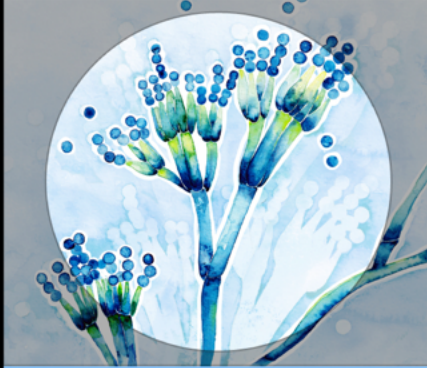
These protists make shells that turn into fossils when they die. Scientists can collect these fossils from the bottom of the ocean and study them.

Image by
Sandra Black



Penicillium chrysogenum

4 Pts



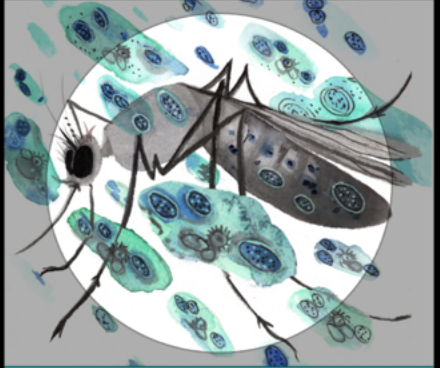
These fungi produce medicine that we can use to treat bacterial infections.

Image by
Sandra Black



Wolbachia

3 Pts



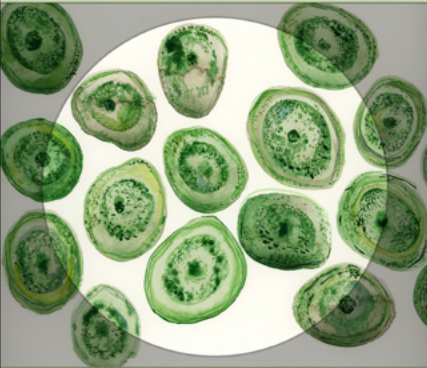
These bacteria live inside insects and stop them from laying eggs. They can even stop the insects from spreading diseases and have been used for this purpose.

Image by
Diana Sudyka



Prochlorococcus marinus

4 Pts



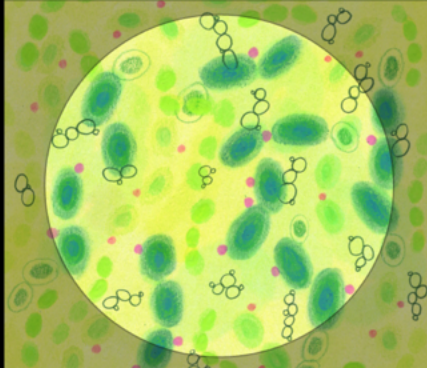
These bacteria make a large amount of the oxygen we breathe and are some of the oldest organisms in Earth's history.

Image by
Emilie Clark



Yeast

6 Pts



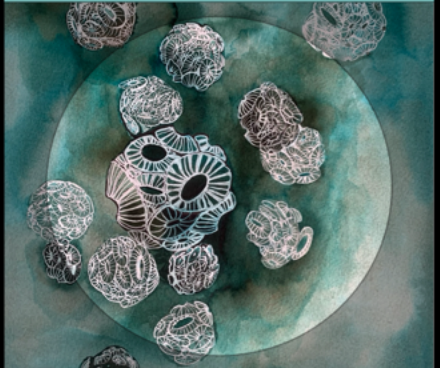
These fungi are used to cook things like bread by making it rise.

Image by
Chelsea O'Byrne



Emiliana huxleyi

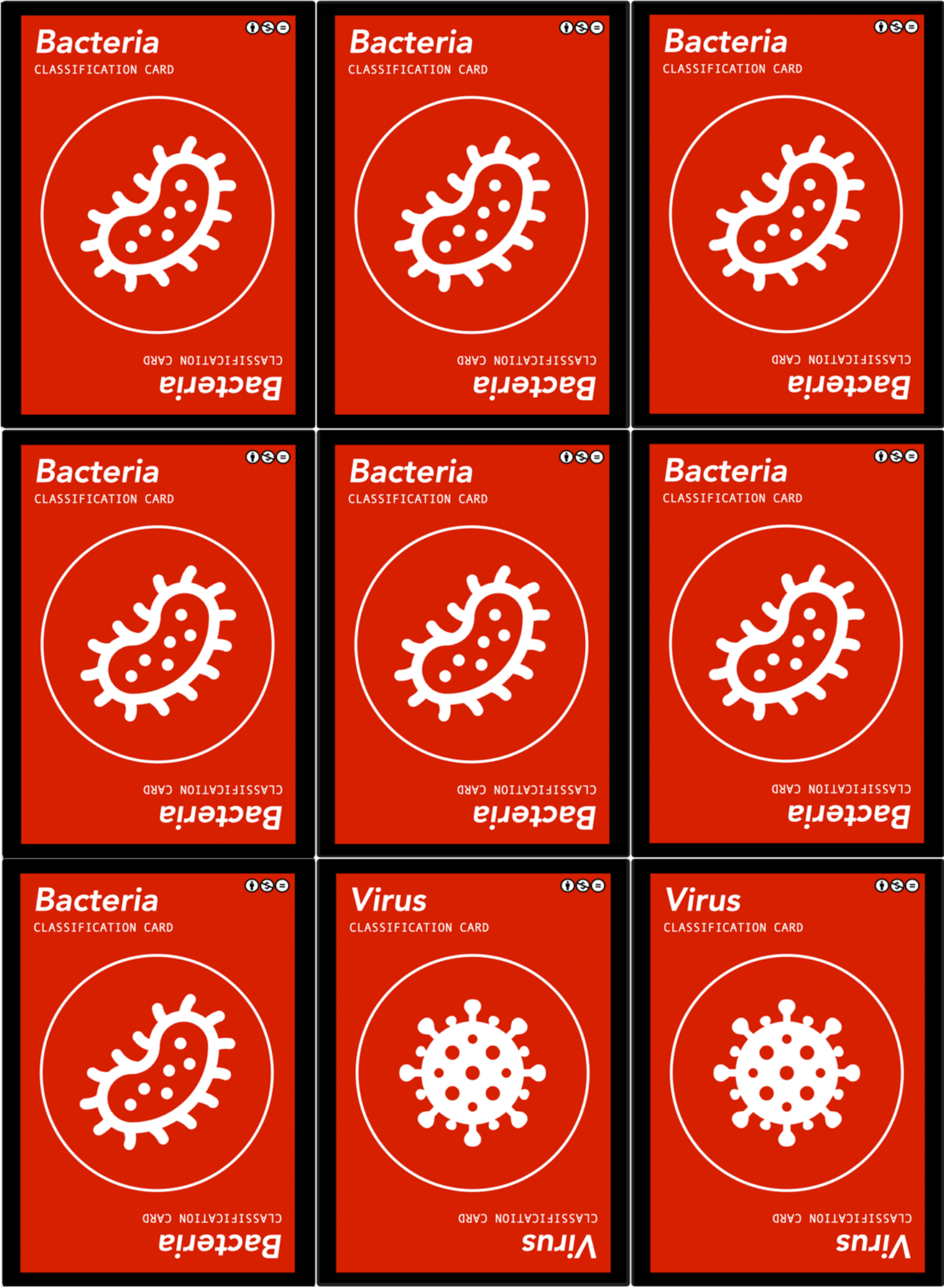
4 Pts



These protists form large groups in the ocean that we can see from space and produce lots of the oxygen we breathe.

Image by
Aviva Reed









Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Host Organism

HABITAT CARD



Host Organism

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD



Soil Environment

HABITAT CARD



Soil Environment

HABITAT CARD

Soil Environment

HABITAT CARD



Soil Environment

HABITAT CARD

Soil Environment

HABITAT CARD



Soil Environment

HABITAT CARD

Food Related

HABITAT CARD



Food Related

HABITAT CARD

Food Related

HABITAT CARD



Food Related

HABITAT CARD

Food Related

HABITAT CARD



Food Related

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD

Aquatic Environment

HABITAT CARD



Aquatic Environment

HABITAT CARD





Industry

SPECIALTY CARD



Industry
SPECIALTY CARD

Research

SPECIALTY CARD



Research
SPECIALTY CARD

Research

SPECIALTY CARD



Research
SPECIALTY CARD

Research

SPECIALTY CARD



Research
SPECIALTY CARD

Research

SPECIALTY CARD



Research
SPECIALTY CARD

Research

SPECIALTY CARD



Research
SPECIALTY CARD

Pathogen

SPECIALTY CARD



Pathogen
SPECIALTY CARD

Pathogen

SPECIALTY CARD



Pathogen
SPECIALTY CARD

Pathogen

SPECIALTY CARD



Pathogen
SPECIALTY CARD



Agar!



Agar is a jelly that is filled with food for bacteria, so we use it in science labs to grow them. Fanny Hesse was the first scientist to come up with this idea.

ACTION: Play Immediately

Add this card to any "Bacteria" Microbe card you have in play and collect one less Resource card to complete it. If you do not have any "Bacteria" Microbes in play, burn this card.

MODIFIER CARD



Microscope!



Antonie van Leeuwenhoek, a Dutch scientist, was the first person in the world to see bacteria and protists. He did this by looking through a microscope he built.

ACTION: Play Immediately, then burn.

Draw a new Microbe card. If there are no Microbe cards remaining, also burn this card.

MODIFIER CARD



Antibiotic Resistance!



Antibiotics are a medicine that we take when bacteria make us sick.

Usually, antibiotics kill or stop bacteria from growing, but some bacteria are able to fight them and survive.

We call these bacteria "antibiotic resistant".

ACTION: Play Immediately or burn.

Add this card to any "Bacteria" Microbe card you have in play and collect one less Resource card to complete it.

MODIFIER CARD



Special Talent

SPECIALTY CARD



Special Talent
SPECIALTY CARD

Special Talent

SPECIALTY CARD



Special Talent
SPECIALTY CARD

Special Talent

SPECIALTY CARD



Special Talent
SPECIALTY CARD

Structure Forming

SPECIALTY CARD



Structure Forming
SPECIALTY CARD

Structure Forming

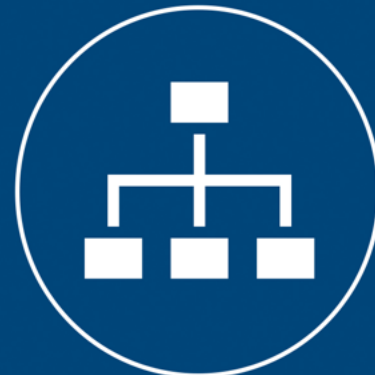
SPECIALTY CARD



Structure Forming
SPECIALTY CARD

Structure Forming

SPECIALTY CARD



Structure Forming
SPECIALTY CARD

Tiny Organism Alert!



Nanoarchaeum equitans, a species of Archaea, are some of the tiniest microbes to exist on Earth!

ACTION: Play Immediately or burn.

Add this card to the Microbe you have in play that is furthest from being completed. Collect one less Resource card to complete it.

MODIFIER CARD



Antibiotics!



Antibiotics are a type of medicine that we can use to treat illnesses caused by bacteria. They can kill bacteria or stop them from making us sick: allowing us to feel better.

ACTION: Play Immediately, then burn.

Discard one "Pathogen" Resource card from your hand or from one of the Microbes you have in play.

MODIFIER CARD



Transmission!



Microbes can be spread around from person to person. Sometimes, this can lead us to becoming sick. Other times, like when we were babies, it helped to build our immune system!

ACTION: Play Immediately, then burn.

Every player must pass one card from their hand to the player on their left.

MODIFIER CARD



Cooperation!



Many individual microbes are able to work together like a team! This cooperation could be between one species or different species.

ACTION: Keep on table. Burn after use.

Once you complete your next hand, you may return all Resource cards from it into your hand.

MODIFIER CARD



Only Some Microbes Make You Sick!



Most microbes in our bodies help us by making nutrients and fighting off other microbes, but sometimes they can make us feel sick.

ACTION: Play Immediately, then burn.

Discard a Resource card from one of your Microbes in play.

MODIFIER CARD



Immune System!



Your immune system protects your body from pathogens that can make you sick.

ACTION: Keep in hand - play as needed.

Use this card to block one Modifier card action that another player tries to use against you. Burn after use.

MODIFIER CARD



A New Medicine!



When microbes invade our bodies, medicines can be used to treat the diseases they cause. We call microbes that cause disease and make us sick "pathogens".

ACTION: Play Immediately, then burn.

Discard one "Pathogen" Resource card from your hand or from one of the Microbes you have in play.

MODIFIER CARD



Bacteria Get Sick Too!



Microbes do not just make humans sick: there are extra tiny viruses called phages that infect bacteria.

ACTION: Play Immediately, then burn.

Any player with a "Virus" Resource card on the table, must discard a "Bacteria" Resource card from their hand or from a Microbe in play.

MODIFIER CARD



Vaccine!



Vaccines prepare your immune system to fight off viruses and bacteria so they cannot make you sick.

ACTION: Keep in hand - play as needed.

Use this card to block one Modifier card action that another player tries to use against you. Burn after use.

MODIFIER CARD



Environmentally Friendly!



Microbes do many important things for the environment like producing oxygen for us to breathe, making nutrients, and protecting plants from disease.

ACTION: Play Immediately, then burn.
Give one Resource card from your hand to any other player.

MODIFIER CARD



Environment!



Microbes are everywhere, but each microbe needs a very specific environment to survive. Their survival depends on things like temperature, food availability, and the other species that live there.

ACTION: Play Immediately, then burn.
Skip your next turn.

MODIFIER CARD



Microbiology!



Microbiology is an entire field of science dedicated to studying microbes!

ACTION: Play Immediately, then burn.
Draw a new Microbe card. If there are no Microbe cards remaining, burn this card.

MODIFIER CARD



That's a lot of bacteria!



We are covered in bacteria - inside and out! Humans are made of 10% human material and 90% bacteria!

ACTION: Play Immediately, then burn.
Draw a new Microbe card. If there are no Microbe cards remaining, burn this card.

MODIFIER CARD



Culture!



Scientists can grow microbes like bacteria, fungi, and protists in the lab. They do this by giving the microbe all of the food and materials it needs to survive.

ACTION: Play Immediately, then burn.
Draw a new Microbe card. If there are no Microbe cards remaining, also burn this card.

MODIFIER CARD



Discovery!



Scientists are constantly discovering new microbes. For example, more than 2000 species of fungi are discovered every year!

ACTION: Play Immediately then burn.
Draw a new Microbe card. If there are no Microbe cards remaining, burn this card.

MODIFIER CARD



Industry Advance!



Microbes can be really useful in helping us make food, medicines, or even fertilizer for plants!

ACTION: Play Immediately, then burn.
Choose two players and take one Resource card they have in play from each of them. You may use or keep these cards or you may discard them.

MODIFIER CARD



Misinformation!



Most of the time, people only focus on the microbes that make us sick and ignore the ones that are important for the environment and our survival.

ACTION: Play Immediately, then burn.
Switch your entire hand with another player.

MODIFIER CARD



Pandemic!



Some microbes are very strong pathogens which cause illness. These microbes cause pandemics that happen because many people get infected at the same time.

ACTION: Play Immediately, then burn.
Take a "Pathogen" Resource card from from any of the cards in play. You may use or keep this card in your hand, or you may discard it.

MODIFIER CARD



Microbes are diverse!



Everybody's belly button contains a special set of bacteria. When scientists studied people's belly buttons, they discovered 1458 new species of bacteria!

ACTION: Play Immediately

Give this card to another player. They must add it to a Microbe they have in play and must also collect one extra Resource card for any of the resources listed on that Microbe in order to complete it.

MODIFIER CARD



Microbes are everywhere!



There have been multiple species of bacteria recorded to survive in clouds!

ACTION: Play Immediately, then burn.

Give this card to another player. They must skip their next turn.

MODIFIER CARD



Microbes are small!



Most microbes are very tiny. *Thiomargarita magnifica*, a type of bacteria, is the biggest microbe at one centimetre long!

ACTION: Play Immediately, then burn.

Look through the Discard pile and choose one card to add to your hand.

MODIFIER CARD

