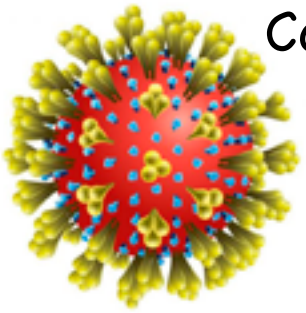
Attackers and Defenders

Flu Virus

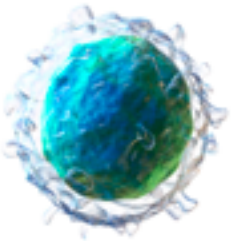
Salmonella



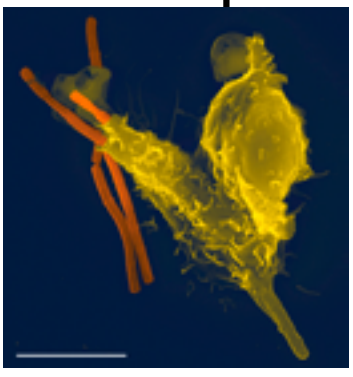
Covid 19

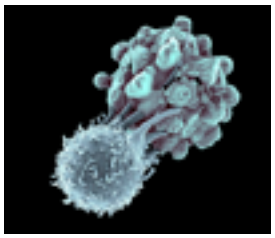
against

B Lymphocytes



Neutrophils





Killer T cells

Attackers and Defenders

We developed this during lockdown with the advice and support of colleagues more expert than us. We would welcome any further ideas for further items or activities. We will continue to update it for you.
Webaddress: http://www.collaborativelearning.org/attackersanddefenders.pdf
Last update 26th June 2020

Good for all pupils!
Vital for EAL pupils!

Basic principles behind our talk for learning activities: Oracy in curriculum contexts!

Build on chidren's own prior knowledge.
Move from concrete to abstract.
Ensure everyone works with everyone else.
Extend social language towards curriculum language.
Provide motivating ways to go over the same knowledge more than once.

It's empowering to talk an idea through before you write about it!

COLLABORATIVE LEARNING PROJECT
Project Director: Stuart Scott
We support a network of teaching professionals to develop and disseminate accessible talk-for-learning activities in all subject areas and for all ages.
17, Barford Street, Islington, London N1 0QB UK Phone: 0044 (0)20 7226 8885
Website: http://www.collaborativelearning.org

Attackers and Defenders

Role play transformations and a Connect Four Game

This is a role play activity where we have animated the different germs that attack us and the parts of our immune system that fight back.

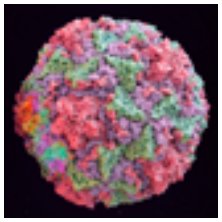
There are several ways in which the role cards could be employed. One way that generates a lot of discussion is for everyone in a class to receive a role play card. We will add more germ cards such as different kinds of hepatitis or other toxins and some more parts of the lymph system to make up a class set and you can decide which ones you want to leave out.

Pupils need to spend a few moments reading their card, memorising some of the information and then present themselves in role to one other pupil. Memorising a few bits of information, internalising it and then presenting it to another is much more powerful than reading the card out. When the two pupils have exchanged information they then need to 'meet' two more pupils who have been doing likewise but with different information. Then we suggest that each pair introduce each other rather than themselves to the other pair and vice versa. We hope that is clear!

The cards can be used as a basis for more research and we would encourage the production of customised cards.

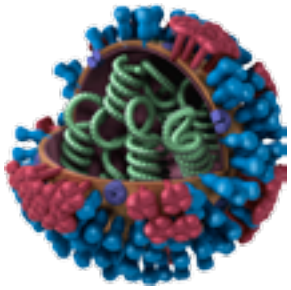
We have now produced a basic Connect Four Game and look forward to your suggestions for further activities.

Cold Virus



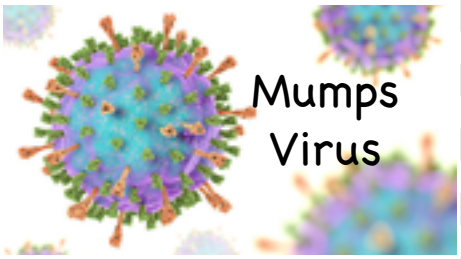
I am a rhinovirus or 'nose' virus and the main cause of common colds. I can stay on a hard surface like a door handle for about two days or you can catch me in the air from coughs and sneezes. Frequent handwashing melts my skin and I fall apart.

Flu Virus



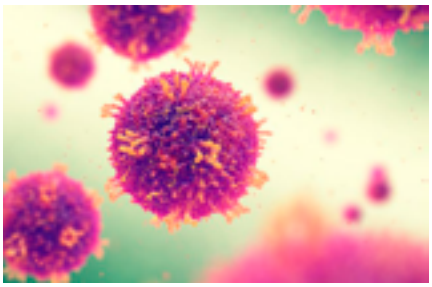
There are two main kinds of flu. I mutate and change all the time so a new vaccine to make antibodies to fight me must be developed every year. I damage cells in the lungs. I can travel in water droplets from from coughs.

Mumps Virus



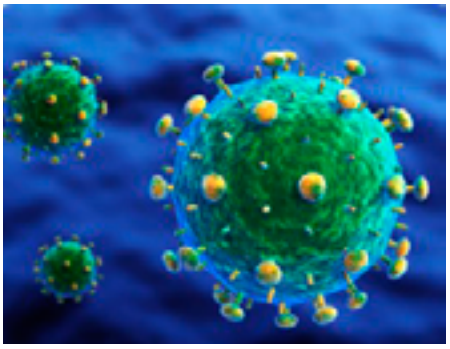
I am the Mumps virus. Your glands swell and you cough, sneeze and ache. I can damage sexual organs in older people. You can catch me if you get close to someone with mumps. There is now an effective vaccine which is given to most children.

Measles Virus



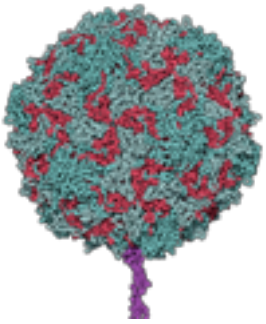
I am the measles virus and I spread through coughs and sneezes. I can cause rashes and blindness.There is a good vaccine, and a worldwide vaccination programme, but many children who are malnourished die every year.

Chicken Pox Virus



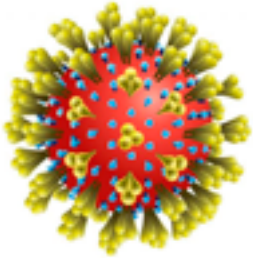
I am a virus that causes high temperature, itchy skin and a rash. I am dangerous if you catch me when you are adult.

Polio Virus



I am the polio virus. I can cause paralysis and stop breathing. I spread through water. I used to damage a lot of humans, but there is now a vaccination that you receive as a baby which stops me.

Covid 19 Virus



I am a new virus and very infectious. I travel in water droplets from coughs and sneezes and can rest on surfaces. The best prevention at the moment is staying two metres from others and washing hands frequently. My shell is very fragile and soap dissolves it.

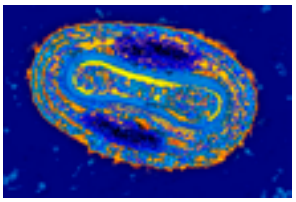
Ebola Virus

I am the Ebola virus. I spread through blood and bodily fluids. I am very dangerous and half the people who catch me die. There is no vaccine. The best prevention is handwashing and not eating wild animals.

Streptococcus Bacteria

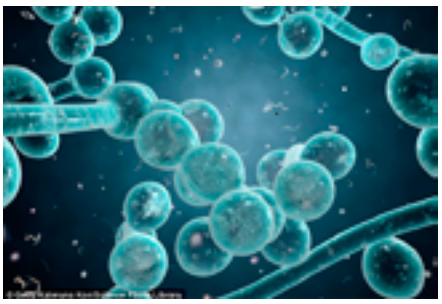
We are a group of spherical bacteria that form chains. Some of us cause illnesses like sore throats or meningitis, but some of us are useful and help to make cheese.

Smallpox Bacteria



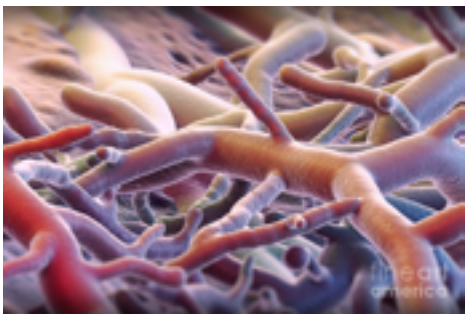
I used to kill many humans and those who survived were covered in deep scars. I was tamed over 200 hundred years ago by vaccination and now I live only in a laboratory under lock and key. The World Heath Organisation tracked me down.

Thrush Yeast



I am a yeast that likes moist places on humans. I cause a discharge and a red itchy rash. i can move from human to human. You can prevent me by drying thoroughly and not sharing towels.

Athletes Foot Fungus

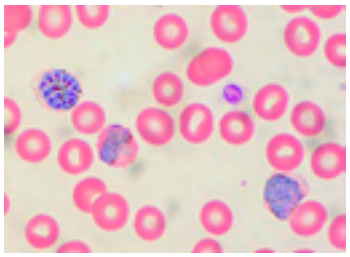


I am a fungus that like to grow on wet and sweaty feet. I cause a rash and blisters. You can catch me in public changing rooms and showers where I wait on surfaces.

Ringworm Fungus

I am a fungus. I travel between humans that share towels, combs and can also live on your pet. I make a ring rash on your skin which is painful.

Malaria Parasite



I am a parasite that travels between mosquitos and humans. There is no vaccine to destroy me, but one may be made soon. You should take antimalarial drugs and avoid getting bitten by insects.

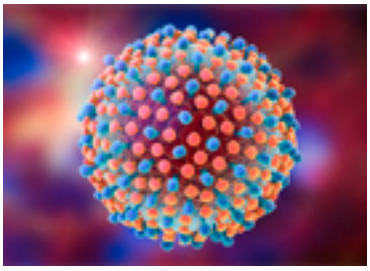
Sleeping Sickness

I am a parasite that travels between tsetse flies and humans. If I am ignored, humans get more and more tired until they die. The World Health Organisation is hoping to end the disease soon.

Salmonella Bacteria

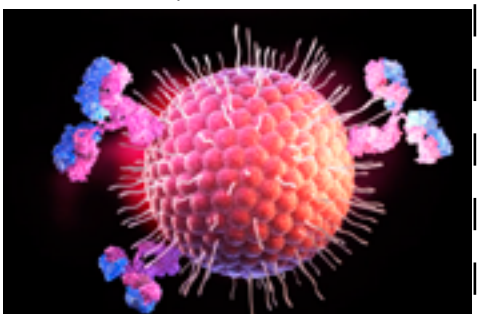
We are bacteria that live on food and in water. We like raw and undercooked meat, eggs. We can be killed by thorough cooking and good food hygiene.

Hepatitis Virus



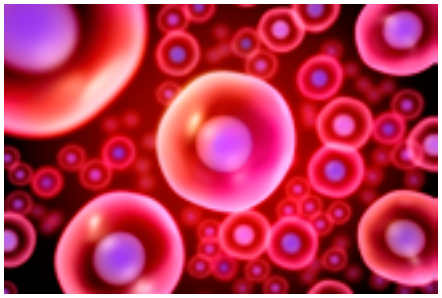
I am five different kinds of virus. I spread through dirty water. I can damage your liver.

Herpes Virus



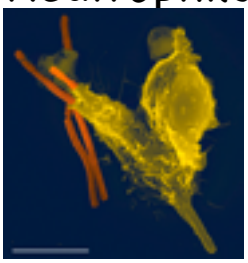
I am a virus that lives in the nervous system. I am quiet most of the time but when my host is stressed I can produce sores. These can spread my virus to other hosts.

Stem Cells



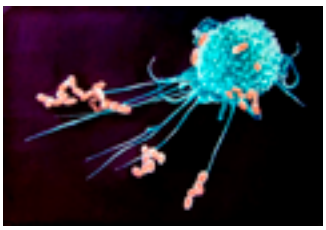
We are formed in bone marrow and can grow into many kinds of human cells. Some of us become cells to defend the body against attack by bacteria and viruses.

Neutrophils



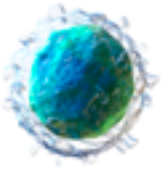
We are white blood cells and the most numerous defenders of your body. We arrive first to surround and engulf bacteria. Here we are swallowing up an anthrax bacterium. We die in process, but your body make 100 billion of us every day.

Macrophages



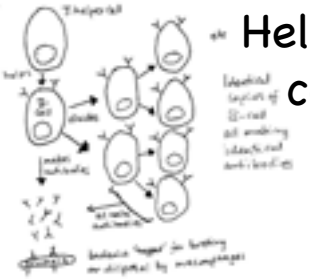
We are the biggest white blood cells. We are the big eaters and we travel around the body digesting dead bacteria, viruses, fungi and parasites.

B Lymphocytes



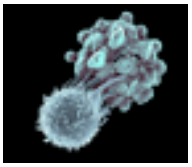
We are white cells that make different antibodies that can kill particular germs. With the help of special T cells we can find germs that match our antibodies. The antibodies can then stick to and enter the bacteria and viruses and destroy them.

Helper T cells



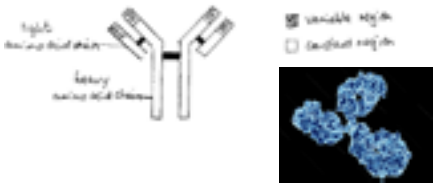
We are white cells that develop in the Thymus and travel in the lymph system. We help the B cells produce lots of copies of themselves. They all make many identical antibodies, which recognise a particular virus. As a result many particles of this virus can be destroyed.

Killer T cells



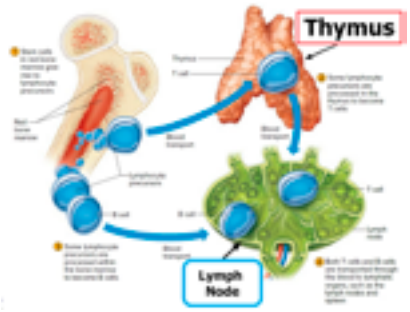
We are white cells developed in the Thymus. Viruses inject their DNA into my human's cells and use their machinery to make lots of virus copies. I can find these cells and destroy them before the virus is reproduced. I work alongside the B cells.

Antibody



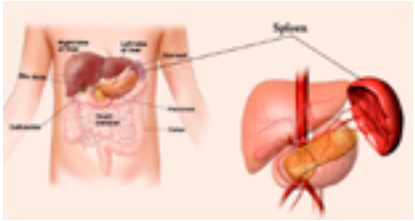
I am an antibody on the surface of a B cell. I hope my structure will fit a virus. We are all different so hopefully one of us can get it right. Then I am able to invade the virus and destroy it

Thymus



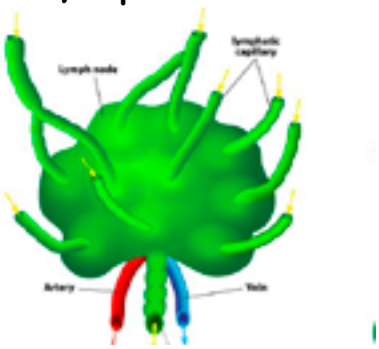
I am a gland close to your heart. I welcome stem cells from the bone marrow and help to turn them into T cells that can become an important part of your immune system.

Spleen



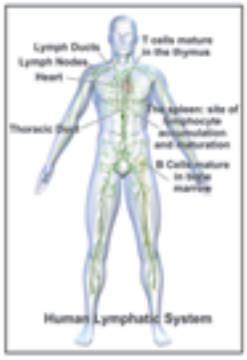
I am a gland close to your liver. I clean your blood and help mature B-lymphocytes. These are cells which fight attacking germs.

Lymph Nodes



We are scattered round the body and contain many T and B-lymphocytes ready to defend the body against attackers.

Lymph



I am a pale liquid that travels through the lymphatic system. I tranport bacteria to the lymph nodes where they are destroyed by white cells. I help to balance fluid levels through the body.

Attackers and Defenders Connect Four Game

Preparing the Game

You need to print out the two halves of the game board, cut off the margin indicated and glue the halves together. The cards need to be printed on card in two colours.

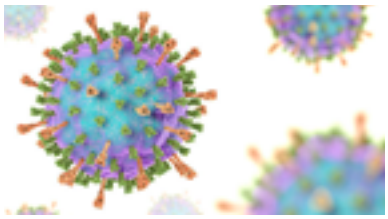
How to Play

The game can be played by two players or two pairs of players. sPlayers huffle their card and place them face down. Players take turns to pick a card from the top of their pack and place it in a correct space on the board. We would hope that the players had already played the role play game but if there is a set of role cards available then they can confirm their decisions.

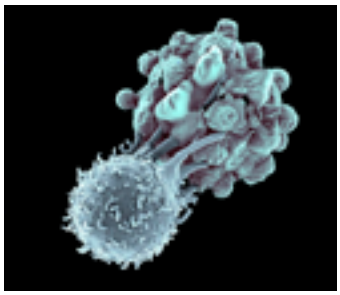
The winner is the first player to get four cards in a row, vertically, horizontally or diagonally, in their colour.

This is the simplest version of the game. We are planning a more sophiscated version later. Please feed back your comments and ideas.

Attackers and Defenders Connect Four Game

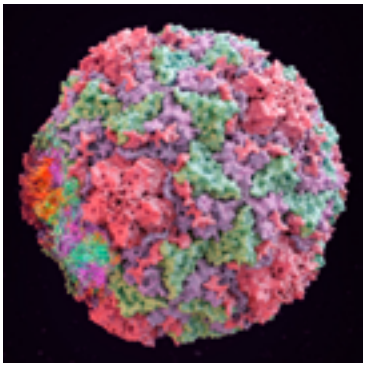


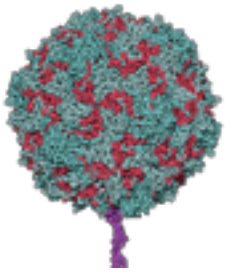
Mumps Virus



Killer T cells

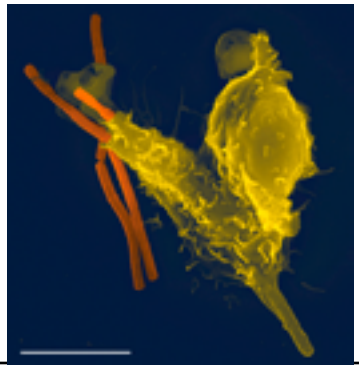
Cold Virus

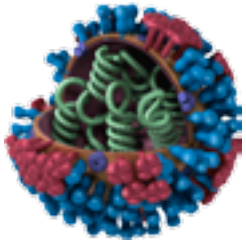




Polio Virus

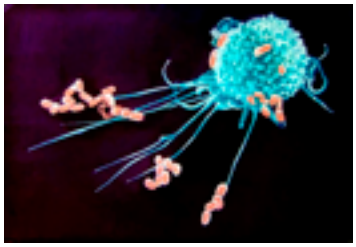
Neutrophils





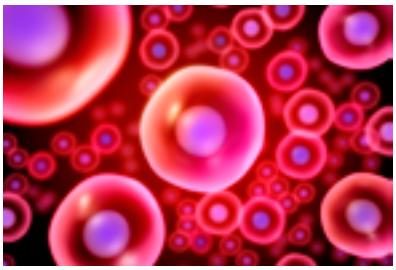
Flu Virus

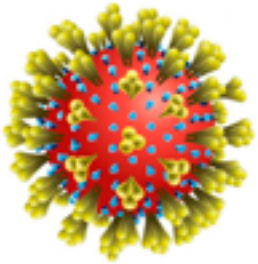
Macrophages



Ebola Virus

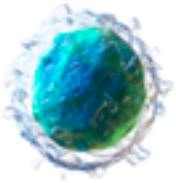
Stem Cells



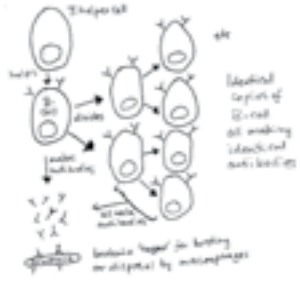


Covid 19 Virus

B Lymphocytes



Helper T cells



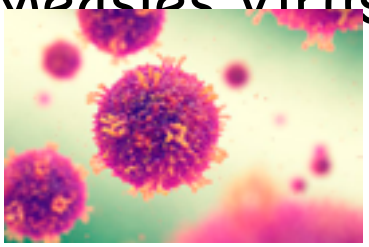
Glue this flap to join to the next sheet

Cut this margin off and join to the previous sheet to make your base-board

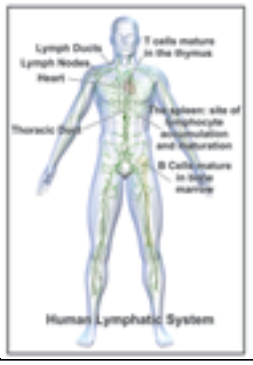
Streptococcus

Antibody

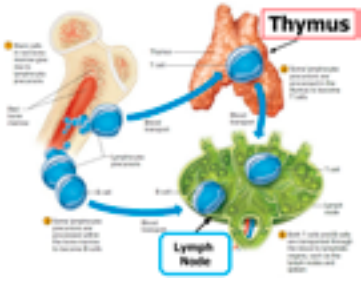
Measles Virus



Lymph

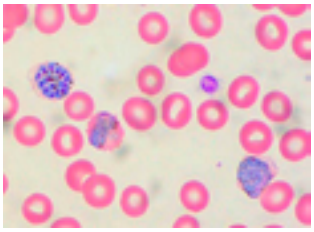


Thymus

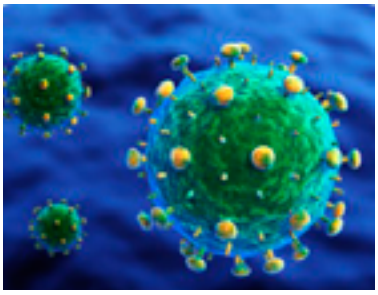


Athletes Foot

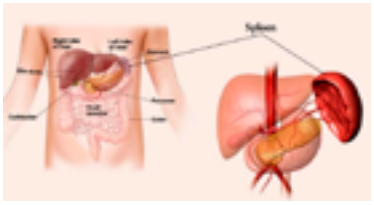
Malaria



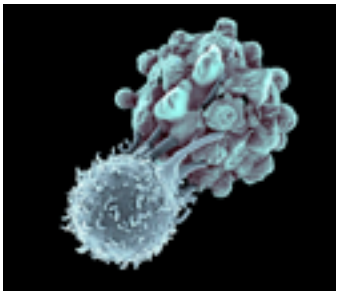
Chicken Pox



Spleen

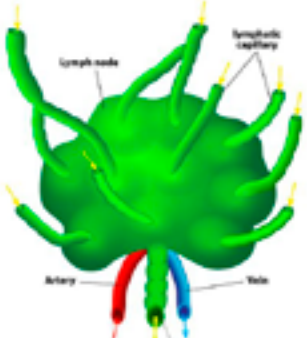


Sleeping



Killer T cells

Lymph Nodes



Attackers and Defenders Connect Four Game Cards to print in two colours and cut out

Attacker	Attacker	Attacker
Attacker	Attacker	Attacker
Attacker	Attacker	Attacker
Defender	Defender	Defender
Defender	Defender	Defender
Defender	Defender	Defender