

Viruses and Antibodies

Free Educational Resource
Developed by the



What are we going to do?

- We are going to see what viruses look like
- We are going to see what antibodies look like
- We will see how different antibodies are made for different viruses
- At the end, your challenge will be to design and decorate your own virus and then make the antibodies that would attack it

What is a virus?

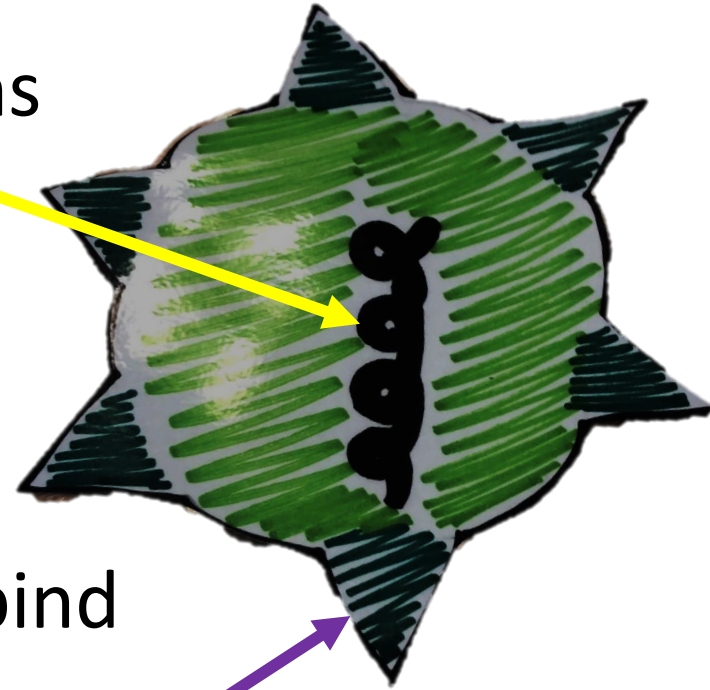
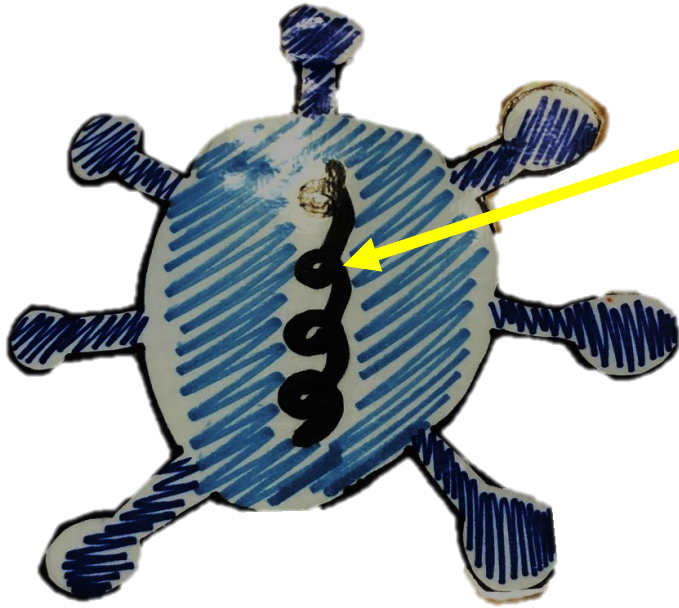
- A virus is a bug which causes infection
- They are so small that you cannot see them without a very special microscope
- There are over 6000 different types of virus
- Viruses have to live inside cells because they can't survive on their own

What are antibodies?

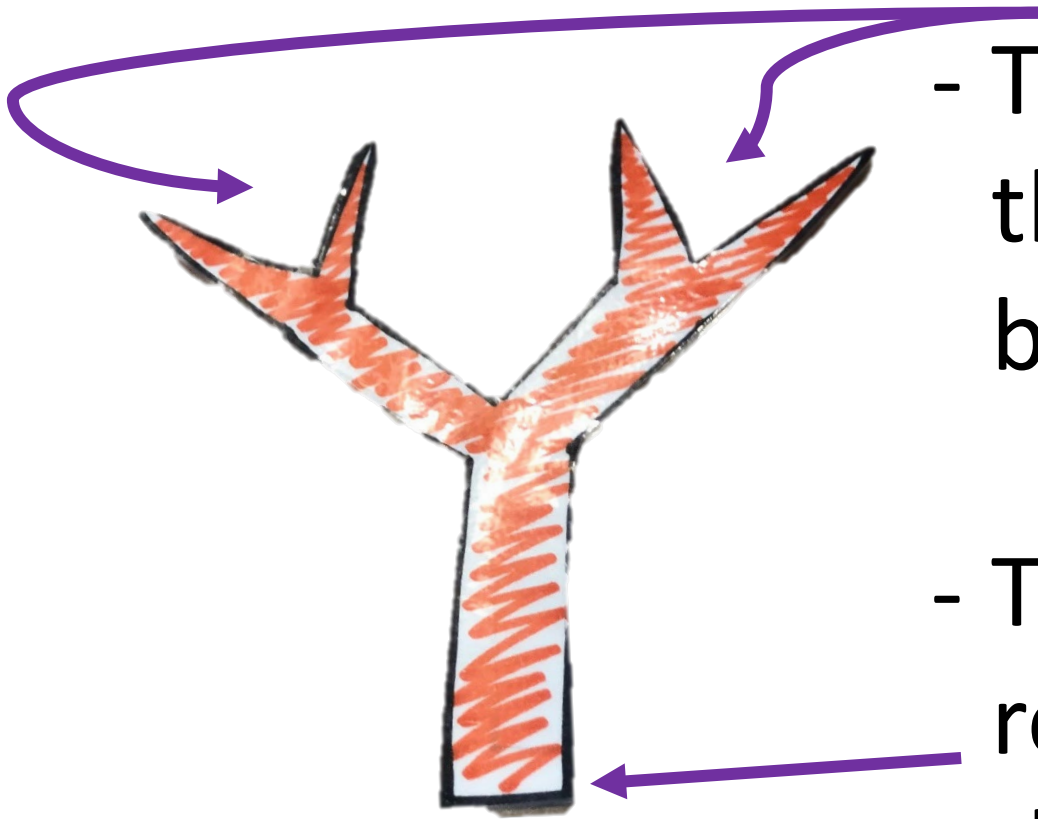
- Antibodies are made by your body to fight infections
- Your body makes different antibodies for every virus
- Vaccines allow us to make antibodies to protect us without getting infected

Let's look at some viruses that we have drawn

- The centre of the virus contains instructions for making new viruses
- The outside of the virus has "spikes" which help the virus bind to your cells.
- Notice how the spikes are different on each virus

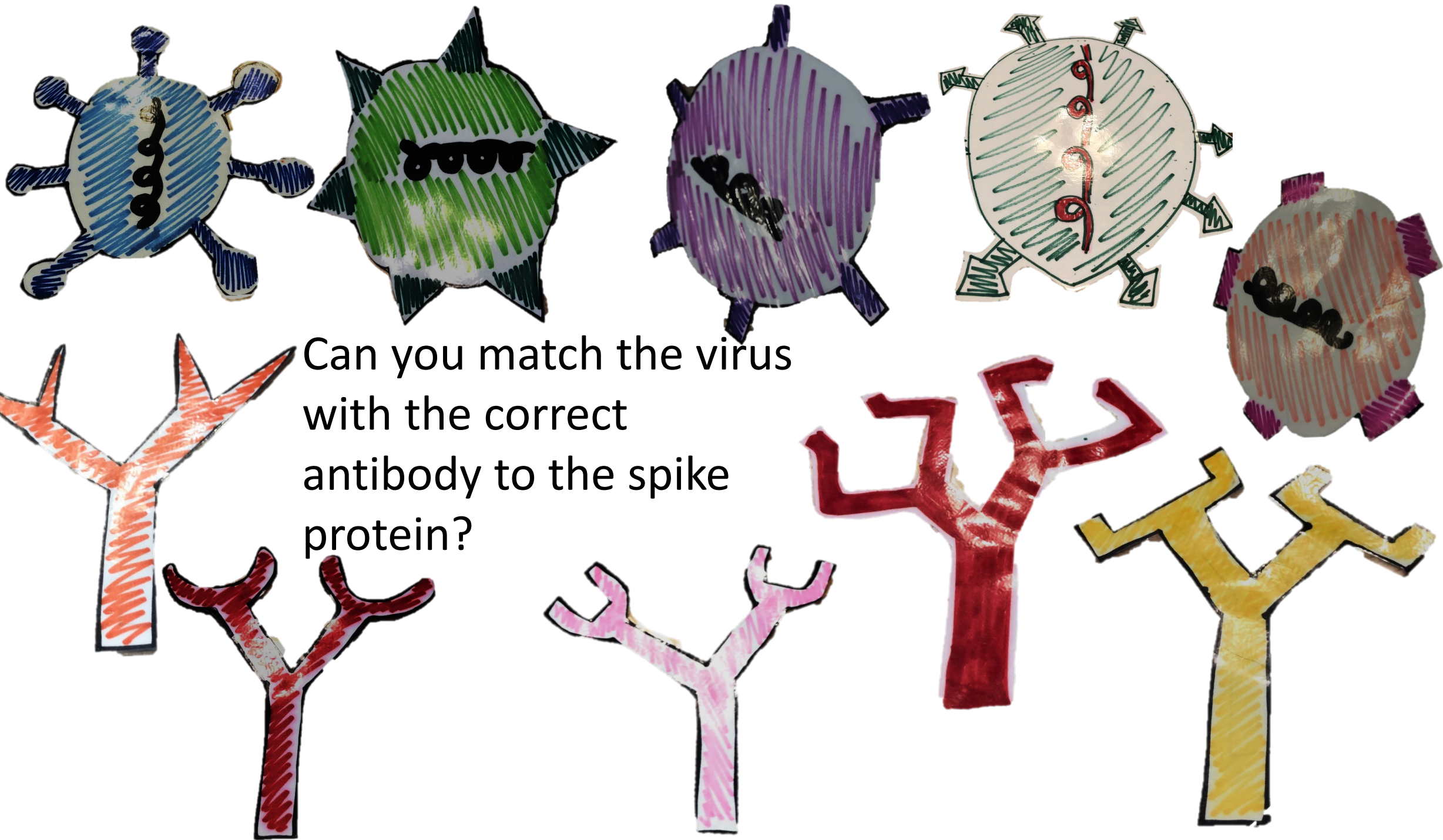


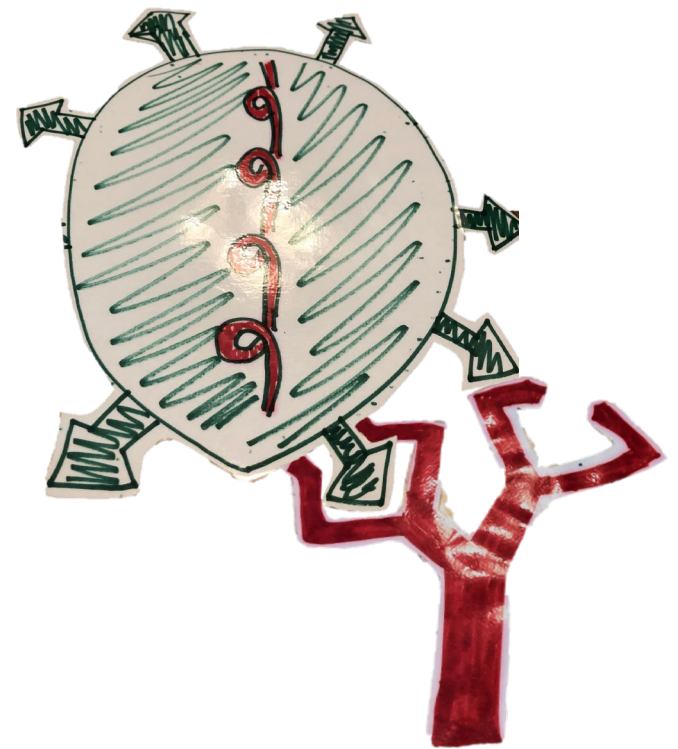
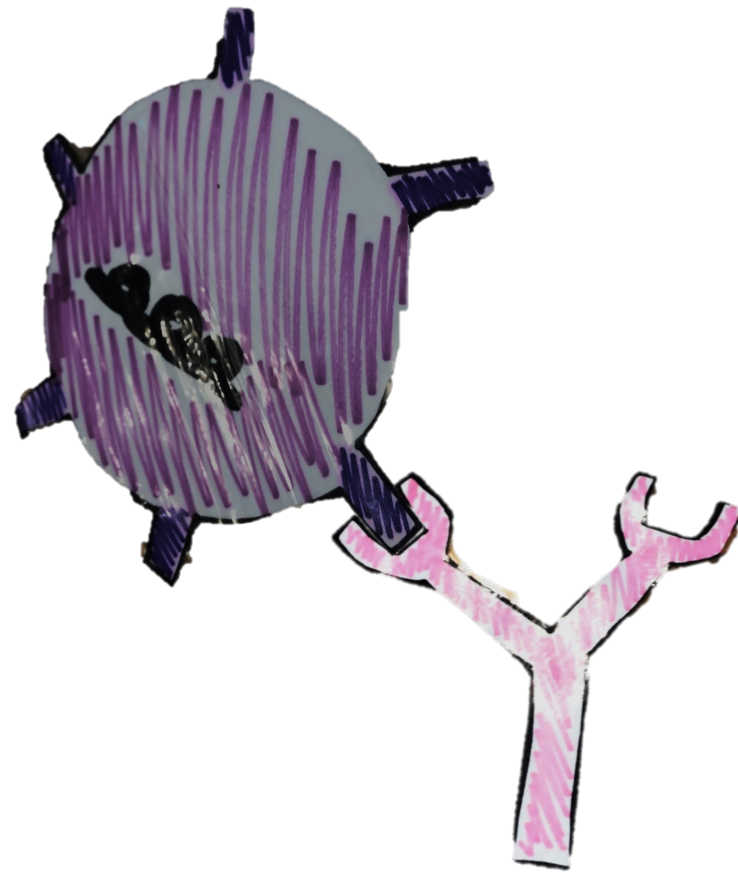
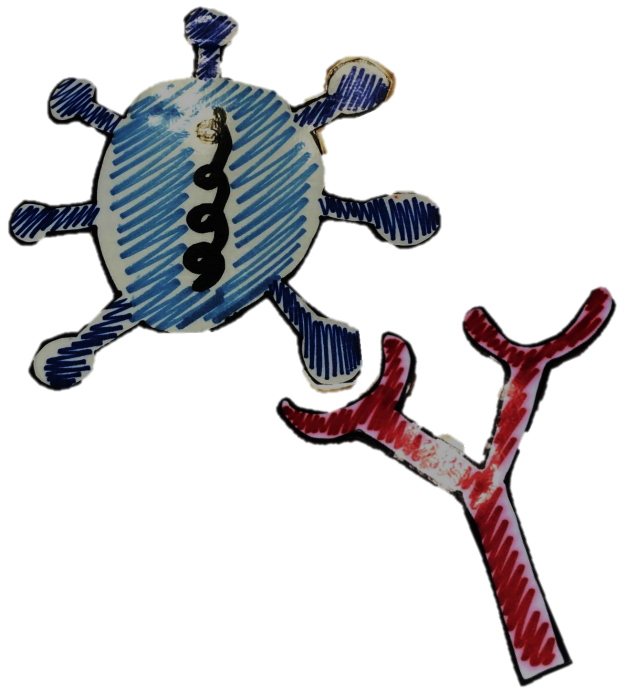
Let's look at some antibodies that we have drawn



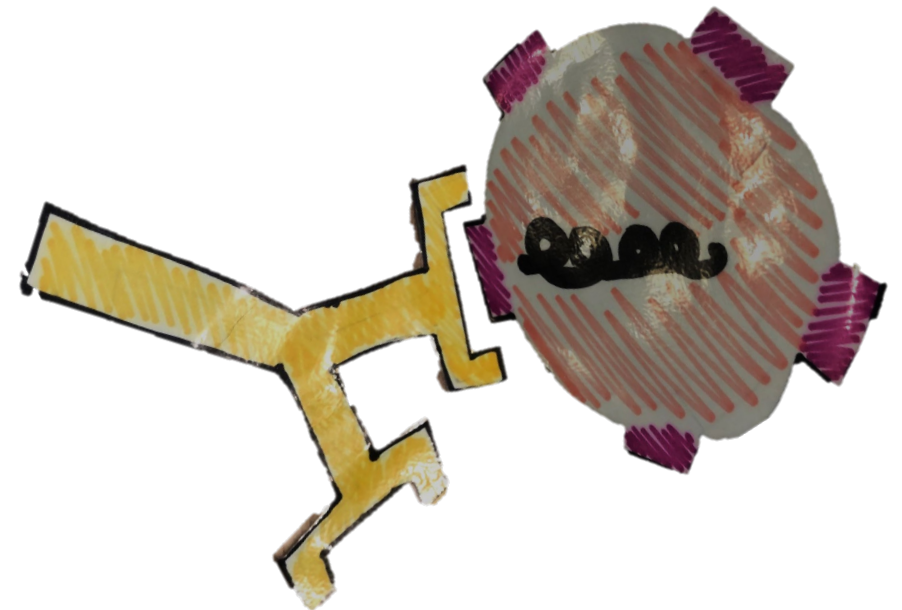
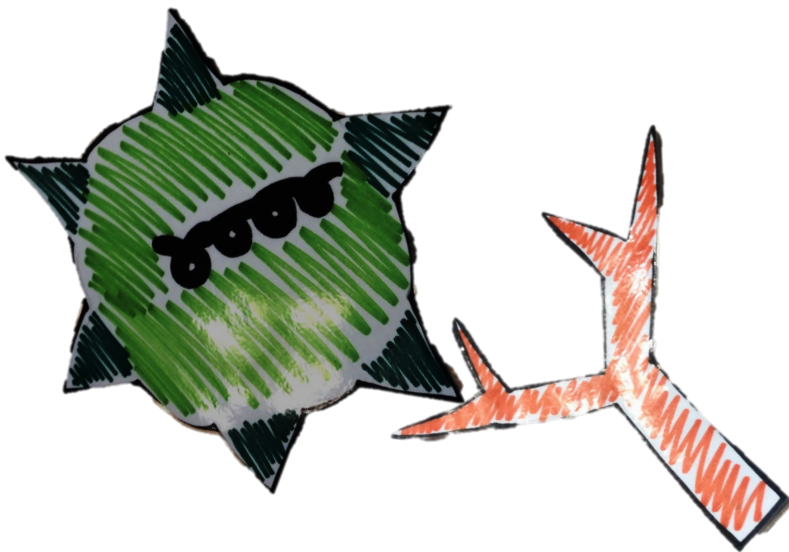
- This part of the antibody binds to the virus spike; each antibody can bind to two spikes on the virus

- This part of the antibody is recognised by your cells and they then destroy the virus





How did you do?



It's your turn to have a go

- Design your own virus
- What shape will you make the spike proteins?
- Don't forget to design the antibody which will fight your virus