



ACTIVITY #1: HOW SMALL IS A VIRUS?

What you will need:

- Any craft things you have around the house. Some suggestions: playdough/clay, al foil, pipe cleaners, matchsticks, cardboard, sticky tape, sponges.
- If you don't have any craft items, just grab a pen and paper to draw with.



Instructions:

- Let's make a virus!
- You can start by making a ball. *This is the main body of the virus and contains proteins and the genetic information the virus needs to make copies of itself.*
- Then add some spikes. *These spikes are usually how viruses attach themselves to cells to infect them.*
- Viruses come in all different shapes (there are plenty out there we haven't discovered yet!). So get creative and have fun!
- Hang onto your virus models, they will come in handy for other activities later in the week.





Modelling a virus:

1. Viruses are so small we can only see them under a very powerful microscope. Viruses range in size from 20-400 nanometres (nm). Let's use an average size of **100 nm**. This is the same as 0.00001 cm or 1/10000 of a cm.
2. Let's say your virus model is 4 cm long. $4 \div 0.00001 = 400,000$. This means it is 400,000 times bigger than a real virus!
3. So if real viruses were as big as our virus model then how big would that make other things?

Object	Real Size	Compared to our virus (x 400, 000)
One cell (not visible by eye)	0.003 cm (30 microns)	1200 cm or 12 m or the length of a Transperth bus
Width of a hair	0.02 cm	8000 cm or 80m or the height of the Perth Bell Tower
Ant	0.3 cm	120, 000 cm or 1.2 km or the height of Bluff Knoll
Grape	2.5 cm	10, 000, 000 cm or 11 km or the length of Wadjemup/Rottnest Island
Make your own		

4. Measure a few things around the house and multiply by 400,000 to see how they compare to your virus model.

Follow us on Instagram or Facebook, share a picture of your creation and tag us @dayofimmunologywa for your chance to win a prize!



If you want to know more about viruses, check these out:

<https://www.immunology.org/public-information/bitesized-immunology/pathogens-and-disease/viruses-introduction>

<https://hmsc.harvard.edu/world-viruses>

The Dr Binocs Show on the Peekaboo KidZ YouTube channel

<https://www.youtube.com/watch?v=Awt2HxCRhbE>