

Ms Jones is about to start a mathematics lesson in a Year 6 class (student age 10-11). As she walks into class, she notices two students arguing about whether wearing a mask during the pandemic makes sense. One of the students, Neil, complains as follows:

Neil: Ms, I hate these! Why do we even care? Only one percent of people will end up in hospital anyway. Let's do the maths! One percent is almost nothing!

Ms Jones: Ok, Neil, yes, let's do the maths. [*to the class*] Any ideas anyone?

Anna: Well, I never liked percentages. They are so vague. Ok, here is my bag of crisps [*she takes a Kettle© chips 30 gr bag out of her backpack*]. And here is the one my dad asked me to bring him on my way back from school for tonight's game on TV [*takes Kettle© chips bag of 150gr out of her backpack*]. I will take one percent of this bag [*rattles 150gr bag*], any day, Neil!

Barack: Yeah, ok, unless the big one is almost empty and the little one is sealed and full [*laughs*]. And, Neil said let's do the maths. He didn't say let's talk about crisps ... Neil, you know what? In her silly crisps and the like kind of way, Anna has a point. One percent of what? If one hundred people get infected, then one person will go to hospital. We can sort of deal with that, right? [*writes 1 on his whiteboard*]. If one hundred thousand people get infected, then one thousand people go to hospital [*writes 100,000 and 1,000 on his whiteboard*]. Hm... and if one million people get infected [*writes 1,000,000 on his whiteboard*] ... You see where I am going? Oh, plus that infections are doubling every day... I heard my big sister say something about a thing called expo. ... something growth, sounded like a tumour ... Scary. I am telling you. If we don't do something, we are doomed to be stuck with these masks and all for ever!

Clive: OMG, Barack! You and your depressing speeches! Too many zeros are giving me a headache by the way. I just want to ask Anna: do you *really* think this big bag of crisps in your backpack will still be there by lunchtime!?

[*The class erupts with laughter.*]

You are the teacher and you just heard what Neil, Anna, Barack and Clive said....

1. Here is a sentence that sounds very much like ones that we have been hearing in the news in the last twenty months or so: "*About 1% of infected people will need hospitalisation and the growth of infections is exponential*". How do you explain this sentence to someone who does not know what "percentage" and "exponential growth" mean?
2. How would you respond to Anna?
3. How would you respond to Barack?
4. How would you respond to Clive?
5. How would you respond to the whole class – also in the light of Neil's initial comment – and conclude the lesson?