



Source: www.pixabay.com

# Pandemic Special

## - Grasp and Understand - Containment

### Does it help if you stay home from school?

Not having school as it could appear during a pandemic situation is something, that most students find quite okay, at least for a while. However, not being able to meet up with friends, which could happen in a pandemic situation is a big sacrifice for many pupils. This raises the question: What is the point of closing schools, swimming pools, playgrounds, training sessions and contact closures?

#### Infobox

There are diseases where after getting infected, it takes a while until symptoms occur, but one can be contagious before feeling any symptoms and before knowing, that one is infected. So because not only the obviously sick can infect others, but also those who are still feeling healthy, everyone infectious contacts should be avoided, so that as few people as possible are infected. Like this, schoolchildren can no longer infect their seat neighbours and adults can no longer infect their colleagues at work.



Pictures: ICSE

### Grasp and Understand

Let's assume, that everyone only comes into contact with half as many people as before the closing of the schools and each infected person therefore only infects half as many people. Instead of the number of infected people doubling every couple of days, it will only double in the double amount of days.

Investigate the time span, until the number of newly infected doubled in your country or a country of your choice at the beginning of the school closures.

**Attention:** This slowing down of the infection can only be noticed about six days after school closing<sup>1</sup>, because at the time of closing, there are people who are already newly infected, but do not know anything about it yet! Look at your chessboard with the grains of rice from the prior task: The doubling from the first to the second and from the second to the third field is therefore the original number of days. The doubling for each additional square stands for double the number of days.

- 1) How many people are now ill after 18 days?
- 2) Compare your calculated value with the value actually reported after 18 days.

Your calculated value does not exactly match the value reported, but much better than the value calculated in the last task! The assumption, that every infected person infects fewer people is therefore correct. Fortunately! So far, all seriously ill people can be treated.

Author: Anika Wehberger, translated by Hannah Morrison with [www.DeepL/Translator](http://www.DeepL/Translator) (free version)

© PH FR (responsible for content: ICSE, Director: Prof. Dr. Katja Maaß), 2020 CC-BY-NC-SA 4.0 license is granted.

<sup>1</sup><https://www.mdr.de/wissen/corona-inkubationszeit-ansteckung-symptome-ausbruch-100.html>

