



Covid-19 Special

- comprehend and understand -

Spread

Task from 6 April

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Will the hospitals be able to treat everyone?

Corona holidays: For some students, the best invention of the year. But how did it come about? On March 16th, classes were held for the last time in Baden-Württemberg before the school closures due to the rapid spread of the corona virus. Officials were afraid that there would be so many seriously ill people at once that the hospitals would not be able to treat them all. Some teachers did not agree. They were sure that in any case all could be treated - even without closing schools. In all of Germany only about 5000 people were demonstrably infected at that time (Robert Koch Institut: as of 15 March)¹. The number of people who were seriously ill at that time was no problem at all. At that moment, about 5000 seriously ill people could be treated.

Infobox

At that time, the number of people infected doubled every three days. It was assumed that about 5% i.e. one in 20 of those infected would become very seriously ill and would require treatment for about three weeks. So far, a total of about 92,000 people have been infected (RKI: as of 5 April). The hospitals are still able to treat everyone, but in some cities it is already difficult.



Comprehend and understand

But how many people would be seriously ill, if the schools were still open and there were no contact barriers? You can think about this with an experiment that you might know from math classes: For that you need a chessboard and grains of rice, lentils or something similar.

One grain of rice stands for 1000 demonstrably infected people.

- 1) Put five grains of rice on the first square of the chessboard for the 5,000 people who are proven to be infected on 16 March.
- 2) Three days later the number has doubled. This symbolises the second square. So put twice as many grains of rice (ten) on the 2nd square.
- 3) Now put twice as many grains of rice on each additional field as on the previous one. A field always stands for three days. 21 days later (that would be today) would be the 8th field. If you don't want to count the rice grains anymore, print out the chessboard and write the numbers in the fields.
- 4) If you want to know how many are seriously ill at the same time, divide the result by 20. Would it be enough to treat 5000 seriously ill people?

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¹<https://experience.arcgis.com/experience/478220a4c4544480e823b17327b2bf1d4>