

THE FIVE SECOND HOAX

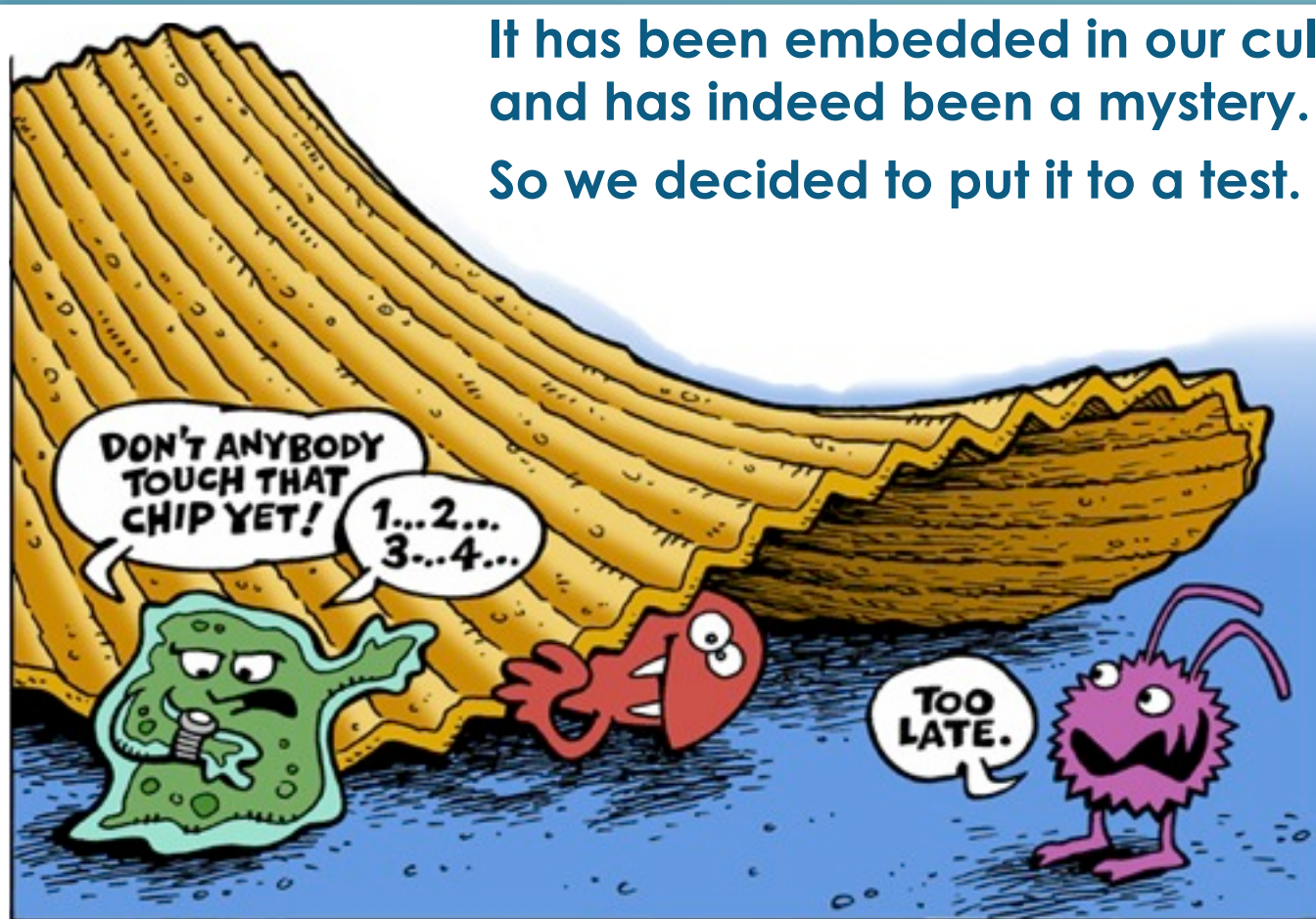
An investigation led by the students at
Bishop Douglass RC school

A series of several parallel white lines of varying thicknesses, slanted diagonally from the bottom left towards the top right, crossing the text area.

BACKGROUND INFORMATION

- ▶ The five second rule is a common superstition that states that food dropped on the ground will not be contaminated with bacteria if it is picked up within five seconds of being dropped.

It has been embedded in our culture for many years and has indeed been a mystery. So we decided to put it to a test.



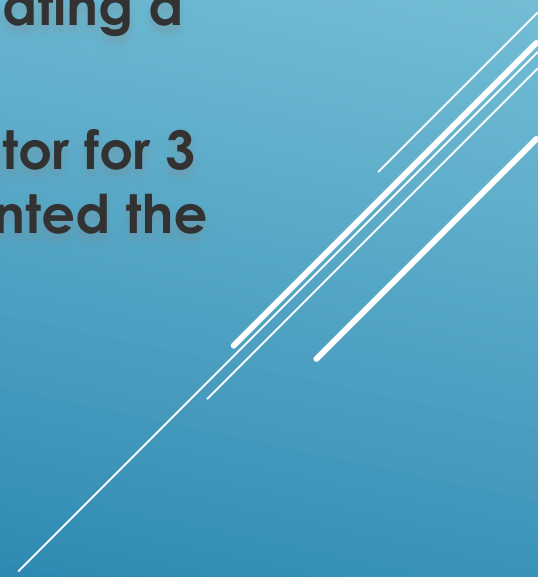
VARIABLES

For our test, we decided to **change the duration of exposure** to the contaminated surface and then measure **the growth of bacterial colonies** after being in the incubator for 3 days.

In order for our test results to be accurate, we had to consider the following control variables:

- ▶ The type of food we tested
- ▶ The sanitary measures taken when carrying out the investigation e.g. Rubber gloves and sterile cotton swabs
- ▶ The surface area of each slice of food
- ▶ the surface we put the food on each time

METHOD

- ▶ For the investigation we located a random door mat and then dropped pre-sliced wholemeal bread onto it for set periods of time.
 - ▶ Afterwards, we took sterile cotton buds and swabbed the dropped sample before rubbing the piece on a nutrient agar plate.
 - ▶ We would then place it inside an incubator creating a 28 degrees Celsius environment.
 - ▶ We then left the multiple samples in the incubator for 3 days and upon retrieving the samples, we counted the number of bacterial colonies that had grown.
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- A decorative graphic consisting of several parallel white lines of varying lengths, slanted diagonally from the bottom right towards the top right, set against a blue gradient background.



RESULTS

Duration of exposure	First sample	Second sample	Third sample
5 seconds	0	<u>Too many</u>	1
10 seconds	8	0	24
60 seconds	18	23	20
120 seconds	28	24	13
1 hour	25	32	23
3 hour	Too many	24	21

- ▶ There was a correlation to some extent as the number of colonies relatively increased as the duration of exposure increased.
- ▶ However, we can see that even in the 5 second tests, there was a sample with countless bacterial colonies meaning that even 5 seconds is more than enough for the bacteria to contaminate the food. Therefore, as expected, this myth is just a myth. So instead of trying to prevent food from being wasted, don't eat food off the floor, prevent your lives from being wasted.

Say NO! to the 5 second rule.

CONCLUSION

- ▶ We did only three repeats of each test and the correlations were not strong enough to prove that bacteria are not likely to contaminate your food if you pick it up before 5 seconds. More repeats may create a stronger correlation yet there would still be many samples with a number of colonies that doesn't match the trend and therefore the 5 seconds rule cannot be proven.
- ▶ In addition, testing the 5 second rule on different surfaces such as a dinner table or a kitchen counter could possibly increase our confidence in the 5 second rule yet would not be a definitive response as the

EVALUATION OF THE EXPERIMENT