

Gory details

The table below provides three pieces of information:

- Column (i) = Average PISA scores by GCSE grades in 2019.
- Column (ii) = GCSE mathematics grade distribution in 2019
- Column (iii) = GCSE mathematics grade distribution in 2020.

To estimate grade inflation in terms of PISA scores, I first multiply average PISA scores at each grade by the percent of pupils who achieve each grade. This is done for both 2019 (second column from the right) and 2020 (the righthand-most column). The values in these columns are then summed together, giving a kind of “weighted average” for 2019 (486.5) and 2020 (497.6). The difference between these two values – 11 points – is my estimate of the impact of the 2020 grade inflation. Note that I treat this as a single value that causes a monotonic shift in the distribution, affecting all parts of it equally (i.e. I do not allow for any potential differential inflation at different grades).

Estimating the value of grade inflation between 2019 and 2020 in terms of PISA points (mathematics)

	(i) Average PISA score	(ii) GCSEs 2019	(iii) GCSEs 2020	column (i)* column (ii)	column (i)* column (iii)
Grade 9	620	3.7%	5.4%	23	33
Grade 8	585	7.2%	7.9%	42	46
Grade 7	561	9.5%	11.0%	53	62
Grade 6	532	11.5%	13.0%	61	69
Grade 5	506	18.2%	20.1%	92	102
Grade 4	467	21.4%	19.7%	100	92
Grade 3	434	12.7%	11.1%	55	48
Grade 2	396	8.6%	7.3%	34	29
Grade 1	364	5.4%	3.9%	20	14
Grade U	337	1.8%	0.6%	6	2
			Weighted avg	486.5	497.6
			Difference	11.1	