

# JUNIPER EDUCATION NATIONAL DATASET REPORT.

The impact of the Covid-19  
pandemic on primary  
school children's learning

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# BEARING THE BRUNT OF THE PANDEMIC

It comes as no surprise that the pandemic has had a negative impact on education. Prolonged spells of time away from the classroom and months of disruption to formal education have caused all manner of turmoil, and with no precedent for facing these exceptional challenges, we are in uncharted territory.

There is now an urgent need to identify which children have suffered most from the effects of Covid-19. Understanding where the greatest learning losses are is key to knowing how to direct resources when the school gates are open for all.

This study from Juniper Education based on data from more than 6,000 schools representing 1.47 million pupils sheds new light on the impact of the crisis by comparing the attainment of primary school children to see how children have fared before and during the pandemic.

# KEY FINDINGS

Although all year groups have struggled to reach age related expectations due to the pandemic, it is the youngest children whose learning has had the most significant drop, particularly those in last year's Year 1, our current Year 2s.

Certain groups have been disproportionately affected by the disruption to their learning with disadvantaged pupils and those with special educational needs showing greater gaps than their peers.

During the short period most children were back in school regularly (September to December 2020), some pupil groups made up lost ground. However for children with SEN and disadvantaged groups, this recovery was at a slower pace than their peers.

Younger children too, took longer to recover lost learning, suggesting that a special focus needs to be placed on these groups as they return to school after lockdown 3.0.

There are also some more hopeful signs from the data with indications that Year 6 children are more able to close many of the gaps in their learning.

- The number of children in Years 2 to 6 who were achieving at or above the standard expected for their age dropped by approximately one fifth between autumn 2019 and summer 2020.
- Mathematics was the subject most affected.
- The pandemic has disrupted the progress of Year 1 in 2019/20 more than any other pupil group, with the percentage of children achieving at or above expectations falling by around a quarter.
- There was a more pronounced drop in the proportion of disadvantaged pupils working to expected levels for their age than for their non-disadvantaged peers, with Year 1 2019/20 worst affected.
- Numbers of Year 1 children with SEN working at the expected levels for their age in maths and writing dropped by almost a third.
- Younger children have recovered more slowly. The increase in percentages of children in Key Stage 1 who were working at expected levels after the return to school in autumn 2020 was much smaller than for children in Key Stage 2.
- Fewer disadvantaged children had returned to working at expected levels than non-disadvantaged children after they were back in school in autumn 2020.
- In addition, fewer children with SEN had returned to working at expected levels than their peers by autumn 2020.
- Year 6 was the most resilient year group with a smaller drop in attainment and greater rates of recovery after the return to school.

# METHODOLOGY

The Juniper Education National Dataset collects anonymised teacher assessment data from schools which use its pupil tracking solutions, to give percentages of pupils who are achieving, or exceeding what is expected for their age (age related expectations).

The teacher assessment data is taken from more than 6,000 primary schools representing over 1.47 million pupils, and was collected at three datapoints:

- Autumn 2019 – which provides an indication of attainment pre-pandemic.
- Summer 2020 – which offers some insight into the effect of the first lockdown.
- Autumn 2020 – which covers the period of time when schools reopened

The numbers of pupil assessed at each of these datapoints were as follows:

	Cohort - Number of Pupils Assessed		
	Reading	Writing	Maths
<b>Autumn 2019</b>	858709	862436	861902
<b>Summer 2020</b>	147276	143158	147226
<b>Autumn 2020</b>	645674	641486	646949

For each datapoint, attainment data was broken down into the following pupil groups:

- Year group
- Pupils with an identified SEN
- Disadvantaged pupils – those who qualify for Pupil Premium which includes looked after pupils, and pupils who have received free school meals at any time in the last six years.

## Data validation

To validate the data externally, Juniper Education compared the percentages of pupils working at or above expected levels for their age with national statutory assessments at the end of reception and Key Stage 1.\*

- This revealed a close correlation between the Juniper Education teacher assessments and the national statutory assessments.
- The validation shows that teacher assessment is a reliable way to evaluate primary school pupils which offers reassurance at a time when national statutory assessments have been withdrawn due to the pandemic.
- The comparison also proves that the data in this report is robust and allows us to draw valid conclusions on pupil attainment.

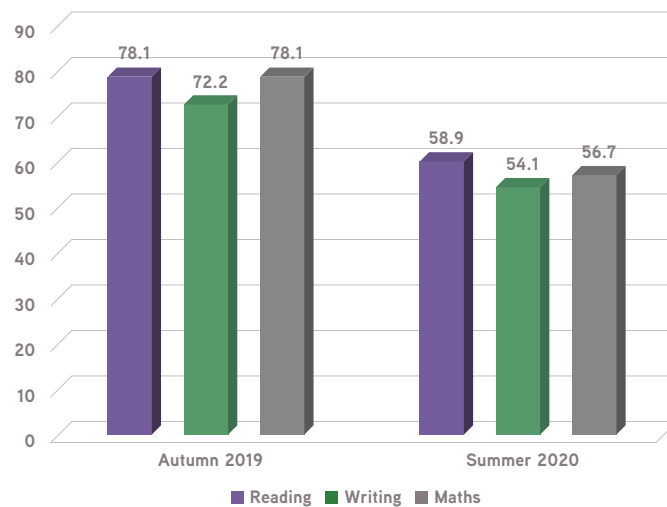
\*This included the Early Learning Goals statutory assessment for Key Stage 1 pupils, and end of Key Stage 1 teacher assessment for Key Stage 2 pupils.

# THE OVERALL PICTURE

In an academic year like no other, primary school children had a vast range of learning experiences and being out of the classroom and away from the school routine has taken its toll. Despite the superhuman efforts of school leaders, teachers and families to keep children learning, many pupils are no longer performing as they should be for their age.

The percentages of children in Years 2 to 6 who are achieving at or above the standard expected for their age dropped by approximately one fifth between autumn 2019 and summer 2020.

Percentage of pupils who are at or above age-related expectations: autumn 2019 and summer 2020



\*Includes Years 2 to 6 only because the children in Year 1 at the first datapoint of autumn 2019 are now in Year 2

By tracking children from Years 2 to 6 across the academic year 2019 to 2020, the data shows that the percentage of pupils working at, or above expected levels has fallen by around 20 percentage points in each subject.

This fall in attainment was across the board with the data revealing a reduction in pupils who are reaching the expected levels of learning in reading, writing and maths.

Although the impact is evenly spread across the subjects, maths is the worst hit with an attainment drop of 21.4 percentage points compared with writing at 18.1 percentage points.

# YOUNGEST CHILDREN HIT HARDEST

A five-year-old child will have had a very different experience of learning in lockdown from an older primary school child. A closer look at teacher assessment by age of pupil uncovers some key differences in the effects of the pandemic on the different pupil groups.

Drilling down into the data reveals that the younger primary school year groups have seen the biggest declines in pupil attainment.

The pandemic appears to have disrupted the progress of Year 1 learning in particular.

The percentage of children in this year group achieving what they should be in maths and writing has fallen by around a quarter.

## Percentage of pupils in Years 1 to 6 working at or above age-related expectations by year group

Year	Subject	Autumn 2019	Summer 2020	Change
1	Reading	82.2	60.0	-22.2
1	Writing	79.3	54.0	-25.3
1	Maths	83.4	59.0	-24.4
2	Reading	77.1	60.6	-16.5
2	Writing	72.3	51.9	-20.4
2	Maths	77.7	59.0	-18.7
3	Reading	77.2	57.8	-19.4
3	Writing	71.1	48.6	-22.5
3	Maths	77.8	54.6	-23.2
4	Reading	76.9	57.8	-19.1
4	Writing	69.8	48.4	-21.4
4	Maths	76.9	55.1	-21.8
5	Reading	77.0	58.3	-18.7
5	Writing	69.6	49.6	-20.0
5	Maths	76.1	56.2	-19.9
6	Reading	78.1	75.5	-2.6
6	Writing	71.6	69.7	-1.9
6	Maths	76.5	74.3	-2.2

While Year 1 started from a higher base, with around 80% achieving at expected levels or above in reading, writing and maths, these attainment drops are still concerning because they come at a time when children are building the basic skills that form the foundation of education.

These children will need targeted support to help them regain lost ground in their learning.

The drops in attainment between autumn 2019 and summer 2020 for Year 6 children were significantly lower than for other year groups, with a 2.6 percentage point fall in children achieving what they should be in reading, and a 2.2 percentage point fall in maths.



# IMPACT ON DISADVANTAGED CHILDREN

One of the most worrying consequences of the pandemic on education is that it has widened the achievement gap between disadvantaged children and their peers. The data reveals the extent of the gap with evidence of a more pronounced drop in the proportion of disadvantaged pupils working to expected levels for their age.

The attainment drop was particularly sharp in the case of disadvantaged Year 1 children.

Points percentage drop in pupils working at or above age-related expectations comparing disadvantaged and non-disadvantaged children

Autumn 2019 to Summer 2020				
Year	Subject	Disadvantaged	Non-Disadvantaged	Difference
1	Reading	-29.7	-20.6	9.1
1	Writing	-30.6	-23.9	6.7
1	Mathematics	-32.6	-22.9	9.7
2	Reading	-19.0	-16.0	3.0
2	Writing	-21.4	-20.2	1.2
2	Mathematics	-22.1	-18.6	3.5
3	Reading	-23.6	-18.5	5.1
3	Writing	-24.7	-22.2	2.5
3	Mathematics	-27.3	-22.3	5.0
4	Reading	-22.5	-18.2	4.3
4	Writing	-21.7	-21.6	0.1
4	Mathematics	-25.1	-21.1	4.0
5	Reading	-23.5	-17.5	6.0
5	Writing	-22.0	-19.7	2.3
5	Mathematics	-24.8	-18.7	6.1
6	Reading	-3.7	-2.2	1.5
6	Writing	-2.0	-2.0	0
6	Mathematics	-2.5	-2.2	0.3

Disadvantaged Year 1 pupils' attainment in maths dropped by more than 30 percentage points, almost 10 percentage points more than the fall recorded for non-disadvantaged children. There are similar gaps for reading and writing.

Attainment drops in maths among disadvantaged children appear to be consistent. For all year groups except Year 6, maths was the area with the greatest losses, with children in these groups missing the face-to-face support of their teachers in this subject. Another possible influence is that parents are often less confident in supporting their children in maths than in reading and writing.

### Percentage of pupils in Years 2 to 6 working at or above age-related expectations by year group

#### Reading

Year	Autumn 2019		Summer 2020		Autumn 2020	
	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
2	73.0	84.5	43.3	63.9	53.8	72.5
3	65.0	80.5	46.0	64.5	54.5	72.4
4	66.0	80.7	42.4	62.2	56.4	74.4
5	65.5	80.7	43.0	62.5	57.9	75.2
6	66.3	80.9	42.8	63.4	62.0	77.9

#### Writing

Year	Autumn 2019		Summer 2020		Autumn 2020	
	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
2	69.6	81.7	39.0	57.8	48.2	67.7
3	59.3	75.9	37.9	55.7	45.5	65.3
4	58.3	75.1	33.6	52.9	47.8	67.5
5	56.4	74.3	34.7	52.7	48.7	67.7
6	57.2	74.1	35.2	54.4	53.9	71.4

#### Maths

Year	Autumn 2019		Summer 2020		Autumn 2020	
	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
2	74.9	85.5	42.3	62.6	54.6	73.3
3	66.1	81.0	44.0	62.4	53.9	72.5
4	66.5	81.4	39.2	59.1	55.7	74.1
5	65.2	80.9	40.1	59.8	55.5	74.0
6	64.7	80.3	39.9	61.6	58.0	76.0

Percentage of pupils working at or above age-related expectations by whole school  
(all year groups combined)

Reading

Autumn 2019		Summer 2020		Autumn 2020	
Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
66.9	81.5	43.3	63.3	57.1	74.4

Writing

Autumn 2019		Summer 2020		Autumn 2020	
Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
59.7	76.3	36.0	54.7	49.0	67.9

Maths

Autumn 2019		Summer 2020		Autumn 2020	
Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged	Disadvantaged	Non-Disadvantaged
67.1	81.8	41.1	61.1	55.6	73.9

Having less direct teaching has exacerbated the attainment drop for the youngest disadvantaged pupils in our schools, and these educational inequalities need to be tackled before they become more deeply entrenched.

# IMPACT ON CHILDREN WITH SEN

Many children with SEN receive additional support at school, but with long periods of time out of the classroom, it may have been difficult for schools to maintain pre-pandemic levels of support. This could go some way towards explaining why the attainment of children with SEN fell at a greater rate than that of their classmates.

The biggest gap is between Year 1 pupils with SEN and their peers, with sharp drops in attainment for Year 1 children with SEN in writing and maths.

Points percentage drop in pupils working at or above age-related expectations comparing children with SEN and without SEN

Autumn 2019 to Summer 2020				
Year	Subject	SEN	Non SEN	Difference
1	Reading	-21.2	-22.5	1.3
1	Writing	-30.6	-25.7	4.9
1	Mathematics	-32.6	-24.8	7.8
2	Reading	-19.0	-17.3	1.7
2	Writing	-21.4	-21.8	0.4
2	Mathematics	-22.1	-20.0	2.1
3	Reading	-23.6	-21.1	2.5
3	Writing	-24.7	-24.8	0.1
3	Mathematics	-27.3	-24.9	2.4
4	Reading	-22.5	-20.3	2.2
4	Writing	-21.7	-23.4	1.7
4	Mathematics	-25.1	-23.0	2.1
5	Reading	-23.5	-19.9	3.6
5	Writing	-22.0	-22.0	0
5	Mathematics	-24.8	-21.0	3.8
6	Reading	-3.7	-3.9	0.2
6	Writing	-2.0	-3.5	1.5
6	Mathematics	-2.5	-3.5	1.0

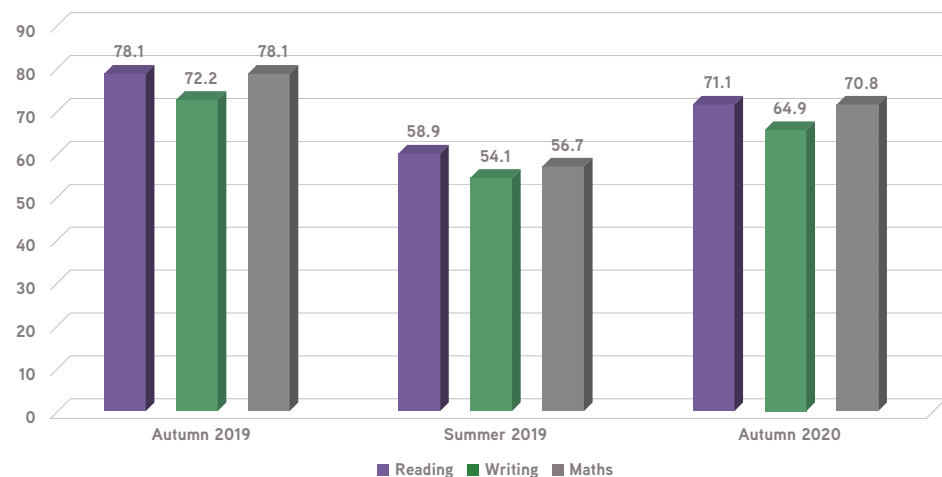
There were drops of more than 30 percentage points for Year 1 children with SEN working at the expected levels for their age in maths and writing. This points to a clear need for focused intervention to ensure children with SEN achieve their potential despite the worst effects of the pandemic.

# SIGNS OF RECOVERY

The good news is that schools are doing an amazing job in helping children regain lost ground. The data suggests that when the schools reopened to all pupils in September 2020, pupils' learning started to bounce back.

There was more than a 10 percentage point increase in the numbers of children attaining as expected for their age between the end of the previous academic year – summer 2020, and the first term of this academic year – autumn 2020.

**Percentage of pupils who are at or above age-related expectations: autumn 2019, summer 2020 and autumn 2020**



\*Includes Years 2 to 6 only because the children in Year 1 at the first datapoint of autumn 2019 are now in Year 2

The strongest recovery was in maths, with an increase of 14.1 percentage points in primary school children who are working at or above expected levels, followed by a 12.2 point increase for reading, and 10.8 point for writing.

This evidence of recovery in the months when schools returned to relative normality is encouraging.

However, there is still some way to go before children's learning returns to pre-pandemic levels. It's also important to remember that the latest data was recorded before the spring 2021 lockdown.

**For some pupil groups, recovery will be slower, harder and more challenging. They are Year 1 children, disadvantaged children and pupils with SEN.**

# PATTERNS OF RECOVERY BY YEAR GROUP

The data indicates that learning in the youngest year groups has suffered the most from the ripple effect of the pandemic and there are clear signs that children in current Years 2 and 3 will take longer to recover lost learning.

The increase in percentage of children in Years 2 and 3 who were working at expected levels by autumn 2020 was much smaller than for children in Years 4, 5 and 6.

Percentage of pupils working at or above age-related expectations: summer and autumn 2020

Year*	Subject	Summer 2020	Autumn 2020	Change
2	Reading	60.0	68.8	8.8
2	Writing	54.0	63.9	9.9
2	Maths	59.0	69.6	10.6
3	Reading	60.6	68.6	8.0
3	Writing	51.9	61.1	9.2
3	Maths	59.0	68.5	9.5
4	Reading	57.8	70.3	12.5
4	Writing	48.6	63.0	14.4
4	Maths	54.6	69.9	15.3
5	Reading	57.8	71.1	13.3
5	Writing	48.4	63.1	14.7
5	Maths	55.1	69.6	14.5
6	Reading	58.3	73.8	15.5
6	Writing	49.6	66.9	17.3
6	Maths	56.2	71.4	15.2

\*Includes Years 2 to 6 only because the children in Year 1 at the first datapoint of autumn 2019 are now in Year 2

In the autumn 2020 term, increases in attainment for children in Years 2 and 3 were all below 10 percentage points with the exception of Year 2 maths. For pupils in Years 4 to 6 the increase was between 12.5 and 17.3 points.

The greater ability of older pupils to self-direct and take control of their learning could also account, in part, for the patterns of recovery by age.

An important message to take from this data is that younger children may improve more slowly than those in the older years when schools reopen fully in spring 2021. Schools will be looking for ways to help their younger pupils speed up the pace of recovery.

# YEAR 6 WEATHERS THE STORM

In contrast to their younger counterparts, Year 6 pupils appear to be faring somewhat better in all the attainment comparisons.

There are several possible reasons why Year 6 attainment losses between autumn 2019 and summer 2020 are smaller than for other year groups, and recovery by autumn 2020 is correspondingly stronger.

This could be because older children have already developed the building blocks of their learning and tend to be more self-sufficient, enabling them to adapt more easily to home learning.

There is no doubt that Year 6 learning has felt the impact of the pandemic, however this year group may be better prepared than younger pupil groups to make up for learning losses sustained during the crisis.



# PATTERNS OF RECOVERY FOR DISADVANTAGED CHILDREN

The recovery patterns are mirrored in the data on disadvantaged children, where younger pupils had a lower percentage increase in attainment.

Percentage points increase in pupils working at or above age-related expectations comparing disadvantaged and non-disadvantaged children: summer to autumn 2020

Summer 2020 to Autumn 2020				
Year*	Subject	Disadvantaged	Non-Disadvantaged	Difference
2	Reading	3.6	7.0	3.4
2	Writing	2.7	8.2	5.5
2	Mathematics	5.8	9.0	3.2
3	Reading	2.5	6.2	3.7
3	Writing	2.8	7.5	4.7
3	Mathematics	3.7	8.3	4.6
4	Reading	8.3	10.2	1.9
4	Writing	9.2	12.3	3.1
4	Mathematics	10.0	13.0	3.0
5	Reading	10.0	10.6	0.6
5	Writing	9.6	12.6	3.0
5	Mathematics	9.7	12.0	2.3
6	Reading	13.8	12.5	1.3
6	Writing	14.0	14.7	0.7
6	Mathematics	12.0	12.2	0.2

\*Includes Years 2 to 6 only because the children in Year 1 at the first datapoint of autumn 2019 are now in Year 2

**The differences between disadvantaged and non-disadvantaged children are more marked in Years 2 and 3 than Years 4 to 6.**

Fewer disadvantaged children had returned to working at expected levels than non-disadvantaged children, with a difference of up to 5.5 percentage points.

Younger children in the disadvantaged category will need support in the months ahead to ensure their recovery does not fall behind that of their peers.

# PATTERNS OF RECOVERY FOR CHILDREN WITH SEN

The increase in pupils with SEN who are working at expected levels has been lower than that of pupils without SEN.

Pupils with an identified need are finding it significantly harder to recover lost learning than their peers.

Percentage points increase in pupils working at or above age-related expectations comparing children with SEN and those without SEN: summer to autumn 2020

Summer 2020 to Autumn 2020				
Year*	Subject	SEN	Non SEN	Difference
2	Reading	-0.6	10.4	11.0
2	Writing	-3.3	11.7	15.0
2	Mathematics	1.7	12.4	10.7
3	Reading	2.8	8.8	6.0
3	Writing	2.8	10.2	7.4
3	Mathematics	6.0	10.5	4.5
4	Reading	6.9	14.0	7.1
4	Writing	6.9	16.2	9.3
4	Mathematics	8.9	16.7	7.8
5	Reading	9.2	14.1	4.9
5	Writing	7.9	16.0	8.1
5	Mathematics	10.3	15.3	5.0
6	Reading	13.0	16.1	3.1
6	Writing	11.1	18.5	7.4
6	Mathematics	12.3	15.8	3.5

\*Includes Years 2 to 6 only because the children in Year 1 at the first datapoint of autumn 2019 are now in Year 2

Once again, the biggest gaps were in the younger years, and for Year 2 children there had even been a further fall in attainment in reading and writing by autumn 2020 rather than a rise. There are also significant differences in recovery rates between children with SEN and those without, for all year groups.

Some children with specific needs may not have been able to access their usual support when schools were closed to most pupils earlier in 2020, and this could have slowed down their pace of recovery when they returned to school in September.

Putting support in place for SEN children of all ages will be a key priority for schools when pupils are back in the classroom.

# CONCLUSION

All primary year groups have struggled to reach age related expectations due to the upheaval caused by the pandemic. However, it is the youngest children whose learning has been hit the hardest.

Learning losses have disproportionately affected last year's Year 1 children (who are currently in Year 2), and this pattern remains true for disadvantaged children and pupils with SEN.

While all children need targeted support to regain lost learning, schools will need to channel their energy and resources into their youngest pupils to help keep their learning on track at this critical point in their education.

The positive message is that recovery is in sight for all primary year groups. Increases in pupils working at expected levels by autumn 2020 point to the potential for children to catch up with the help of their teachers and in the supportive environment of their school.

However, like so much associated with the pandemic, there are inequalities in children's journey on the road to recovery.

Key Stage 1 children will recover more slowly than those in Key Stage 2, disadvantaged children will take longer than their peers and children with SEN will need joined-up support to mitigate their learning losses.

These children will require the most help to regain expected levels of learning for their age.

Year 6 appears to be the most resilient year group with more children achieving at or above age-related expectations after lockdown. This could be due, in part, to a more developed ability to learn independently.

Teachers who know their pupils well and understand where they are in their learning will be well placed to help them leave the damage caused by the pandemic behind them.

