

Article

# Coronavirus (COVID-19) cases in school pupils, England: up to 6 April 2022

Coronavirus (COVID-19) cases in school pupils aged 5 to 15 years attending state-funded schools. Experimental statistics produced using the linked English Schools Census (ESC) and NHS Test and Trace datasets.

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Release date:  
8 July 2022

Next release:  
To be announced

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# 1 . Main points

- Both primary school-aged and secondary school-aged pupils were more likely to have a positive coronavirus (COVID-19) test in the spring 2022 term (16.1% and 27.0%, respectively) compared to the autumn 2021 term (14.2% and 21.5%, respectively).
- Changes to the testing guidance in the second half of the spring 2022 term mean that it is likely that a lower proportion of infections were recorded in the Test and Trace data, potentially causing the increase in infections between the two terms to be underestimated.
- White British pupils had the largest proportion of their population with a positive coronavirus (COVID-19) test in both the spring 2022 term (18.6% for primary age and 29.8% for secondary age) and the autumn 2021 term (16.8% and 25.1%).
- In the spring 2022 term, primary school-aged and secondary school-aged pupils living in more deprived areas were less likely to have a positive coronavirus (COVID-19) test; in the most deprived areas 11.8% of primary pupils and 21.6% of secondary-aged pupils had a positive (COVID-19) test, compared with 21.5% of primary pupils and 33.2% of secondary-age pupils in the least deprived areas.
- By 31 March 2022, 26% of secondary school pupils had two or more positive tests compared with only 4% of primary pupils.
- Pupils testing positive for coronavirus (COVID-19) in the spring 2022 term were less likely than those in the autumn 2021 term to report having COVID-19 symptoms at the time of the positive test; 29.5% of secondary school aged pupils and 34.5% of primary school aged pupils testing positive compared with 50.3% and 52.1%, respectively, in the autumn 2021 term.

## 2 . Overview

The coronavirus (COVID-19) case data presented in this release are produced using the linked English Schools Census (ESC) and NHS Test and Trace datasets. This dataset covers pupils in state-funded schools only (including special schools).

Using Test and Trace data to monitor coronavirus (COVID-19) infection relies on infections being diagnosed and recorded. Testing behaviour and changes to testing guidance will affect trends seen in the data over time. These figures cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection and may not be representative of true infection patterns between different demographics.

This article focuses on the two most recent academic terms: autumn 2021 (31/08/2021 to 22/12/2021, Delta dominant) and spring 2022 (03/01/2022 to 06/04/2022, Omicron dominant) to understand how the proportions of pupils testing positive and their characteristics changed over time.

Changes to the testing guidance in the second half of the spring 2022 term mean it is likely that a lower proportion of infections was recorded in the Test and Trace data (see link to [measuring the data](#)).

Data by term for the previous academic year are also available in our [accompanying dataset](#).

### 3 . Coronavirus (COVID-19) cases by age and symptoms at time of positive test

Ages referred to in this publication are the age of the pupil on 31 August of the start of the relevant academic year. Please [see the Glossary](#) for further details on age and year group.

In both terms, secondary-age pupils (those aged 11 to 15 years) were more likely to have a positive test – either a polymerase chain reaction (PCR) or lateral flow device (LFD) – than primary-aged pupils (aged 5 to 10 years). Overall, both primary and secondary school pupils were more likely to have a positive test in the spring 2022 term compared with the autumn 2021 term, although in primary-aged pupils the increase was only seen in younger age groups.

In the autumn 2021 term, 14.2% of primary-aged pupils and 21.5% of secondary-aged pupils had a positive test. In spring 2022, 16.1% of primary-aged pupils and 27.0% of secondary-aged pupils had a positive test.

The higher percentage with a positive test among secondary pupils compared with primary pupils contrasts with the [data seen in school staff](#) where secondary school staff were consistently less likely to have a positive test compared with primary school staff.

The higher proportion of secondary pupils with a positive test (compared with primary pupils) in the autumn 2021 term is consistent with the ONS Coronavirus (COVID-19) Infection Survey. The [school attendance data](#) published by DfE also showed secondary school pupils had higher rates of absence owing to confirmed COVID-19 for the majority of the autumn 2021 term.

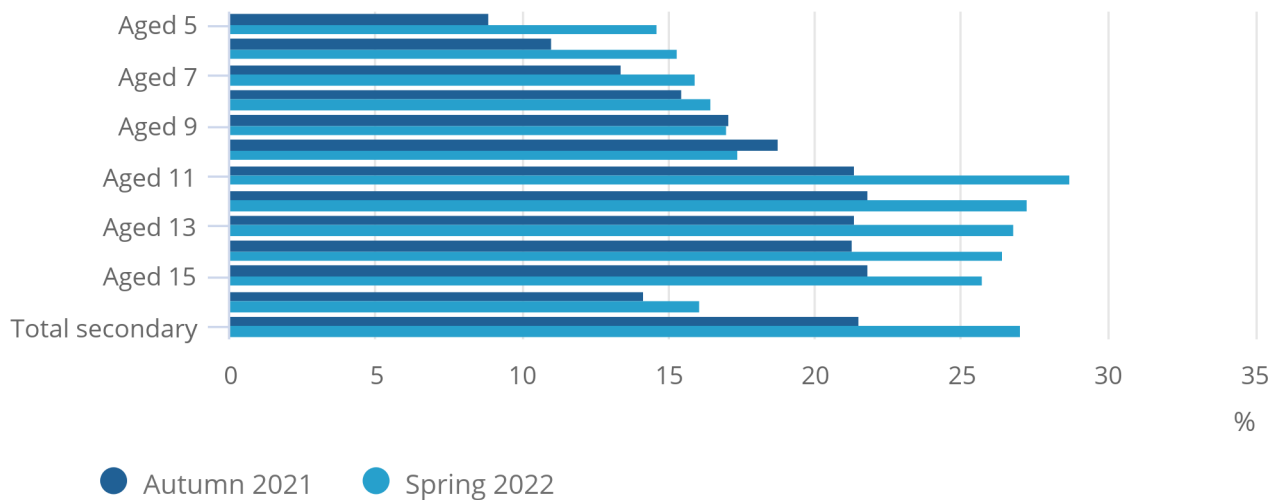
However, in the spring term 2022, the school attendance data differ from the trend reported here. There were several weeks in which school absence in primary pupils owing to COVID-19 was noticeably higher than that of secondary pupils. The [ONS Coronavirus \(COVID-19\) Infection Survey](#) also reported higher infection rates in primary pupils compared with secondary over this time period.

## Figure 1: Pupils were more likely to have a positive test in spring 2022 compared with autumn 2021

Proportion of pupils aged 5 to 15 years in state-funded schools with a positive COVID-19 test, by age and term, England, up to 6 April 2022

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Proportion of pupils aged 5 to 15 years in state-funded schools with a positive COVID-19 test, by age and term, England, up to 6 April 2022



Source: Office for National Statistics, Linked English Schools Census (Department for Education) and Test and Trace dataset (NHS)

#### Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

Pupils tested positive in the autumn 2021 term were more likely to report having COVID-19 symptoms at the time of the positive test; 50.3% of primary school and 52.1% of secondary school pupils testing positive, compared with 29.5% and 34.5%, respectively, in spring 2022.

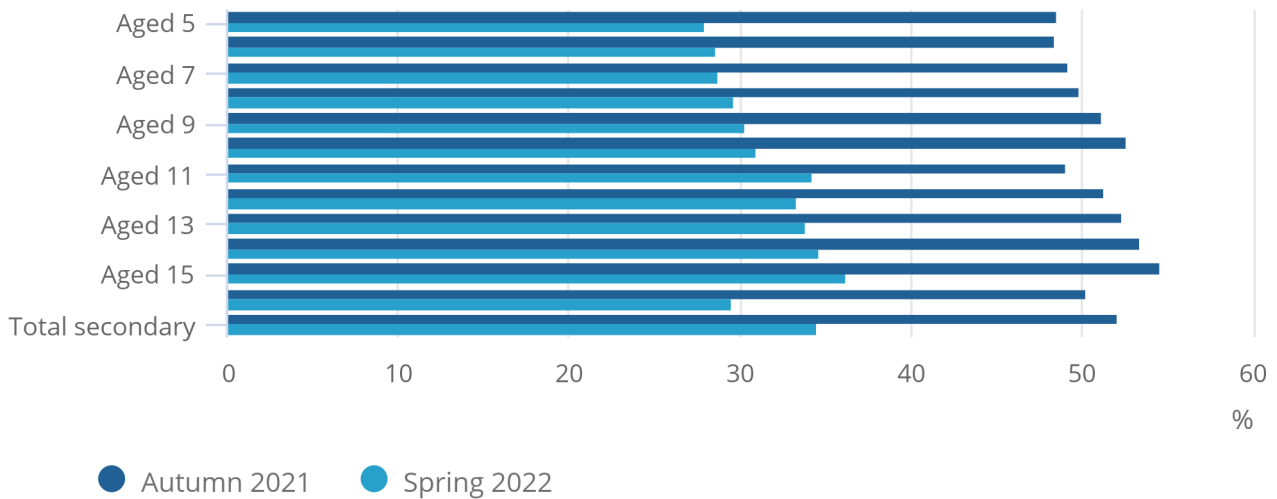
The difference in pupils reporting symptoms at the time of their test may be explained by the different dominant variant in each term. This is consistent with findings in the [Coronavirus \(COVID-19\) Infection Survey](#) for the population as a whole, where fewer people infected with the Omicron variant reported symptoms compared with those with the Delta variant.

**Figure 2: Pupils with a positive COVID-19 test in autumn 2021 were more likely to report symptoms than those in spring 2022**

Proportion of pupils aged 5 to 15 years in state-funded schools with a positive COVID-19 test, by age, term and reported symptoms, England up to 6 April 2022

Figure 2: Pupils with a positive COVID-19 test in autumn 2021 were more likely to report symptoms than those in spring 2022

Proportion of pupils aged 5 to 15 years in state-funded schools with a positive COVID-19 test, by age, term and reported symptoms, England up to 6 April 2022



Source: Office for National Statistics, Linked English Schools Census (Department for Education) and Test and Trace dataset (NHS)

Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

## 4 . Coronavirus (COVID-19) cases by ethnicity

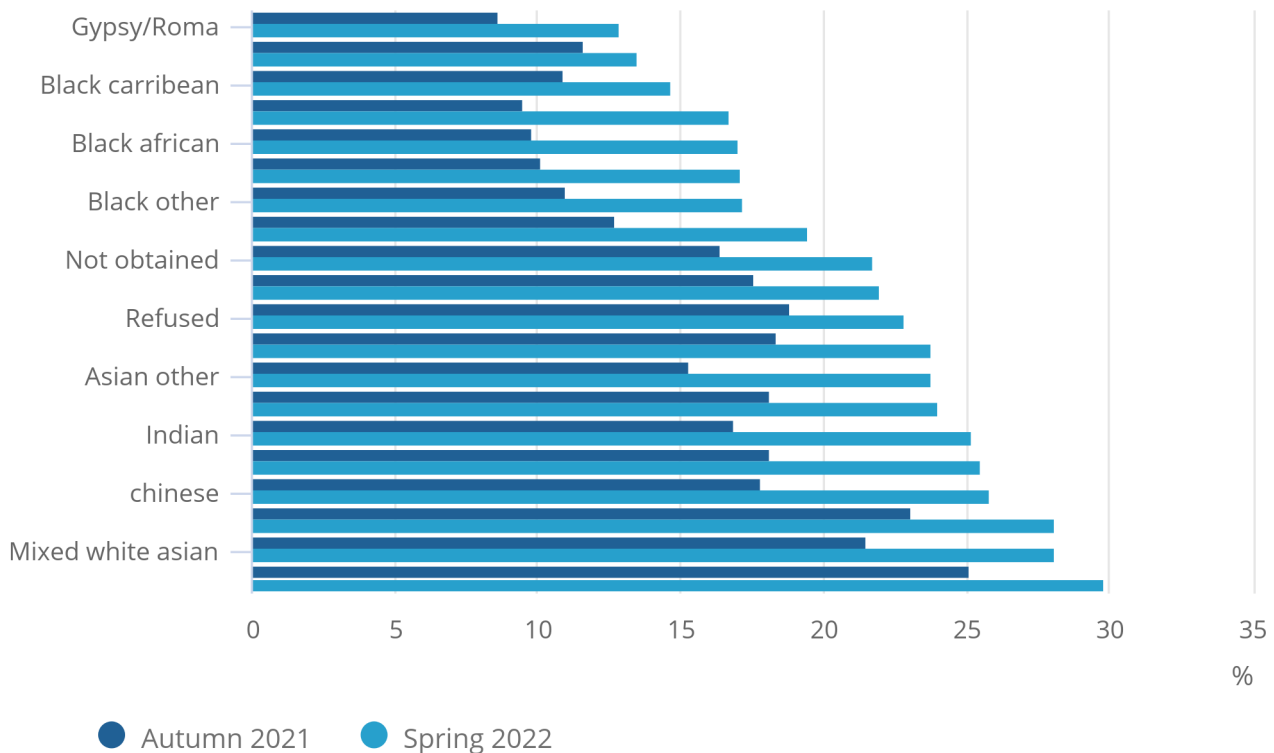
For both primary school-aged and secondary school-aged pupils, there were large variations in the proportion of pupils with a positive coronavirus (COVID-19) test by ethnicity in autumn 2021 and spring 2022. The group with the largest proportion was White British primary and secondary pupils in the autumn 2021 term (16.8% and 25.1%, respectively). This trend is matched in the spring 2022 term with 18.6% and 29.8%.

**Figure 3: The proportion of secondary school-aged pupils with a positive COVID-19 test varied by ethnicity**

Proportion of secondary-aged pupils in state-funded schools with a positive COVID-19 test by ethnicity and term, England, up to 6 April 2022

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Source: Office for National Statistics, Linked English Schools Census (Department for Education) and Test and Trace dataset (NHS)

**Notes:**

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.



## 5 . Coronavirus (COVID-19) cases by deprivation

Deprivation of the area that pupils lived in was measured by the Income Deprivation Affecting Children Index (IDACI). Information on IDACI deciles can be found in the [Glossary](#). In the spring 2022 term, among those living in the top 10% of most deprived areas, 11.8% of primary pupils and 21.6% of secondary pupils had a positive COVID-19 test, compared with 21.5% of primary pupils and 33.2% of secondary pupils in the top 10% of least deprived areas. For example, in the spring 2022 term, those in IDACI decile 1 (most deprived), 11.8% of primary pupils and 21.6% of secondary-aged pupils had a positive test, compared with 21.5% of primary pupils and 33.2% of secondary-aged pupils in IDACI decile 10 (least deprived).

This finding is consistent with [other ONS analysis](#), which looked at COVID-19 cases in the population aged 10 years and over during the first part of the third wave of the coronavirus (COVID-19) pandemic (23 May 2021 to 10 December 2021).

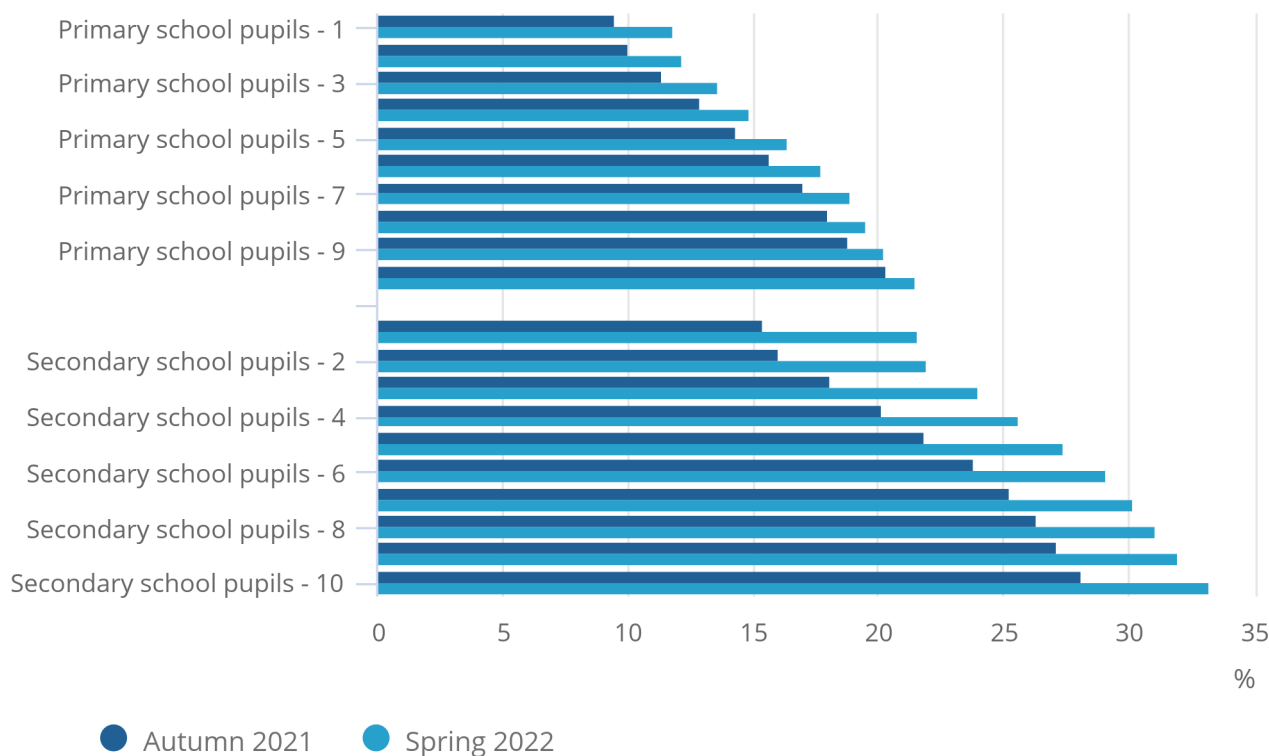


**Figure 4: Pupils living in more deprived areas were less likely to have a positive COVID-19 test**

Proportion of primary school-aged and secondary school-aged pupils in state-funded schools with a positive COVID-19 test by Income Deprivation Affecting Children Index (IDACI) decile and term, England, up to 6 April 2022

Figure 4: Pupils living in more deprived areas were less likely to have a positive COVID-19 test

Proportion of primary school-aged and secondary school-aged pupils in state-funded schools with a positive COVID-19 test by Income Deprivation Affecting Children Index (IDACI) decile and term, England, up to 6 April 2022



Source: Office for National Statistics, Linked English Schools Census (Department for Education) and Test and Trace dataset (NHS)

Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

## 6 . Positive Coronavirus (COVID-19) tests by region

The proportion of pupils with a positive coronavirus (COVID-19) test varied between regions in both autumn 2021 and spring 2022 (Figure 5).

In autumn 2021, London had the lowest proportion of pupils with a positive test among primary (9.9%) and secondary (14.9%) schools, while the South West had the highest proportion (17.5% and 26.7%, respectively).

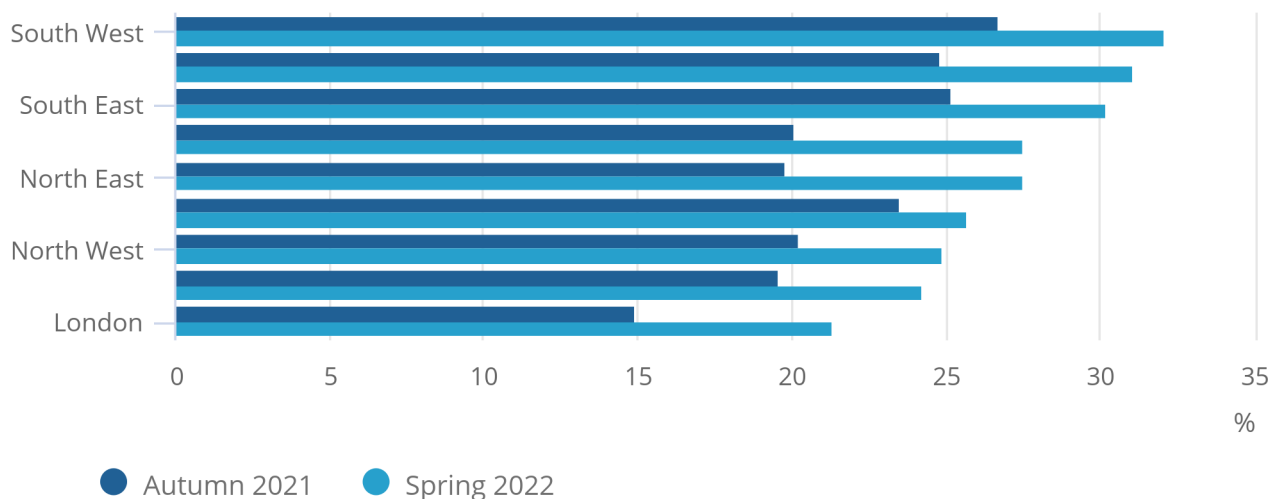
In spring 2022, the same two regions were highest and lowest with London at 11.3% and 21.3% (for primary and secondary schools, respectively) and the South West at 20.2% and 32.1%.

**Figure 5: Among secondary-aged pupils in autumn 2021 and spring 2022, the South West region had the highest proportion of pupils with a positive COVID-19 test, while London had the lowest**

Proportion of secondary aged pupils in state-funded schools with a positive COVID-19 test, by region and term, England, up to 6 April 2022

Figure 5: Among secondary-aged pupils in autumn 2021 and spring 2022, the South West region had the highest proportion of pupils with a positive COVID-19 test, while London had the lowest

Proportion of secondary aged pupils in state-funded schools with a positive COVID-19 test, by region and term, England, up to 6 April 2022



Source: Office for National Statistics, Linked School Workforce Census (Department for Education) and Test and Trace dataset (NHS)

Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

## 7 . Positive Coronavirus (COVID-19) tests by special educational needs (SEN)

The proportion of pupils with a positive coronavirus (COVID-19) test was higher in pupils without SEN in both autumn 2021 and spring 2022.

In autumn 2021, 12.6% of primary and 19% of secondary pupils with SEN had a positive COVID-19 test compared with 14.5% and 22.1% of pupils without SEN.

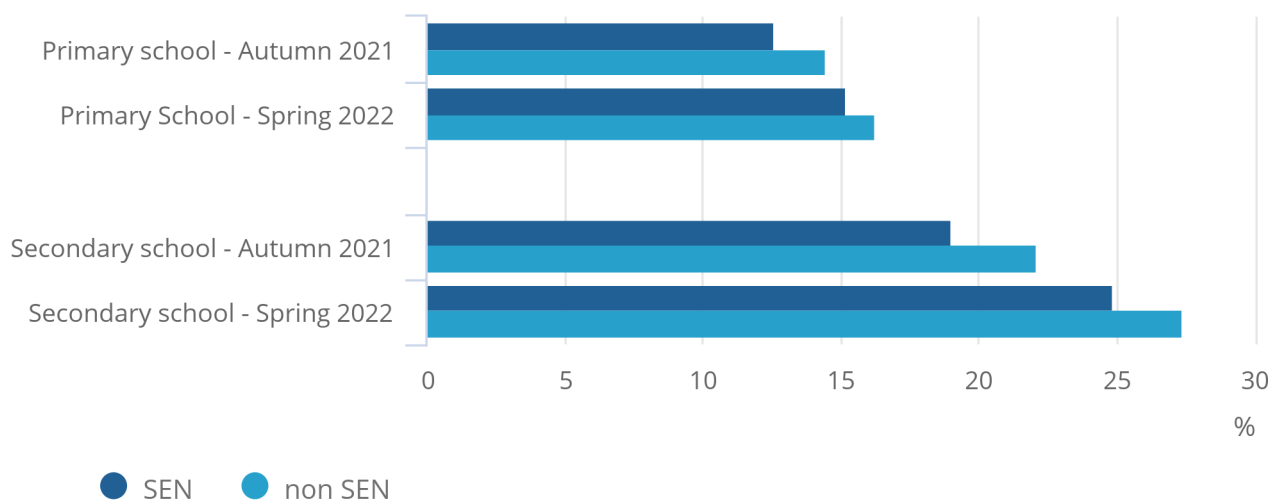
In spring 2022, 15.2% and 24.9% of pupils with SEN (for primary and secondary schools, respectively) had a positive COVID-19 test compared with 16.3% and 27.4% of pupils without SEN.

### Figure 6: In autumn 2021 and spring 2022, pupils without SEN were more likely to have a positive COVID-19 test than pupils with SEN

Proportion of secondary-aged pupils in state-funded schools with a positive COVID-19 test by SEN status and term, England, up to 6 April 2022

### Figure 6: In autumn 2021 and spring 2022, pupils without SEN were more likely to have a positive COVID-19 test than pupils with SEN

Proportion of secondary-aged pupils in state-funded schools with a positive COVID-19 test by SEN status and term, England, up to 6 April 2022



Source: Office for National Statistics, Linked School Workforce Census (Department for Education) and Test and Trace dataset (NHS)

#### Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

Additional demographic breakdowns by gender, free school meal status (FSM) and whether the pupil spoke English as an additional language (EAL) are available in our [accompanying dataset](#).

## 8 . Number of reported positives

At the end of the Delta-dominant period ([20 Dec 2021](#)) 48% of secondary school-aged pupils had at least one coronavirus (COVID-19) infection and 12% had two or more. By 31 March 2022 69% of secondary school-aged pupils had at least one (COVID-19) infection(s), with 26% having two or more and 5% three or more.

By 31 March 2022, 36% of primary school-aged pupils had at least one (COVID-19) infection(s), with only 4% of primary pupils having two or more infections.

The proportion of secondary school-aged pupils having had multiple (COVID-19) infection(s) (26%) is higher than that seen in school staff where only 2.5% had two or more infections by 31 March 2022.

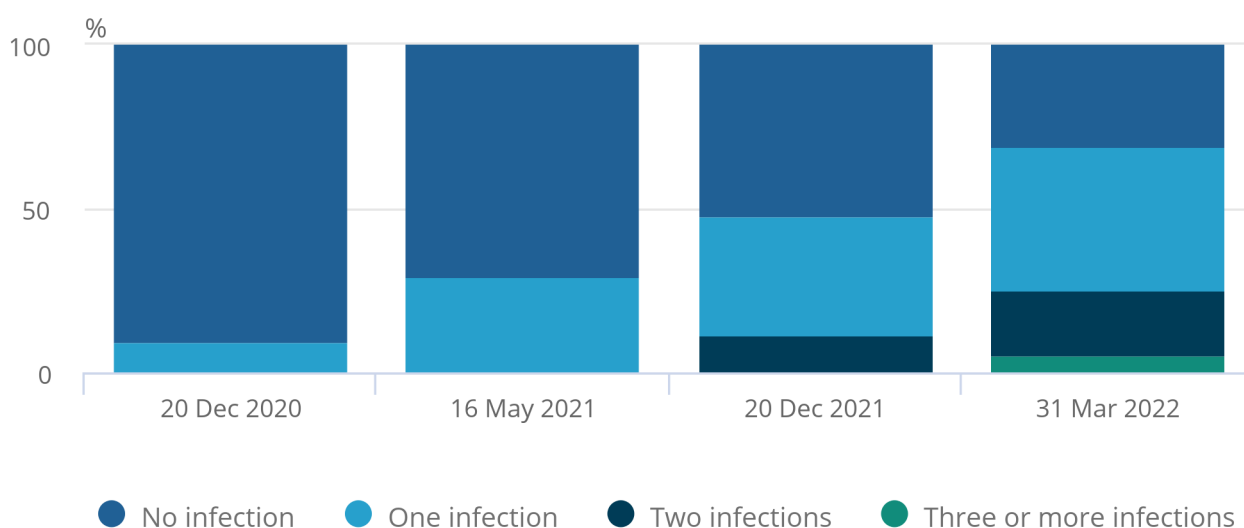
More information on how a new infection has been classified can be found in [Section 10: Glossary](#). These data likely underestimate the number of infections because of asymptomatic or mild infections being missed and less widespread testing in earlier (original or alpha-dominant) periods. In particular, the proportion of primary school pupils with at least one positive COVID-19 test is lower than the antibody levels found in the [School Infection Survey](#). Lower [levels of testing in primary pupils may partly account for this](#).

### Figure 7: Over one in four secondary school pupils have had two or more infections

Number of infections per pupil in state-funded secondary schools, England, up to 31 March 2022

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Number of infections per pupil in state-funded secondary schools, England, up to 31 March 2022



Source: Office for National Statistics, Linked School Workforce Census (Department for Education) and Test and Trace dataset (NHS)

#### Notes:

1. Test and Trace data cannot be used to estimate the true proportion of pupils that have had a COVID-19 infection.

## 9 . Testing rate

The 'testing rate' was found to vary by important demographics and, on average, groups who were less likely to have a positive coronavirus (COVID-19) test were also less likely to have a previous record of a negative COVID-19 test result on the system.

The 'testing rate' was calculated by taking the number of negative tests recorded in the Test and Trace data over the autumn and spring term for each pupil (stopping when the first positive test was recorded in the time period) and then dividing this by the number of days "at risk", meaning the number of days up until the first positive or the end of the period if no positive was recorded.

This analysis will underestimate true testing behaviour, negative polymerase chain reaction (PCR) tests will be automatically recorded by the testing labs but it is likely that a large number of negative Lateral Flow Device (LFD) test results were not reported on the system ([see measuring the data](#) for guidance on LFD testing in school pupils). However, the results obtained show a clear pattern and suggest that differences in testing behaviour likely explain some of the trends in positive cases reported in this article.

For example, primary school pupils had an average of 1.2 negative tests per 1,000 days at risk compared with 4.3 per 1,000 days for secondary pupils. When looking at Income Deprivation Affecting Children Index (IDACI) decile, secondary pupils in the least deprived decile had a testing rate of 6.8 per 1,000 days compared with 2.5 per 1,000 days for those in the most deprived decile.

## 10 . Glossary

### Age and year groups

Ages referred to in this publication are the age of the child or pupil on 31 August at the start of the relevant academic year (31 August 2021 for 2021/22). Therefore, all reception children are recorded as being aged 4 years, those in year 7 as being aged 11 years and those in year 11 as being aged 15 years. Therefore, a pupil's recorded age may not be their actual age at the time of their reported positive test.

### Positive tests

The outcome measure includes positive polymerase chain reaction (PCR) test results recorded by the testing labs or lateral flow device (LFD) test results reported by individuals on the Test and Trace system. Several positive tests can be recorded for each individual. Up until 20 December 2021, we consider positives more than 120 days after the first positive of that infection episode to be new infections, to be consistent with our existing [publications on COVID-19](#). From 20 December 2021 onwards, positives more than 90 days after the first positive of that infection episode are considered a new infection.

### Income Deprivation Affecting Children Index (IDACI)

The Income Deprivation Affecting Children Index (IDACI) is used to calculate deprivation deciles based on the proportion of children aged 0 to 15 years living in deprived income households (meaning households not working or working on low incomes eligible for means tested benefits) in 2019. The index ranks 32,844 LSOAs from the 2011 Census in England, from most deprived to least deprived, and divides them into 10 equal groups. For example, small area X is ranked 5,000 out of 32,844 small areas in England, where 1 is the most deprived. This means that small area X is among the 20% most deprived small areas in the country and therefore would be in IDACI decile 2. The [Department for Communities and Local Government have published further information](#).

### Special educational needs (SEN)

The [Department for Education and Department for Health and Social Care](#) defines a child as having special educational needs (SEN) if "they have a learning difficulty or disability which calls for special educational provision to be made for him or her. A child of compulsory school age or a young person has a learning difficulty or disability if he or she has a significantly greater difficulty in learning than the majority of others of the same age or has a disability which prevents or hinders him or her from making use of facilities of a kind generally provided for others of the same age in mainstream schools or mainstream post-16 institutions." In this article, we use information recorded about whether a pupil has SEN recorded by schools as part of the English Schools Census.

## Variants of Coronavirus (COVID-19)

In the time periods analysed in this article, there have been different dominant variants of SARS-CoV-2, the virus causing coronavirus (COVID-19), [at each point in time](#). In the autumn 2020 term, the original strain of COVID-19 was dominant, with Alpha emerging towards the end of the term becoming dominant on 21 December 2020. In the autumn 2021 term, Delta was the dominant variant. Omicron infections were identified towards the end of this term but were not considered dominant until 20 December 2021. Omicron was the dominant variant in the spring 2022 term.

## 11 . Data sources and quality

### Measuring the data

Data from the English Schools Census (ESC), NHS Test and Trace, and the National Immunisation Management Dataset (NIMS) were linked to produce the analysis used in this article. For further information on the data linkage process and ESC data please see our [previous publication](#).

Test and Trace records all Coronavirus (COVID-19) testing that takes place in England. These figures are updated daily and retrospective updates can be made. The outcome measure includes individuals receiving a positive polymerase chain reaction (PCR) or lateral flow device (LFD) test result recorded in the Test and Trace data.

Access to free lateral flow device (LFD) tests for everyone in England was introduced on 9 April 2021, with the aim of identifying and isolating asymptomatic cases to prevent onward transmission. At the beginning of the 2021 Autumn term, secondary pupils were advised to take two onsite LFD tests prior to their return to school and then continue testing twice weekly at home. Variation in the uptake and/or reporting of LFD testing could also have an impact on the trends reported here. From 11 January 2022, the need for a confirmatory PCR test following a positive LFD test result was dropped placing greater reliance on the individual to record the result on the Test and Trace system.

From 21 February onwards, the guidance to test twice a week for schools was dropped. From 24 February, close contacts were no longer required to test daily for seven days and from 31 March 2022, access to free COVID-19 testing ended for the majority of the population in England. These changes will further affect the identification of new infections in the second half of the spring 2022 term. The large increase in cases reported in the Coronavirus (COVID-19) Infection Survey from mid-March 2022 are not seen in the Test and Trace data [Coronavirus \(COVID-19\) latest insights – Office for National Statistics \(ons.gov.uk\)](#)

This is analysis of newly collected data, and our understanding of it and its quality will improve over time. The estimates presented in this release are experimental statistics as the NHS Test and Trace data is subject to further quality assurance tests.

### Strengths

One strength of the dataset is its size. The English Schools Census (ESC) contains pupil-level data collected from all state-funded schools in England. This represents over 8 million pupils aged 4 to 17 years and allows for potential analysis of smaller under-representative groups.

The data contain a rich source of background characteristics, which allow us to analyse how proportions of pupils reporting positive tests for coronavirus (COVID-19) differ by socio-demographic group and examine the extent to which these differences are driven by other factors.

Making use of existing administrative data sources avoids the need to set up bespoke surveys, which can be costly and suffer from response bias.

### Limitations

Using Test and Trace data to monitor trends in coronavirus (COVID-19) infection relies on infections being diagnosed, which is influenced by:

- testing guidance
- whether or not people have symptoms
- a person's awareness of contact with an infected person
- willingness to test

Changes to isolation rules over time may also influence the willingness to test and the impact of these rules and any changes could vary between different socio-demographic groups. This means the Test and Trace data cannot be used to provide an estimate of the true positivity rates within the population.

We are not able to confirm whether positive tests that we have classified as reinfections are actual new infections or a continuation of a previous infection as this would require genetic sequencing. Conversely, by only counting positive tests occurring 90 days after the first positive in the previous infection episode, we may be missing genuine new infections that occurred in a shorter space of time.

The latest available English Schools Census (ESC) data relate to the previous academic year, pupils have been rolled forward by one academic year in the analysis. Pupils of compulsory school age who have left England or the state school sector will still be included and those who joined after 21 January 2021 will not be included.

## 12 . Future developments

We will continue to examine the analytical potential of the linked data asset and expand on our existing analysis.

## 13 . Acknowledgments

LONDON  
SCHOOL *of*  
HYGIENE  
& TROPICAL  
MEDICINE



UK Health  
Security  
Agency

This analysis was produced by the Office for National Statistics (ONS) with support from our School Infection Survey research partners at the London School of Hygiene and Tropical Medicine and UK Health Security Agency.

## 14 . Related links

### [Coronavirus \(COVID-19\) cases in school pupils, England: up to 22 December 2021](#)

Bulletin | Released 24 March 2022

Coronavirus (COVID-19) cases in school pupils aged 4 to 15 years attending state-funded schools. Includes detailed analysis by demographic and geographic characteristics and vaccine status.

### [Coronavirus \(COVID-19\) vaccination uptake in school pupils, England: up to 9 January 2022](#)

Bulletin | Released 01 February 2022

Coronavirus (COVID-19) vaccination uptake in school pupils aged 12 to 17 years attending state-funded schools. Including detailed analysis by demographic and geographic characteristics for those aged 12 to 15 years.

### [COVID-19 Schools Infection Survey, England: pupil antibody data and vaccine sentiment, March to April 2022](#)

Dataset | Released 27 June 2022

Estimates of pupils testing positive for SARS-CoV-2 antibodies and analysis of vaccine sentiment from the COVID-19 Schools Infection Survey (SIS).

### [Coronavirus \(COVID-19\) Infection Survey, UK: 1 July 2022](#)

Bulletin | Released 1 July 2022

Estimates for England, Wales, Northern Ireland and Scotland. This survey is being delivered in partnership with University of Oxford, University of Manchester, UK Health Security Agency and Wellcome Trust. This study is jointly led by the Office for National Statistics (ONS) and the Department for Health and Social Care (DHSC) working with the University of Oxford and Lighthouse laboratory to collect and test samples.

### [Coronavirus \(COVID-19\) case rates by socio-demographic characteristics, England: 1 September 2020 to 10 December 2021](#)

Analysis of age-standardised case rates for coronavirus (COVID-19) in England by socio-demographic characteristics between 1 September 2020 and 10 December 2021.

### [Coronavirus \(COVID-19\) latest insights](#)

Interactive tool | Updated as and when data become available

A live roundup of the latest data and trends about the coronavirus (COVID-19) pandemic from the ONS and other sources.