NFER Classroom

Implications for Teaching: Reflections on year 6 mathematics attainment

A handy summary for year 7 teachers in 2020

When new year 7 pupils start secondary school, it can be difficult to ascertain what knowledge and skills they are entering with. This can make pitching lessons and schemes of work at an appropriate level a challenge. Results from the end of key stage 2 national curriculum tests are often used as a basis; however, it is unlikely that year 7 teachers will have the time or opportunity to examine the tests behind the scores.

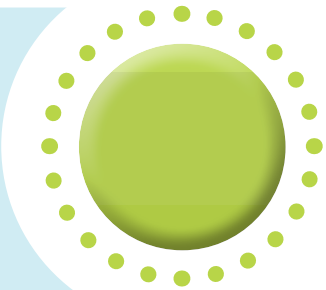
To help year 7 teachers to support their pupils through this transition phase, NFER have interrogated the data from the 2017, 2018 and 2019 national tests, combining this with key diagnostics from our own range of year 6 assessments, to produce this useful guide. Based on the number of pupils gaining marks or omitting to answer different types of questions, we highlight the areas pupils are generally more confident in as they enter year 7, and those they continue to struggle with.

Below you will see which skills have generally been well-embedded by the end of primary education (Pupils can…); those which tend to be a work-in-progress (Pupils find it harder to…); and those which require more substantial focus and teaching (Pupils find it hardest to…).

YEAR 7

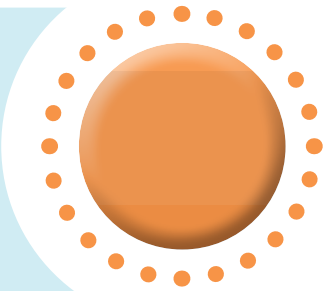
March 2020 P

Pupils can...



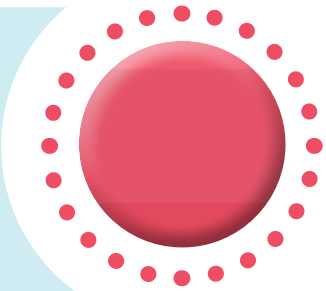
- sequence amounts, particularly as these question formats are unlikely to require problem solving skills
- identify and use square and cubed numbers (content domain reference: 5C5d)
- multiply and divide numbers mentally drawing upon known facts (5C6a)
- divide numbers up to four digits using the formal written method of short division (5C7b)
- add and subtract fractions with the same denominator and denominators that are multiples of the same number (5F4)
- multiply up to four digit numbers using formal long multiplication written methods (6C7a)
- understand place value and use it to identify numbers up to 10,000,000 (6N2/6N3)
- use negative numbers in context and calculate across zero (6N5)

Pupils find it harder to...



- use facts and procedures to solve two-step problems
- solve problems with no numerical operation, often in questions focusing on geometry
- answer multiple choice questions which present other plausible options
- convert between different units of measurement at the expected standard for year 4 and year 5 (4M5/5M5)
- identify and recall prime numbers (5C5c)
- use simple formulae (6A2)
- divide up to four digit numbers using formal long division written methods (6C7b)
- add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions (6F4)
- describe simple 3-D shapes (6G2b)
- draw and translate shapes and describe position on a co-ordinate plane (6P2/6P3)

Pupils find it hardest to...



- attempt and correctly answer questions that require them to explain their reasoning or show their working
- apply facts and procedures creatively to solve new problems
- multiply proper fractions and mixed numbers (5F5)
- express missing number problems algebraically (6A1)
- find pairs of numbers that satisfy an equation with two unknowns, particularly as these questions usually have more steps to them (6A4)
- solve problems involving ration and proportion, e.g. percentages and scale factors (6R1/R2/R3)
- calculate volume in cubes and cuboids using cubic units (6M8a)
- interpret the mean as an average, with this skill typically appearing as part of contextualised longer questions (6S3)

For further free resources and guidance on assessment in schools, visit the NFER Assessment Hub at **www.nfer.ac.uk/assessment-hub**. Keep an eye out for further implications for teaching guidance in mathematics, **coming later this year**!