

Why are we no longer streaming children in Mathematics (Years 3-5)?

I have had a lot of questions about this so I thought I would share the research and thinking behind our decision and explain what are doing to support all learners.

The research, see below, strongly shows that steaming can have a negative effect on progress and on children's self-esteem especially in maths.

Research taken from the Education Endowment Foundation.

<https://educationendowmentfoundation.org.uk>

Setting or streaming

Pupils with similar levels of current attainment are grouped together either for specific lessons on a regular basis (setting or regrouping), or as a whole class (streaming or tracking). The assumption is that it will be possible to teach more effectively or more efficiently with a narrower range of attainment in a class.

How effective is it?

Overall, setting or streaming appears to benefit higher attaining pupils and be detrimental to the learning of mid-range and lower attaining learners. On average, setting or streaming does not appear to be an effective strategy for raising the attainment of disadvantaged pupils, who are more likely to be assigned to lower groups.

It appears likely that routine setting or streaming arrangements undermine low attainers' confidence

On average, studies show that higher attaining learners make between one and two additional months' progress when set or streamed compared to when taught in mixed ability groups. Studies of targeted interventions for pupils identified as "gifted and talented" are consistent with this finding. They show that high attaining pupils benefit from a range of different kinds of grouping, including pull-out classes, accelerated classes and promotion (where high attaining pupils move up a year). The effects of these programmes potentially provide an advantage for these pupils of 3 to 12 months' additional learning. However, research into gifted and talented schemes rarely records the impact of the schemes on the students not identified as gifted and talented, who are more likely to be from disadvantaged backgrounds. Low attaining learners fall behind by one or two months a year, on average, when compared with the progress of similar students in classes with mixed ability groups. It appears likely that routine setting or streaming arrangements undermine low attainers' confidence and discourage the belief that attainment can be improved through effort. Research also suggests that ability grouping can have a longer term negative effect on the attitudes and engagement of low attaining pupils. It should be noted that there are some exceptions to this average, where setting or streaming has benefitted all learners. Further study could be undertaken to understand what happened differently in these examples.

Evidence suggests that the impact of setting is more detrimental to low attaining pupils in mathematics, who do better in mixed attainment groups, and that setting or streaming particularly affects upper primary and lower secondary education. The effects appear to be less clear-cut in other subjects, though negative effects are reported for low attaining pupils across the curriculum.

Though the average impact of setting or streaming on low attaining pupils is negative, evidence suggests that certain types of grouping are more effective than others.

How secure is the evidence?

The evidence on setting and streaming is fairly consistent and has accumulated over at least 30 years of research.

What else are we doing differently?

We are currently trialling some new resources in Year 4 which have a 3 way differentiation task built in, this will allow children to pick their own level of learning (with guidance from the teacher). It will also allow us to challenge the more able children but support those who find it more difficult.

Children who want to challenge their learning will be able to access this easily and independently. See example below

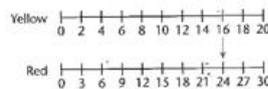
I can solve a problem involving scaling up a number.

Scaling a number makes it bigger by a given factor. Scaling by a factor of 3 makes a number three times bigger.

Example



A necklace is made using this pattern of beads. There are 16 yellow beads. How many red beads are there?

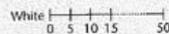
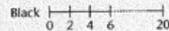


Answer There are 24 red beads.

A



A necklace is made using this pattern of beads. Copy and complete the pair of number lines.



Use your number lines.

- Find how many white beads there are if there are:
 - 14 black beads
 - 10 black beads
 - 70 beads altogether?
- How many black beads are there for every:
 - 15 white beads
 - 40 white beads?
- How many white beads are there in every:
 - 7 beads
 - 14 beads
 - 42 beads?

B

- Peggy has 4 stickers for every 3 that Gary has. Peggy has 24 stickers. How many does Gary have?
- There are 2 green apples for every 5 red apples. How many green apples are there if there are 21 apples altogether?
- A football team scored 5 goals for every 4 they let in. They scored 40 goals. How many did they let in?
- A market stall sold 3 white towels for every 2 blue towels. They sold 10 blue towels. How many white towels were sold?
- In a box of chocolates there are 4 soft centres for every 3 hard centres. Sixteen chocolates have soft centres. How many have hard centres?

C

- There are 35 people on a bus. Two in every seven go upstairs. How many people are downstairs?
- Four in every nine shirts sold are white. 36 white shirts are sold. How many shirts are sold altogether?
- In 5M two in every five children have fair hair. Twelve children have fair hair. How many children are there in the class?
- Five books in every eight are fiction. There are 200 books altogether. How many of these are non-fiction?
- Two children in every three at a swimming club are girls. There are 30 girls. How many boys are there?

We are also providing the children with a mastery or at greater depth challenge to check learning or to give children the chance to apply learning in a different situation.

Mastery	Mastery with Greater Depth
<p>These two graphs represent the same data. What's the same? What's different?</p> <p>Average monthly temperature</p> <p>Average monthly temperature</p> <p>Which graph is better?</p> <p>Explain your reasoning.</p>	<p>Make up a story that fits the graph.</p>

The children are also self-assessing their own work so they can identify themselves errors made and make a correction immediately. This allows children to be self-aware of areas for development and what their strengths are. Teachers will check marking and provide improvement prompts and support where necessary (this may include a small group intervention by the teacher or a TA)

Furthermore TAs also pre-teach the some identified groups of children to prepare for the following day/ week's learning to help them access it. We also use TAs to extend and challenge the HA through guided sessions when appropriate.

I hope this helps to clarify the situation, we will of course review this to ensure it is having the desired impact on learning.

Please feel to come and discuss this with me if you have any further questions

Thanks

Jess Scott