



# **Ashfield School**

# **Maths Intervention**

# **Review**

**2018-2019**

# Overview of Intervention

## CATCH UP

### Power of 2 (Buddy Maths):

Buddy Maths is a book based intervention where students are paired up with a year 12 buddy. They completed an initial assessment based on material taken from the books. Their buddy reads out or shows them the questions, the students then attempt to answer the questions. If they consistently answer the questions correct, they move onto to new topics, if they answer bits wrong, the buddy provides support to help them overcome that hurdle and they try again.

The aim of this intervention is to boost student's "mental maths" skills and grow in confidence. They have another opportunity, in a different environment, away from lessons, to revisit areas they have struggled with and it is hugely beneficial for them to work alongside a positive role model.

### Numeracy Intervention:

A member of staff runs a series of sessions that cover the basic mathematics skills needed at secondary level, focusing on the content taught in the first term of Year 7. Whilst working with very small groups the member of staff can uncover the barriers each student faces and support them on an individual level. Students are identified, tested and then retested as part of this particular intervention. An in-house assessment is used to calculate gains made.

The aim of this intervention is to give students an opportunity to work at their own pace. The students involved gain a significantly better understanding of the fundamentals in mathematics on a personal level. Students can apply these skills to the mastery curriculum that they follow in their normal lessons and grow in confidence as they feel they can achieve more.

*These catch up based interventions are designed to support the students that join us from primary school in the 'below average' category. We give them additional time and support out of lessons in order to help build the necessary foundations for their secondary school journey.*

## MORE ABLE

### Tutor Time Intervention:

During tutor time we invite a target group of year 11 students to take part in an intervention programme. This year they will either be looking to push for a grade 4 or 5 or students aiming to push grade 5s into 6s or above. Each year the target group changes depending on the needs of the students. While the time allocated to this intervention is short, the consistency and regular revision helps retention and recall and supports students work in lessons and helps make the small jump from where they are to what they want.

The aim of this intervention is to support students in their knowledge recall and application. It can also help fill in gaps that may have developed over time. Students gain more confidence and are given more ways to revise and be independent.

### Further Maths:

Further maths is an additional GCSE we offer to most able students. It overlaps with GCSE and A Level maths and for a bridge between the two qualifications. For students that know they want or need to study A level maths at Post 16 this is an incredibly useful qualification. Students attend a tutor time support session with A Level Further Maths students to support/mentor them and also an after school drop in lesson which is led by a member of the maths team to teach new content and go over examples and methods.

The aim of this intervention is to challenge and stretch our most able students and support them in achieving well at all levels of maths. It also allows them to stand apart from the best of the Maths GCSE students with an additional qualification which goes up to an A<sup>^</sup> (A hat or A\* distinction).

### **Individual UKMT Maths Challenge:**

The individual UKMT Maths challenge is designed to challenge the most able from each year group. It is divided up into 'Junior' (year 7 and 8), 'Intermediate' (year 10 and 11) and 'Senior' (year 12 and 13)

Students take a problem solving assessment; they can be awarded a bronze, silver or gold certificate based on the score they achieve. Students achieving the required threshold are invited to take part in the kangaroo or Maths Olympiad to compete further into the competition.

### **Team UKMT Maths Challenge:**

The team UKMT Maths challenge is designed to challenge the most able from each year group. It is divided up into 'Junior' (year 8 and 9) and 'Senior' (year 12 and 13)

Four students, two from each eligible year group go to another centre and take part in a number of rounds of problem solving activities. Teams that win are then invited to compete in further team challenges against students in other regions of the country.

The junior challenge is hosted at Ashfield School.

The impact of this intervention is that it allows all of the students that take part to be part of a national competition, challenge themselves with problem solving activities they might not get in the classroom and for the team event, work alongside peers from different year groups and meet students from other schools.

*All of these 'more able' interventions are designed to push the most able students at the school beyond the boundaries of the core GCSE course. Enriching their mathematical diet and allowing them to excel at a subject they are fantastic at and explore different ways of thinking and applying their understanding.*

## **ENRICHMENT**

### **Class teacher intervention:**

After school revision sessions are run for Year 11, 12 and 13 students. Sessions are sometimes topic based, focussing on particular elements of the course they are studying or can be used as drop in sessions to receive additional support or catch up on anything that has been missed.

The aim of these after school revision sessions is to allow them to regularly revisit and recall previous knowledge. Keeping the work fresh in their minds ready for an up and coming assessment or a new topic where it may appear.

### **Raising the Grade:**

Raising the grade is a day session run through Nottingham Trent University. The session is aimed at pupils in year 11 that are pushing for a grade 4 or 5 but are struggling to break that boundary.

On the day students are split up and given a variety of different activities, such as revision strategies and tips to remember facts and information better, ways of looking at problems and alternative approaches to questions.

The aim of the raising the grade trip is to allow the students to visit a local University, work with students from other schools and to spend some extra time revising areas of mathematics that are frequent barriers to achieving higher grades.

### **Bletchley Park:**

A group of Year 8 students (mostly more able) were taken to Bletchley Park. The trip looks at applications of Maths in the real world, gives students an insight into real code breaking in an out of classroom environment.

Students were given packs of information and code breaking tasks to complete while looking at the real Enigma machine used to crack real codes sent during World War 2.

The aim of this trip is to allow students to see a part of the history of maths in action. How applying mathematical knowledge can have a sizable impact in society along with experiencing maths outside of the classroom, hopefully they came back feeling inspired.

*All the enrichment interventions are designed to allow the students the opportunity to gain a better understanding in the subject, provide support or see maths in the real world. They also motivate students more as they see a clear purpose behind some uses of the subject.*

# Headline Figures

## Raising the grade – Year 11:

83% achieved a grade 4 or above

28% achieved a grade 5 or above

## Further Maths Level 2 – Year 11:

93% achieved A<sup>+</sup> - A

100% achieved A<sup>+</sup> - B

## Tutor intervention – Year 11:

100% achieved a grade 4 or above

89% achieved a grade 5 or above

## Power of 2 (Buddy Maths) – Year 7:

**Number of students** 13

% improved score 85%

% improved confidence 61%

**Male** 4

% improved score 100%

% improved confidence 50%

**Female** 9

% improved score 78%

% improved confidence 67%

**SEN** 8

% improved score 88%

% improved confidence 62%

**PP** 11

% improved score 82%

% improved confidence 64%

## Numeracy Intervention:

1 Term Per Group	Cohort Size
Year 7	49
Boys	17
Girls	32
PP	24
Non-PP	25

Category	Pre-Test	Final Test	Increase	Mark Increase
Average	39%	48%	8%	14
Boys	38%	44%	6%	10
Girls	41%	50%	9%	15
PP	37%	46%	9%	15
SEN	38%	44%	5%	9

## Maths Challenge results – 7-8:

<b>Number of students</b>	168
% achieved bronze	20%
% achieved silver	5%
% achieved gold	3%
<b>Male</b>	88
% achieved bronze	20%
% achieved silver	9%
% achieved gold	3%
<b>Female</b>	80
% achieved bronze	20%
% achieved silver	1%
% achieved gold	3%
<b>SEN</b>	24
% achieved bronze	25%
% achieved silver	8%
% achieved gold	4%
<b>PP</b>	35
% achieved bronze	11%
% achieved silver	6%
% achieved gold	9%

## Maths Challenge results – 10-11:

<b>Number of students</b>	102
% achieved bronze	19%
% achieved silver	8%
% achieved gold	2%
<b>Male</b>	51
% achieved bronze	22%
% achieved silver	10%
% achieved gold	4%
<b>Female</b>	51
% achieved bronze	16%
% achieved silver	6%
% achieved gold	0%
<b>SEN</b>	11
% achieved bronze	9%
% achieved silver	0%
% achieved gold	0%
<b>PP</b>	17
% achieved bronze	18%
% achieved silver	6%
% achieved gold	6%

## Further Detailed Information

### Power of 2 (Buddy Maths):

**85% of year 7's made progress based on their 'intervention tracking assessment'.**

61% identified they had improved in confidence in Maths

Surname Forename	Highest Assessment score	Difference from pre-test	Progress	Highest Confidence score	Difference from pre-test	Progress
Male Student	14	6	Y	5	-1	N
Female Student	14	4	Y	7	5	Y
Female Student	5	2	Y	1	0	N
Male Student	12	10	Y	7	6	Y
Female Student	15	-1	N	8	0	N
Female Student	19	5	Y	7	2	Y
Female Student	17	1	Y	7	4	Y
Female Student	17	7	Y	4	0	N
Female Student	17	0	N	7	2	Y
Male Student	16	2	Y	7	2	Y
Female Student	12	7	Y	5	1	Y
Female Student	14	4	Y	3	-1	N
Female Student	19	6	Y	4	3	Y

Led by a maths LPA, the power of 2 intervention worked extremely well with this selection of students. The buddies from year 12 were very good with the students and worked hard to help and support them. The two students that failed to demonstrate an improvement were high scores on their pre-test, which always makes it more challenging to show an improvement.

**Tutor intervention (year 11):**

A maths teacher led the intervention for year 11's on two different days. Some students came for the intervention on both days\* where others appeared just once per week. The focus of these sessions was on the overlap questions from foundation and higher tiers (aiming to secure a grade 4 or 5). This gave them regular practice on topics they may not have covered for a while and worked on their recall and retention skills, along with exam technique.

89% of the students achieved a grade 5 or above. With 100% achieving a grade 4 or above.

Yr 11 Tutor intervention	Result
<b>Wednesday group</b>	
Male Student	5
Male Student *	5
Female Student *	5
Male Student *	6
Female Student *	5
<b>Thursday group</b>	
Female Student	5
Female Student	5
Male Student	5
Female Student	4

**Further Maths Level 2 – Year 11:**

A maths teacher led the intervention held during tutor time. The focus of these sessions was to deliver the required content for the further maths course. Students were then provided with further work to continue with independently.

93% achieved A<sup>+</sup> - A

100% achieved A<sup>+</sup> - B

Students name	Total Score	Grade
Male Student	152	A <sup>+</sup>
Female Student	122	A <sup>+</sup>
Male Student	121	A <sup>+</sup>
Female Student	99	A <sup>+</sup>
Female Student	126	A*
Male Student	99	A
Male Student	155	A <sup>+</sup>
Male Student	138	A*
Female Student	125	A*
Male Student	125	A*
Male Student	143	A*
Female Student	130	A*
Female Student	93	B
Female Student	110	A



**Raising the Grade (year 11):**

Raising the grade is organised at Nottingham Trent University by their Outreach team in a bid to help students in the area secure a Grade 4 or better in their maths GCSE. It involves four workshops throughout the day focusing on different revision strategies and common misconceptions.

As we send staff to help run some of the sessions we were allocated an extra day, so we invited 29 students over the two days.

83% of the students we invited achieved a grade 4 or higher in their final GCSE result.  
31% achieved a grade 5 or higher.

<b>Student name</b>	<b>Gender</b>	<b>Final grade</b>
Female Student	F	4
Male Student	M	4
Female Student	F	5
Female Student	F	5
Female Student	F	4
Male Student	M	4
Male Student	M	5
Male Student	M	6
Male Student	M	3
Female Student	F	4
Female Student	F	4
Female Student	F	4
Female Student	F	4
Female Student	F	4
Female Student	F	2
Female Student	F	5
Female Student	F	4
Male Student	M	5
Female Student	F	5
Female Student	F	4
Female Student	F	4
Female Student	F	4
Female Student	F	3
Female Student	F	3
Female Student	F	5
Male Student	M	4
Female Student	F	5
Female Student	F	4
Female Student	F	3
Male Student	M	4