With Christ at the centre, our Dream is for greatness in our learning, to Believe in our unique talents, to be Guardians of life & creation and to Achieve a better world, by living life to the full.



Mathematics Subject Leadership Report 2020-2021 Heather Daly



## Intent: What do we aim to do in Mathematics?

## <u>Rationale</u>

At St. Joseph and St. Bede we are aware of the importance of Maths in so much of our lives and the vital role it plays in helping children to learn to be independent and skilled adults. We endeavour to ensure that our children develop a positive and enthusiastic attitude towards mathematics that will stay with them. It will be taught in accordance with the National Curriculum while taking account of the specific needs and learning styles of the children in our school. Our Maths Policy, Calculation Policy and Progression Maps help to ensure continuity, consistency, progression and high expectations for attainment and progress in Mathematics at our school.



Intent

Current School Improvement Priorities

## **PRIORITY 1**

Ensuring all teaching across the school is consistently good or better, ensuring all learners are challenged and make good progress.

#### PRIORITY 2

Ensuring at least good progress in writing at the end of KS2, increasing the percentage of pupil's achieving EXS and GDS.



**PRIORITY 6** 

vocabulary in EYFS.

Securing foundations for future

learning through a sharp focus

on communication, phonics and

This year, we will continue to improve our school in lots of ways. In particular, we are working on...

#### PRIORITY 5

Ensuring that strong leadership enables all areas of teaching, learning and assessment to be highly effective.

#### **PRIORITY 4**

Continuing to develop and promote positive behaviour and attitudes to further aid the personal development of pupils and support them in the wake of the Covid-19 pandemic.

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## PRIORITY 3

Increasing the rate of progress in phonics and reading across the school, developing vocabulary and comprehension skills.

Evidence informed approach to improving	Education Endowment Foundation	Improving 2 Use manipulatives and representations	Ma ematics 3 Teach pupils strategies for solving problems	s in key Sta 4 Enable pupils to develop a rich network of mathematical knowledge	nges Two z .d 5 Develop pupils' independence and motivation	Three – Re 6 Use tasks and resources to challenge and support pupils' mathematics	7 Use structured interventions to provide additional support	ns Summary 8 Support pupils to make a successful transition between primary and secondary school
Therefore, Action Points (APs) I have made priorities for this year support the SIP and are underpinned by the research	<ul> <li>Assessment should be used not only to track pupils' learning but also to provide teachers with information about what pupils do and do not know</li> <li>This should inform the planning of future lessons and the focus of targeted support</li> <li>Effective feedback will be an important element of teachers' response to assessment</li> <li>Feedback should be specific and clear, encourage and support further effort, and be given sparingly.</li> <li>Teachers not only have to address misconceptions but also understand why pupils may persist with errors</li> <li>Knowledge of common misconceptions can be invaluable in planning lessons</li> </ul>	<ul> <li>Manipulatives (physical objects used to teach maths) and representations (such as number lines and graphs) can help pupils engage with mathematical ideas</li> <li>However, manipulatives and representations are just tools: how they are used is essential</li> <li>They need to be used purposefully and appropriately to have an impact</li> <li>There must be a clear rationale for using a particular manipulative or representation to teach a specific mathematical concept</li> <li>Manipulatives should be temporary; they should act as a 'scaffold' that can be removed once independence is achieved</li> </ul>	<ul> <li>If pupils lack a well-rehearsed and readily available method to solve a problem they need to draw on problemsolving strategies to make sense of the unfamiliar situation</li> <li>Select problemsolving tasks for which pupils do not have ready-made solutions</li> <li>Teach them to use and compare different approaches</li> <li>Show them how to interrogate and use their existing knowledge to solve problems</li> <li>Use worked examples to enable them to analyse the use of different strategies</li> <li>Require pupils to monitor, reflect on, and communicate their problem solving</li> </ul>	<ul> <li>Emphasise the many connections between mathematical facts, procedures, and concepts</li> <li>Ensure that pupils develop fluent recall of facts</li> <li>Teach pupils to understand procedures</li> <li>Teach pupils to consciously choose between mathematical strategies</li> <li>Build on pupils' informal understanding of sharing and proportionality to introduce procedures</li> <li>Teach pupils that fractions and decimals extend the number system beyond whole numbers</li> <li>Teach pupils to recognise and use mathematical structure</li> </ul>	<ul> <li>Encourage pupils to take responsibility for, and play an active role in, their own learning</li> <li>This requires pupils to develop metacognition – the ability to independently plan, monitor and evaluate their thinking and learning</li> <li>Initially, teachers may have to model metacognition by describing their own thinking</li> <li>Provide regular opportunities for pupils to develop metacognition by encouraging them to explain their thinking to themselves and others</li> <li>Avoid doing too much too early</li> <li>Positive attitudes are important, but there is scant evidence on the most effective ways to foster them</li> <li>School leaders should ensure that all staff, including non-teaching staff, encourage enjoyment in maths for all children</li> </ul>	<ul> <li>Tasks and resources are just tools – they will not be effective if they are used inappropriately by the teacher</li> <li>Use assessment of pupils' strengths and weaknesses to inform your choice of task</li> <li>Use tasks to address pupil misconceptions</li> <li>Provide examples and non-examples of concepts</li> <li>Use stories and problems to help pupils understand mathematics</li> <li>Use tasks to build conceptual knowledge in tandem with procedural knowledge</li> <li>Technology is not a silver bullet – it has to be used judiciously and less costly resources may be just as effective</li> </ul>	<ul> <li>Selection should be guided by pupil assessment</li> <li>Interventions should start early, be evidence-based and be carefully planned</li> <li>Interventions should include explicit and systematic instruction</li> <li>Even the best- designed intervention will not work if implementation is poor</li> <li>Support pupils to understand how interventions are connected to whole- class instruction</li> <li>Interventions should motivate pupils – not bore them or cause them to be anxious</li> <li>If interventions cause pupils to miss activities they enjoy, or content they need to learn, teachers should ask if the interventions are really necessary</li> <li>Avoid 'interventions do not always</li> </ul>	<ul> <li>There is a large dip in mathematical attainment and attitudes towards maths as children move from primary to secondary school</li> <li>Primary and secondary schools should develop shared understandings of curriculum, teaching and learning</li> <li>When pupils arrive in Year 7, quickly attain a good understanding of their strengths and weaknesses</li> <li>Structured intervention support may be required for Year 7 pupils who are struggling to make progress</li> <li>Carefully consider how pupils are allocated to maths classes</li> <li>Setting is likely to lead to a widening of the attainment gap between disadvantaged pupils and their peers, because the former are more likely to be assigned to</li> </ul>

# <u>Intent</u>. What are our main intentions for this academic year?

#### <u>8 Main Action Points (APs):</u>

1. To ensure that teaching and learning in mathematics is at least 'good' across the school (Priority I) 2. To ensure a greater number of pupils achieve GDS in Mathematics across the school (Priority 4) 3. To use TT Rockstars to full potential and launch Rocker of the week in assemblies – raise the profile (Priority I) 4. To ensure weekly tables tests in Year 4, tables teaching and regular screening on MTC to ensure greater % of pupils achieve 25/25 to pass MTC in June 2020 (Priority 1, 4, 5) 5. To raise progress in mathematics in KS2 (Priority 1,2,6) 6. To develop consistent practice with approaches to problem solving and whole class teaching (Priority I) 7. Widen opportunities for maths across the curriculum – links with other subjects and whole school projects (Priority I) 8. To ensure a consistent approach to the use of working walls/whiteboards in mathematics with raised expectations across the school (Priority 1,6)



Action / Intent	Success Criteria	Evidence to gather	By when?	IMPACT
AP1 Action Plan 1: To ensure that teaching and learning in mathematics is at least 'good' across the school	Books will show high expectations and output of work Teachers will use high quality questioning A range of mathematical resources used, of high quality to support and stretch learners Engaged learners who know their next steps Use of WRH mastery resources in EYFS	Learning walks every half term Books look every half term term Pupil Voice Maths consultation day with Tara Loughran – 10 <sup>th</sup> March 2020 Feedback from Beacon Maths meetings and next steps	Mid Point — March 2020 Final analysis — July 2020	Mid point review from T Loughron, shows inconsistencies and need for improvement in planning progression, challenge and marking End point: KS1 Target cohort for expectations and progression through topics. Continue monitoring
AP2: To ensure a greater number of pupils achieve GDS in Mathematics	Greater levels of challenge for GDS pupils Teacher planning for GDS pupils evident in PPTs Children are challenged in maths and use this language when questioned	Data tracked on Target Tracker every half term Summative data every term – tracked Book looks half termly Pupil voice	Spring 1 reporting Summer 1 reporting	Overall attainment for summer 1: 57% on track in maths for ARE Aim for attainment to be in line with national 2022
AP3: To use TT Rockstars to full potential and launch Rocker of the week in assemblies – raise the profile	Children are engaging with the app more Children are excited to beat scores and battle against their peers Children will be recognised for their effort by staff and rewarded with weekly own clothes day in assembly	Check class engagement half termly Weekly analysis of high scorers Track scores and times across school	Start – Spring 1 Summer 1 – review and take teacher feedback	Average time across KS2 has fallen by 14% from January to March 2020 TT Rockstars to be used as a half termly progress test – like a check in and out. Results tracked on spreadsheet centrally to school
AP4: To ensure weekly tables tests in Year 4, tables teaching and regular screening on MTC to ensure greater % of pupils achieve 25/25 to pass MTC in June 2020	Daily use of MTC on a rota across Year 4 Daily tables chanting in class Tracking percentage progress across year 4 Identified children to receive precision teaching 3 x weekly on a target times tables across year 4	Weekly MTC tracker Summative MTC every half term – tracked Precision teaching evidence of progress for targeted children	Autumn Assessment Tracker Spring Assessment Update Summer Assessment Update (3 data drops)	Percentage achieving full marks 25/25 2020 Autumn 1 = 22% Spring 1 = 51.1% Still progress to be made – over 65% needed Continue into 2021/2022
AP5: To raise progress in mathematics in KS2	Links with science to deepen Maths focus in impact weeks Enable opportunities for maths to flourish	Book Looks and lesson obs Target Tracker analysis Tara Loughran Consultation Meeting 10 <sup>th</sup> March Pupil Voice	Ongoing – reported to SLT each term	Progress: Spring 1 2020 is 71.9% male, and 71.2% female compared to Autumn 1 – males 47.0% and females – 38.4% Summer 1 2021: Male: 50% ARE, GDS 16%

Action / Intent	Success Criteria	Evidence to gather	By when?	IMPACT
AP6: To develop consistent practice with approaches to problem solving and whole class teaching	Develop an SJSB approach to problem solving – slides and stickers with staff Listen for this language in teaching and sudent talk See evidence of detailed explanations and growing evidence of written responses across school Range of resources used using subscriptions purchased	Lesson obs Book looks Planning overviews – is reasoning and problem solving identified? Coverage check – with T Loughran Evidence of students responses progressing over time	Book Look – October 2019 More PS and R needed Book Look January – improvements – still weak explanations Book look march – more work needed	Improvements in some classes and some excellent practice but not consistent Classes observed are using the Problem solving language and skills stickers Individual feedback given to teachers from TARA – typed up as a report for whole school action Consistent use of reasoning language. STAR stickers for problem solving. Image of GIFT – using reasoning sentence openers, children can voice what problem solving skills they are using – through walk throughs and pupil voice
AP7: Widen opportunities for maths across the curriculum – links with other subjects and whole school projects	Develop hashtag #sjsbmaths – and encourage use by teachers Promote through maths link days – e.g. science week stay and learn sessions	Book Looks Pupil voice Planning looks and use of social media – track the hashtag Feedback from Stay and Learn sessions – summer term 2020	Maths stay and learn sessions – Summer term 2020 March 2020 – book look with Science and impact weeks	<ul> <li>Evidence across all KS2 of maths in Geography, history and Science through data handling and graph work</li> <li>Implement Maths DAY 2022 – in diary of events/ STEM day in November</li> <li>Monitor use of maths in Science/ Topic in KS1</li> </ul>
AP8: To ensure a consistent approach to the use of working walls/whiteboards in mathematics with raised expectations across the school	Working walls and whiteboards add to pupils experience of the classroom – celebrating prior learning Support growing mathematical vocabulary Link to current topic Show growth and development of concepts Support learning with relevant resources	Initial data on what working walls look like to identify good practice Walk rounds at other Beacon schools – Maths focus Pupil Voice Learning walk information on environments	March 2020 Shared vision by April 2020	Ongoing – 2022 Walk throughs show the board matches topics being taught.

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## Implementation: What are we doing well?

#### API: Teaching and learning at least 'good'







Well done to the TT Rockers of the week! Some amazing progress this week #sjsbmaths @StJosephStBede



**Child led focus – In EYFS** Children make biscuits and use numicon to print them into numbered shapes. A range of learning styles are met – Learning to tell the time in a practical way and exploring fractions using a selection of objects. The maths resources are now located and labelled on the resource corridor for easier access to a range of equipment





Maths links to children's world and experiences children liked maths to affairs current and using the democracy election and wider environmental issues using The Lost Words during one of our IMPACT WEEKS



Children can record their practical work and upload it to Seesaw. Here they can peer assess each other's learning and create a learning journey in mathematics. It is an excellent tool for alternative recording in mathematics as part of DAQM. Seesaw was a vital home learning tool during the COVID 19 pandemic with teachers using this as a teaching platform.

AP3: Raise times table profile in school

Celebration assembly

engrossed in their learningChildren use Times Tables

Rockstars to support the learning of their times

tables. We have access to

the app and full website in school. TT Rockers of the

named

in

and

Friday

week

celebrated

Lessons are differentiated to meet children's needs – this can be through different activities, different questions, support materials, teaching style. Each lesson has clear differentiated challenges and early intervention is used to address misconceptions - hotspotting





Open ended challenge are used as part of a deepening mastery curriculum. White Rose Hub provides ample resources to support this approach and develop reasoning – and further progress in this strand





Maths within other subjects is evident and the links are being exploited more readily by staff members when planning. Here are some examples in Science and English. Widens mathematical opportunities





Maths Club- Early morning Maths clubs are held to pre-teach a topic to children in need of extra support. This Is from Year 2-6. Impact is good on progress of those attending

API: Teaching and learning at least 'good' AP5: raise progress in mathematics API, AP2 and AP5: Books show a range of learning opportunities that develop fluency, embed reasoning and promote problem solving – although greater consistency needed from class to class





EYFS problem solving after learning a new concept – wider curriculum links

Selection of activities within one lesson to embed learning and extend thinking further







F) What do you



Instant feedback and whole feedback class moves learning on quickly and effectively



Problem solving taken outside the classroom to provide real life examples and stretch challenges for **GDS** pupils



Miss Wheeler @MissWh... -23/01/20 Using GPS to find our way round...we discovered a mysterious building on the woods! Congratulations to Wood Team @St.JosephStBede who completed their secret mission 😑 #SJSBGEOG #SJSBMATHS



## Implementation: Wider experiences and communication



Able Maths Day attended by children from KS2 at Hollins **Grundy Primary** School

Year 6 taking part in a maths competition at Explore Learning in Bury





Sharing research and data analysis with parents during **Children's Mental Health Awareness** Week



mpty Dumpty sat on a wal



This week we looked at capacity in maths. We measured and used mathematical language to investigate problems.





positional children using Nursery language as they explore the wider school and local area.



Lots of fun today designing our own maps then directing the bee-bots around them, using positional language & learning how to programme simply n 🚔 #SJSBMaths



Practical work to develop a sound understanding of mathematical concepts such as capacity















EYFS problem solving - how can we protect humpty dumpty as he falls?

## Implementation: Wider communication - raising the profile

#sjsbmaths Using Twitter to engage with parents and promote good practice in mathematics teaching in school



twitter. Adding purpose and audience to their work

#### Parent Hub Newsletter Engagement

Newsletter Views	Autumn 1	Spring 1 2021
Ks1	65%	85%
LKS2	70%	92%
UKS2	65%	94%

Parental Survey Feedback to inform and improve our practice

100% of parents said they agreed or strongly agreed that 'The school has a culture and ethos that is focused on emotional health and well being.' on a recent parent's questionnaire following our Well being event.

The school has high expectations for my child.	63%	33%
My child does well at this school.	60%	31%

## AP6: To develop consistent practice with approaches to problem solving and whole class teaching

Revision of whole school teaching progression with T Laughran to be followed asap

Year 1	Week	Week			Week	Week					Week	Week
	1	2			5	6						12
Autumn No-Adamn Term is 5 weeks, therefore within 20 therefore within 20 stand to end of term		Nurr	Number: Addition and Subtraction (within to) notice to 5, 6, 5, 5, 5, to Language of a to, more, less than, fever,					Geometry Shape properties ad and 3d	Number: (witi dentify and re using object repres Numi Language of = 1 fewer	Place Value hin 20) nd - 1 spresent numbers ts and pictorial entations ber lines to, more, less than r, mostly		
Include Mea Reason	surement i ling and pr	Knowledge oblem solv	of coins ing		Rez	Include M soning and	easurement problem sol	ring		Include Number Bonds Reasoning and problem solving	Include N Reasoning and	leasurement 3 problem solving
Spring	count	Number: ing in mul	Place Vali tiples of 28	ue 6, 55, 105	Multipl Ha	ication ar	nd Division oubles	Addition and Subtraction     T and O not crossing     (using prior knowledge of bonds)			ction bonds)	Measuremen and comparison across all measures
	Includ Know Reasoning	e Measurer iledge of o and proble	nent oins m solving		Reasonin	lude Measuing and prot	nement olem solving		Incl. Reasonin	ide Measuremen g and problem s	t olving	Reasoning and problem solving
Summer	Falve	ractions s and Quar	ters	Multiplicat Solve 1	ion and i step proble Arrays	Division	Addition and Subtraction Crossing tens Addition and subtraction facts within 20 1 sitep number problems		Geometry an Time O'clock Half past			
		Includ	e Measurem	ent				Include 1	leasuremen	vt.	Reasoning and	problem solving

Teaching and skills progression. Year

Set of 'learning journey' slides used as part of master planning slides for units of work, so that set criteria included in each lesson across the school – e.g. sticky knowledge, success criteria etc

#### Regular learning walks to ensure and celebrate consistent practice across key stages

Mrs Daly @daly\_mrs\_.5d What a pleasure it was to spend the afternoon in our EYFS. So much mathematics in the context of nursery rhymes and such a buzz for learning @StJosephStBede #sjsbmaths #sjsbearlyyears



Turn the words into numbers Problem Starr STARR

Devised 'SJSB' problem solving slides – a way to teach children to tackle problem solving with a common and consistent language – shared with staff at staff training



Whole Staff CPD on Problem solving and reasoning. CPD for TA's on marking in class and effective feedback.



developed an 'SJSB way'

**Plenary:** allow children time to reflect an their learning, checking to see if they have met the lessan's learning challenges using the steps to success; revise sticky vacabulary and knowledge; Cansalidation on the lessan's learning - new example - different cantext.

Self-assessment e.g. glaw and graw

**Starter:** Initial engagement – Links to prior learning. FIX it time given to complete FW. Intro: Share Learning challenges and explicitly link to sticky vocab/ knowledge for the lesson. Give context for the learning.

#### Application 2:

Children respand to WCF and move their learning on. Continue with set challenges or new challenges set to be completed as a result of mini plenary.

Mini Plenary: Reference to the learning that has taken place and steps to success; WCF against learning challenges – visual stop. Peer marking. Recap sticky vacab, Next steps identified. What makes a good MATHS lesson at SJSB?

Application 1: Children complete set challenges. Show independence and resilience. Teacher and adults earing (or specific support deployed for target pupils.) Purple pen 'live marking' and regular WCF. Main Teaching: Teacher modelling rew idea, the pracess and task which is expected of the children. Using resources which stimulate & support children's learning. Success Criteria Shared.

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## Implementation: Our monitoring and CPD

Moderation meetings are held within departments and with other schools to ensure accurat data.

Pupil voice questionnaires are completed twice annually to ensure positive attitudes to mathematics continue to be promoted across school..





**Book Reflection Forms are** completed within departments to ensure coverage. Completed at **Book Looks by maths lead** 

Lesson observation drop ins are carried out to ensure consistency.

high exactations —time related. Pupilo pupil, pupil	activity in order to keep lessor moving. Children engaged and task. Respect shown between teacher and children, listening each other and responding appropriately. Good mutual relationship.
Lesson in program - apacts the might be seen, but we expect to find evidence of eff	Learning Charlings (Like and Mindol Carl Hondocciet at the start of the bision, this reactions on the start of the second the start of the start of the second the start of the complex, children were easier real stread of facts within a start throughout the issues (Indice), the starts of the start of the start of the start of the start of the starts of the start of the start discussed as a graduate the more than the starts of the starts. The fact the starts of the starts of the starts of the starts of the completing a calculation scheduler at sus discussed as a graduate the starts of the starts of the starts. Children were on task and the and started as anyotic the starts of the methy which the scherr obsis and starts the scherr obsis and starts that is calculated and starts that is calculated and starts that is calculated and starts that is calculated as a start of the starts which is the therein the starts which is the scherr obsign that is calculated as the starts of the starts which is the starts of the starts which is the starts and starts that is calculated as the starts of the starts which is the starts of the starts which is the starts which which is the starts which is the starts which is a starts of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the starts which is a start of the starts which is the start of the starts which is a start of the starts which is the start of the starts which is a start of the starts which is the start of the starts which is a start of the starts which is the start of the starts which is the starts which is a start of the starts which is the start of



Maths Lead attended CPD by Tara Laughran for Maths leads - 2 sessions

Half termly meetings with Beacon maths leads to ensure consistent practice with other school across authority

Maths lead worked with Tara Loughran in school looking at our books, planning and progress and identifying strengths and weaknesses across departments – next steps identified

**Book Looks completed with SLT** each half term and feedback given to staff – action points monitored the next half term

> **CPD** for NQTS and teacher trainees delivered by Maths Lead and as part of **Bury NQT Network**



Attainment Whole School

Data analysis done through Hello Data: attainment and progress tracked and groups are identified Reported to HT and SLT each term

#### Implementation: Learning Environments

to day equipment Day and resources are with enhanced mathematical resources highlighting maths in the world round us.

> Areas of provision are created and developed to ensure they promote independent mathematical learning.





Working walls used are throughout the day to show progression in learning and give children opportunity to build on their knowledge.

In EYFS, maths in celebrated in each area and actively encouraged through meaningful links to daily topics and learning





Walls display the core facts and methods of the maths taught in that class.

man and write

numbers to 1,000,000

What number is this?

Two hundred and fifty-sie

thousand four hundred and

Place value grid

125,638

256,+37

Key vocabulary:

ones tens hundreds

thousands

million

forty

ten thousands

hundred thousands

LO: to ro

up to 1

Look at the

to braw wh

greater the

a) 816,

874

a) is less

it has one

SPUER 10,000

### Impact: Current Data and Assessment

• Data analysis completed three times annually through Hello Data,

- attainment and progress tracked and groups are identified
- NFER tests are completed 3 times annually, data analysed and uploaded. Progress reported and analysed at Progress meetings in teams

 Focus on Mathematics: Years

 Name
 Ora
 Name

 Objective 7
 And and Ablencal 1-dign and 2-dign numbers to gate
 Name

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 Name

 Objective 7
 And and 3-dign and 2-dign and

Assessment before learning – Children complete a short assessment task before learning a new topic. This is used to inform teacher's planning and assess progress.

Hot Spotting – Any children that have been identified (through teacher, or self fully assessment) as not understanding a lesson are 'hot spotted' later in the day . have opportunity to They embed the concept with the support of an adult.

PPG/ targeted children are to hotspotted by the teacher



Children have chance to self assess after a task. Continue to develop this across school at an age appropriate level. KS2 – glow and grow



January 2021: We received the Quality Mark for outstanding teaching and learning in Maths and English – which recognised our consistent practice across school

#### TRIBAL

Quality Mark Supporting and celebrating excellence in English and mathematics

## Depth of Learning Summary: Maths



#### Summer 1



Yr6 were working BELOW ARE (Age related expectations) in Maths after Autumn I NFER Summative Assessments. The percentage of children working below ARE was highest in our Year 4 cohort – a targeted cohort that we are tracking closely through school (high percentage of lower attainers at KSI SATS and SEND pupils.)

In Summer I, we can see an increase in attainment, with smaller percentages of pupils working below ARE in all cohorts, We can also see a greater percentage of Greater Depth leaners in each year group – highest in Year 3 and year 1.

Significant progress made in year 6, where 70% of Dream Believe Achieverildren have met ARE.

### Average Steps Progress Summary: Maths

#### Autumn 1



#### Diminishing the Difference: Autumn 1

Here we can see the steps progress both by class and by cohort. You can see that the most progress is being made in classes 6, 8 and 11 averaging just over 2 steps in a half term, in Autumn 1.

#### Summer 1



#### Diminishing the Difference: Summer 1

Here we can see the steps progress both by class and by cohort. You can see that the most progress is being made in 5, 6 and 8 with children averaging over 5 steps progress. Year 2 have made good progress in mathematics from their starting points, as have year 3 and 6.

#### What does this mean?

Here we can also see target cohorts – such as Year 1 and year 3, where the rate of progress is slower that the school average in Autumn 1. We can see that the increased intervention and support from Mrs Pearson (HLTA) into Year 3 and 4, has had a significant impact and increased the rate of progress of this target group of children, in maths – working on arithmetic skills and fluency with number.

Significant support still needed with numicon intervention in Year 1. This must be a target group for Summer 2.

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## Impact: Current Data and Assessment



Currently, 57% of whole school are working at ARE in maths. Of this, 17% are working at Greater Depth. This is significantly down on the previous Years Spring 1 data – where 72% of pupils were working at ARE. The pandemic has had a clear impact on pupil attainment.







#### <u>Pupil Voice Results</u> <u>October 2020</u>

- Results show that students enjoy mathematics and think that teacher explain concepts clearly and well - 75% strongly agree, 25% agree
- Additionally, it shows that pupils believe they receive regular feedback from their teachers – 75% strongly agree, 25% agree
- 75% of children think they are making good progress in maths, 25% agreeing they are

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What is Mathematical Fluency? 76 responses								
Knowing different types of calculations confidently and know it	t off by heart							
Being able to do different calculations whenever								
It is when we now what strategies to use.								
Learning lots of it early								
Its when you learn something and don't forget it								
Being confident.								
Its where you can remember what you've learnt								
Never heard of it								
Mathematical Fluency means that you can do times tables and addition, subtraction and division with confidence.								
What are some of the skills we use when p 79 responses	roblem solving in Maths?							
Number line	Not clear on problem solving							
Hundred square	getting equipment							
Ask three before me and put your hand up	NEXT STEP: Recap with staff							
Number lines	over Explicitly teach the skills							
I'm not sure - showing working out	<ul> <li>incorporate the STAR slide</li> <li>into lesson planning</li> </ul>							

Some good responses to the fluency question – clear that some children are unaware of the term. Next step: Flashback Fluency slide on Maths Planning PPT - term used every lesson

> However, where the skills have been modelled and used regularly in classes, the children seem eloquent and confident in expressing HOW they solve problems

urn words into nu	mbers, do the inverse, spot the gift trial and improvement, take notes, jottings, ,
Ve read the questinn formation.	on more than once, look for the gift in the question and we highlight any important
	We find the gift, a starting point and steps to success
	We use the gift and we highlight the key information
	Find the Gift, Steps to Success, Find the starting point



### Impact. Current Data and Assessment

#### Significant progress in Year 6 – 70% of children working at ARE

<u>Disadvantaged Groups: Diminishing the Difference</u> Autumn 1 – majority of disadvantaged pupils working below ARE. Summer 1, majority of pupils at ARE, with 10% working at greater depth. Majority of pupils making 5 steps or more progress,





Current Maths Progress



Girls ARE: 49%, GDS: 16% Boys: 50%, GDS: 16% Boys and girls broadly in line in terms of attainment – first time since 2019

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Continue to raise profile of mathematics through links with other subjects; ensure links are meaningful and add value to both subjects. Maths across the curriculum planned at least each half term. Develop Maths theme Days into whole school approach

Continue to monitor the effectiveness of maths progress through role out and use of WRH end of unit assessments.

> Ensure a progression in problem solving and reasoning is evident in books and through planning

Impact: Next Steps

Continue to develop problem solving and measurement across the curriculum with much more evidence seen in planning, teaching and through book looks. Assign relevant CPD for staff where desired. Continue to track the impact on GDS percentages and targeted pupils

Move to WRH for our progression and planning in school. Following their MTP and supplementing with further quality resources, e.g. T Loughran, deepening understanding etc

#### Covid Catch Up Plan: Mathematics

- 1. Teachers completed initial formative assessments in mathematics. Through their analysis of gaps, we have worked together to plan a comprehensive recovery curriculum, focussing on sticky knowledge and facts for each year group. This is predominantly number based, as this was a huge area that we felt children had 'dropped off' in after two long lockdowns (see next slide for coverage)
- 2. Numicon resources bought, for classes one set for class. Numcion interventions purchased for Uks2, uks2 and ks1. Maths lead has completed training videos for staff to subscribe to, using Numicon. Staff to sign up to ensure consistent practice.
- 3. Numicon online bought to support quality WCT staff training delivered for teachers and teaching assistants
- 4. HLTA deployed to LKS2 to support targeted children with catch up
- 5. 1:5 targeted girls maths group in Year 5, to support recovery and catch up with experienced teacher (E Sindall) 3 X 1 hour slots weekly

6. SLT – Maths monitoring of books, identified inconsistency in KS1. Feedback given and whole school book look planned for Summer 1 to ensure we can 'bottle' good practice

7. Maths Staff meeting – outlining progression and next steps for September to ensure consistency, 25<sup>th</sup> May 2021

8. Implement WRH End of Unit assessments from September 2021, to ensure progress and identify next steps

Summer term Maths	s Coverage for recove	ry				
Week	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1	counting with 100 - number stick and counting in steps of 2 from any multiple of 2, counting in steps of 2,5,10	2,5 and 10 multipication tabeles and inverse division facts - arrays - progressing to written strategies 1/2 of 6 etc	count in steps of 4,8,50 and 100 Rounding to nearest 10 and 100	counting in steps of 4,8,50,100 and 25 Rounding to nearest 10,100 and 100	Adding and subtracting Decimals - measurement / money problems (2dp)	Adding and subtracting Decimals - measurement / money problems (2dp)
2	Fluency in addition and subtrcation to 20	Fluency in addition and subtrcation to100	Number puzzles and problems - talk it solve it	Number puzzles and problems - talk it solve it	Multiplying and dividing whole numbers by 10,100 and 1000/ finding percentages	Multiplying and dividing whole numbers and decimals by 10,100 and 1000 finding percentages
3	Fluency in addition and subtrcation to 20 and missing number problems	missing number caculations	Fluency in addition and suhbtraction - 3 digits - part whole, bar and column	Fluency in addition and suhbtraction - 4 digits -part whole, bar and column	3 by 2 digit mutipication and division (problems) and fractions of amounts	3 by 2 digit mutipication and division (problems) and fractions of amounts
4	Problem solving - 1 step additiona nd subtraction problems	Solve problem with multiplication and division and addition and subtraction	Fluency in addition and suhbtraction - 3 digits - part whole, bar and column	Fluency in addition and suhbtraction - 4 digits and 1dp - money -part whole, bar and column	Time - reading the time, days, months, years, minutes, hours, reading timetables	Time - reading the time, days, months, years, minutes, hours, reading timetables
5	Assessments	SAT Test 2019	Assessments	Assessments	Assessments	SAT TEST 2019
6	Go through Gaps	Go Through gaps	Group Through gaps	Group Through gaps		

6	Go through Gaps	Go Through gaps	Group Through gaps	Group Through gaps		
Half Term						
		Time - hour and half past and	Recall and use	multiplication and division	Recognising equivalent	Recognising equivalent
	Time - hour and half past,	quarter - know number of	multiplication and division	facts - x 1 and 0, factors	fractions, decimals and	fractions, decimals and
	days of week and months	minutes in an hour and hour in	facts - tables and missing	and commutativity,	percentages -	percentages - simplifying
1	of the year	a day	numbers, perimeter	perimeter and area	simplifying fractions	fractions
	recognise and name a	1/2, 2/4, 1/3, 3/4, recognise		Formal methods of	Add and subtract	Add and subtract fractions
	half and a quarter of	and find names and write	Formal methods of	multiplication and divison -	fractions with unlike	with unlike denominators,
2	objects	fractions of length, shape	multiplication and divison	dividing and multiply by 10	denominators	including mixed numbers
	solve practical	Measure, temp, length,		Count up and down in		
	problems - kg, cm, m,	volumes, capicity, -	Count up and down in	tenths and hundedths	Multiplying fractions by	Multiplying and dividing
3	secs	compare with < and >	10ths Fractions	Fractions	whole numbers	fractions
		Fluency in addition and				
		subtrcation to100 -		Count up and down in		
	Fluency in addition and	calculating with money.	Count up and down in	tenths and hundedths	Fractions of amounts	Fractions of amounts
4	subtreation to 20	length and measure	10ths Fractions	Fractions/ dividing by 10	Algebra	Algebra
-	counting with 100 -					
	number stick and	2,5 and 10 multipication				
	counting in steps of 2	tabeles and inverse				
	from any multiple of 2,	division facts - arrays -				
	counting in steps of	progressing to written	Measure, kg, cm, m, km,	Measure, kg, cm, m, km,	Fractions of amounts	Fractions of amounts
5	2,5,10	strategies 1/2 of 6 etc	money	money	Algebra	Algebra
	Problem solving - 1	multiplication and division				
	step additiona nd	and addition and			Area and peimeter -	Area and peimeter -
6	subtraction problems	subtraction	Time	Time	practical	practical