

## Maths at Folville (Updated June 2019)

### INTENT:

**The intention of Maths at Folville is to enable children to be both fluent with their mathematical skills and to be able to manipulate their mathematical knowledge in a variety of situations (mastery).**

A mathematical concept or skill has been mastered when a pupil can represent it in multiple ways, has the mathematical language to communicate related ideas, and can independently apply the concept to new problems in unfamiliar situations.

### Curriculum coverage and planning:

We will use the **White Rose** unit plans as our plans – there is no need for any other planning. It is important that we cover all areas of the curriculum – the Year 6 SATs papers include shape, measure etc and often require children to use their skills in a different context,

The White Rose plans cover

- Yearly overview with each term split into blocks
- Each unit - small steps – use these as your LOs
- guidance for teaching with lots of examples of questions. Each block includes mathematical talk, varied fluency (core learning) and reasoning/ problem solving.

### The White Rose approach

All pupils, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

**Concrete** – Students should have the opportunity to use concrete objects to help them understand and explain what they are doing.

**Pictorial** – Students should then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.

**Abstract** – With the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence.

To achieve our objective, we would like every lesson to cover core learning skills and reasoning/ problem solving. At the very least, reasoning and problem-solving will be taught every two days.

## **IMPLEMENTATION:**

### **A typical lesson would include:**

- **Date** (short date, underlined)
- **Learning objective** (underlined)
- **Warm-up** (as needed) – chosen to practise basic skills or to lead on to the main lesson. This could be done on whiteboards or in books.
- **Teacher introduction to lesson.** Lots of maths talk! Use of concrete apparatus.
- **Core Learning** – differentiated questions, not too many! You will need to have 2 versions of your lesson or 1 version with Good/ Great/ Awesome questions,
- **Reasoning and problem solving questions** – introduced and differentiated  
(As with core learning, these skills will need to be modelled)
- **Brain-stretcher challenge** (chosen to show mastery)

All children should have time to access the reasoning and problem solving questions. Encourage mathematical questioning – ‘how do you know?’ and explanation.

The majority of lessons will be on paper and stuck into the books. The children can write on the sheet or on the adjacent page. For some topics, eg area, you may want to stick in 2 sheets. For written methods, children need to get used to setting out clearly on squared paper. Children need to write 1 digit per square.

The questions can be typed or handwritten or have questions cut and pasted in.

If the lesson does not go to plan, move to appropriate questions on the board and still include core learning and reasoning/ problem solving questions at the appropriate level.

SEN – there will be a few children who cannot access your year’s work. They will need separate work at their level but in a similar style.

### **Ideas for Reasoning and Problem Solving:**

The WR unit plans have ideas for R and PS. There are a lot more on the j-drive (see resources section at the end).

### **Times Tables:**

These are still very important! We will be continuing with Bronze/ Silver/ Gold/ Platinum.

(In 2020 all Year 4 children will be tested on their times tables.)

In 2018/19 we introduced a Diamond level which tests multiplication and division times tables facts involving multiples of 10 eg.  $40 \times 80$

#### **Years 3 and 4:**

In addition to the five Maths lessons a week, please spend 10-15 minutes a week practising times tables. Snappy Maths has some good ideas for chants etc.

#### **Years 5 and 6:**

Depending on the ability of your children, you may wish to find time to work on times tables or times tables multiplication/ division families.

### **Marking work:**

Please continue with policy of a couple of questions to correct - dabbed in pink - and then corrected in green pen as and when appropriate. This does not need to be daily – use as appropriate.

### **A typical Maths week at Folville:**

Day 1: Warm-up + Core Learning + Reasoning and Problem Solving + Brain-Stretcher Challenge

Day 2: Warm-up + Core Learning + Reasoning and Problem Solving + Brain-Stretcher Challenge

Day 3: Warm-up + Core Learning + Reasoning and Problem Solving + Brain-Stretcher Challenge

Day 4: Warm-up + Core Learning + Reasoning and Problem Solving + Brain-Stretcher Challenge

Day 5: Flashback Friday + Times Tables Assessment

### **IMPACT:**

#### **Assessment and moderation:**

We will use the White Rose Arithmetic and Reasoning tests on a termly basis.

Year 6 will be working towards the Key Stage 2 SATS.

To assess and moderate the children's skills, we need to know that work is independent.

With that in mind, we have a weekly assessment/ review - Flashback Friday.

This lesson would also include your weekly times tables assessment session.

Each child has a folder with plastic pockets.

Each week, insert their Flashback Friday sheet and their times tables sheet.

Also insert the termly Maths tests.

### **Flashback lesson:** (parts in either order)

#### **Part 1: Times tables**

30 minutes on times tables.

Allow 10 minutes to practise, 10 minutes to take the relevant test and 10 minutes to go over the answers. To achieve Silver, for example, all questions on 'Going for Silver' sheet must be completed and correct in 10 minutes.

Children who have achieved Diamond:

Use the time for additional greater depth questions/ group problem-solving/ SATs questions.

(Children who whizz through their times tables aren't always the best at solving reasoning and problem-solving type questions!)

## Part 2: Flashback Friday

This element contains questions (core skills and reasoning/ problem solving) on a unit covered previously.

At the start of the year, you will need to cover place value or basic arithmetic skills from the previous year.

There do not need to be too many questions! Ideally there are 6- 8 questions which vary in difficulty from b/ b+ questions to questions that show greater depth (s+).

### **Recording of results of Flashback Friday:**

Each week insert the Flashback Friday sheet and the times tables sheet in the child's individual folder. Encourage them to do this themselves!

Please record a level in your mark book for each Flashback Friday.

Over the year, this will show you the general level that each child is working at and whether they have excelled or struggled with any particular element.