

Mathematics Plan St Fergus' National School, Glin

Introductory Statement and Rationale

(a) Introductory Statement

This Mathematics Whole School Plan was prepared by the staff of St Fergus' N.S. during the academic year 2013-2014 and will be implemented in full from September 2014. It will be reviewed biannually. It was drawn up by staff following staff training by the Numeracy Link Teacher (Ms Deirdre Dillane) over the course of two days and taking into account the National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020. Our S.I.P. also informed decisions in this plan.

(b) Rational

This plan was designed in order to:

- benefit teaching and learning in our school
 - conform to principles of learning outlined in the Primary School Curriculum
 - conform with The National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020 and the current emphasis on School Self Assessment.
 - review the existing plan for mathematics
 - review, consolidate, clarify and build upon aspects of our existing school plan for Mathematics
 - improve the standard of Mathematics in our school
 - organise and coordinate work being carried out already by staff in Mathematics
 - establish and provide a resource for staff members which is structured and researched
 - provide a framework within which more specific planning can take place
 - provide information for teachers, parents, Board of Management members and all other interested educational partners of the school community
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Vision and Aims

(a) Vision

Our school cherishes all pupils equally and we aim to aid them in achieving their true potential. It is envisaged that after their primary schooling they will have acquired the necessary mathematical skills to participate fully in the mathematical curriculum in second level and to engage in problem solving of a practical nature in their everyday lives. We are hopeful that all pupils will be confident in using Maths and that they will have reached their Mathematical potential to the full in a meaningful and positive way.

(b) Aims

We endorse the aims of the Primary School Curriculum for mathematics

- To develop a positive attitude towards mathematics and an appreciation of both its practical and its aesthetic aspects
- To develop problem-solving abilities and a facility for the application of mathematics to everyday life
- To enable the child to use mathematical language effectively and accurately
- To enable the child to acquire an understanding of mathematical concepts and processes to his/her appropriate level of development and ability
- To enable the child to acquire proficiency in fundamental mathematical skills and in recalling basic number facts
- To provide many opportunities to revise maths concepts before exploring new ones
- To assess at regular intervals using a variety of methods
- To share resources, ideas and practice

This Mathematics plan will be addressed under the following headings

Curriculum planning

- 1. Strands and strand units**
- 2. Approaches and methodologies**
- 3. Assessment and record keeping**
- 4. Children with different needs**
- 5. Equality of participation and access**

Organisational planning

- 6. Timetable**
- 7. Homework**
- 8. Resources and ICT**
- 9. Individual teachers' planning and reporting**
- 10. Staff development**
- 11. Parental involvement - home school links**
- 12. Community links**

1. Strands and strand units

(For content overview see Curriculum: Infants p.17; First & Second classes p. 37; Third & Fourth classes p.61; Fifth & Sixth classes p. 85)

Planning

	Infant Classes	First and Second Classes
Strands	Strand Units	Strand Units
Early Mathematical Activities	<ul style="list-style-type: none"> • Classifying • Matching • Comparing • Ordering 	
Number	<ul style="list-style-type: none"> • Counting • Comparing and Ordering • Analysis of Number • Combining • Partitioning • Numeration 	<ul style="list-style-type: none"> • Counting and Numeration • Comparing and ordering • Place value • Operations • Addition • Subtraction • Fractions
Algebra	<ul style="list-style-type: none"> • Extending Patterns 	<ul style="list-style-type: none"> • Exploring and using patterns
Shape and Space	<ul style="list-style-type: none"> • Spatial awareness • 3-D shapes • 2-D shapes 	<ul style="list-style-type: none"> • Spatial awareness • 3-D shapes • 2-D shapes • Symmetry • Angles
Measures	<ul style="list-style-type: none"> • Length • Weight • Capacity • Time • Money 	<ul style="list-style-type: none"> • Length • Area • Weight • Capacity • Time • Money
Data	<ul style="list-style-type: none"> • Recognising and interpreting data 	<ul style="list-style-type: none"> • Recognising and interpreting data

	Third and Fourth Classes	Fifth and Sixth Classes
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Strand	Strand Units	Strand Units
Number	<ul style="list-style-type: none"> • Place value • Operations • Addition and subtraction • Multiplication and division • Fractions • Decimals 	<ul style="list-style-type: none"> • Place value • Operations • Addition and subtraction • Multiplication and division • Fractions • Decimals and percentages • Number theory
Algebra	<ul style="list-style-type: none"> • Number pattern and sequences • Number sentences 	<ul style="list-style-type: none"> • Directed numbers • Rules and properties • Variables • Equations
Shape and Space	<ul style="list-style-type: none"> • 2-D shapes • 3-D shapes • Symmetry • Lines and angles 	<ul style="list-style-type: none"> • 2-D shapes • 3-D shapes • Symmetry • Lines and angles
Measures	<ul style="list-style-type: none"> • Length • Weight • Capacity • Time • Money 	<ul style="list-style-type: none"> • Length • Weight • Capacity • Time • Money
Data	<ul style="list-style-type: none"> • Representing and interpreting data • Chance 	<ul style="list-style-type: none"> • Representing and interpreting data • Chance

- In order to ensure that all teachers are familiar with the curriculum for their class level, we will review this plan biannually
- We will complete a uniformed CúntasMíosúil in order to ensure that each Strand and Strand Unit together with their content is being taught.
- In order to ensure that this familiarity is maintained if teachers change classes or if new teachers join the staff, we will circulate this plan to them. It will be available on the school's Dropbox account and also in hardcopy in the office. The staff will also confer with previous teacher and research the part of the Whole School Plan which is applicable to their class/classes

- In multi class settings it is advisable that the same strand/strand unit be taught to both groupings if possible at the same time. Text books are generally not shared in a multi class setting. Each class uses the textbook in accordance for their class level.
- Efforts will be made by all teachers to plan for integration across all curricular areas and linkage within mathematical areas.

- Each teacher will allocate the correct amount of time to the teaching of Mathematics within their classroom. Infants will be three hours and thirty minutes, with Rang 1-Rang VI receiving four hours and thirty minutes per week. This will be clearly displayed on all class timetables.

2. Approaches and methodologies

In the mathematics curriculum the strands and strand units are viewed through the lens of the approaches and methodologies. (Refer to Teacher Guidelines: Mathematics pp. 30 - 67)

2.1 General

All children will be provided with the opportunity to access the full range (all strands) of the mathematics curriculum. In St. Fergus' National School we ensure that this happens in the following ways

- Through adequate timetabling within each class
- Ensuring that pupils receiving supplementary teaching from the learning-support/resource teacher in the area of Maths do not have their additional teaching, timetabled to clash with mainstream Maths lessons.
- Ensuring that there is less emphasis and reliance on textbooks and workbooks and more on active learning strategies
- Ensuring that the textbooks we do use are in line with content objectives for the class level.
- Encouraging the appropriate use of concrete materials in all classes through the school and not just in the junior classes. To encourage this, an inventory of all Maths equipment within the school will be provided to all teachers.
- Providing opportunities for all children from fourth to sixth class to use calculators, *e.g. to check answers, to explore the number system, to remove computational barriers for weaker children or to focus on problem solving.*
- Allowing pupils to collect real data in other areas of the curriculum and using it to represent their findings i.e. using data from other subjects such as geography, history or science to find the answer to a question. Gathering data to answer their own questions such as 'Do more/less children walk to school this year than five years ago?' 'What are the three favourite vegetables eaten by children in our class?'
- Engaging in estimation strategies through every appropriate strand within the maths curriculum e.g. Shape and Space.
- Using whole school strategies and initiatives to raise the profile of mathematics as a subject to be enjoyed by all children, *e.g. mathematics fun days, "Maths for Fun" display of mathematics work in school, St Fergus' Maths Trails.*
- *Teachers ensure that the relevant Maths language is implemented appropriately and in context formally through Maths instruction and informally across the Curriculum*
- *Exposing children to a Maths rich environment both within the classroom and in the wider school environment.*

2.2 Talk and discussion

Guided discussion and discussion skills

- Talk and discussion in mathematics is taken seriously and seen as an integral part of the learning process, *e.g. teacher/pupil, pupil/pupil, pupil/teacher. This will provide the focus for the beginning of all Maths lessons particularly in the initial stages of a topic.*

- We provide opportunities for pupils to explain how they got the answer to a problem, discuss alternative ways of approaching a problem or give oral descriptions of group solutions. This will be particularly important in Problem Solving lessons but will be relevant to all areas of the Maths Curriculum.
- Discussion skills are enhanced by turn taking, active listening, positive response to the opinion of others, confidence in putting forward an opinion, ability to explain clearly their point of view

Scaffolding

- Teachers actively model the language to be used, particularly when talking through the problem-solving process.

Integration

- A thematic approach will be used for linkage within mathematics and integration across all areas of the curriculum e.g. measuring volumes of liquids in Science, collecting Data in S.E.S.E.

Linkage

- Teachers will provide opportunities where a thematic approach might be used for linkage, *e.g. when dealing with decimals we also aware of their use in data - pie charts; measures - all areas but particularly Money for introducing decimals*

Mathematical language in context

- There is an agreed emphasis on the language of mathematics i.e. for each class level we have a list of terminology, language. This list of terms and language can be found at the back of this Whole School Plan for Mathematics.
- There is a conscious effort made to use the children's own ideas and environment as a basis for reinforcing mathematical language, *e.g. you are taller than he is, teacher's table is longer/wider than yours?*
- Teachers have identified common approaches to the language used in
 - Addition – total, sum of, add, and ...
 - Subtraction – minus, subtraction, take-away, difference, less than ...
 - Multiplication – times, product of, multiply, groups of ...
 - Division – divide, share, split, groups of ...
 - Equals – same as, is, will be, answer is, means ...

This list accompanies this school plan

Note: Although the whole-school plan identifies particular terms to be used at different class levels, care must be taken that children, during their school career, are exposed to the different terms used in relation to the symbols e.g. +, add, plus

Number facts

- There is a common approach to the teaching of number facts (tables), *e.g. for 3 X 4, we say three fours.*
- Children are aware of the commutative properties of multiplication tables and of their relationship with division
- We teach subtraction and division tables separately from addition and multiplication. These are taught in the order of
 - addition and subtraction in First and Second
 - revision of addition and subtraction in Third and Fourth
 - introduction of multiplication and division in Third and Fourth

-revision of multiplication and division in Fifth and Sixth

2.3 Active learning and guided discovery

- There are agreed strategies for teaching
 - Addition - bottom to top
 - Subtraction –we use concrete materials in the initial stages along with the crossing out of pictorial representations. We also focus on subtraction in its vertical state. When we are subtracting using regrouping we will focus on the “crossing out” method once the initial work has been done and the concept is understood. As a staff, we have agreed that this will facilitate quicker work for those with a good understanding of Maths and will allow those who have difficulties in the area to follow a set number of steps to allow for accurate answering.
 - Multiplication – we follow the steps of; skip counting initially, using mental strategies such as identifying doubles, near doubles, multiplying by 5 and 10, using games to reinforce facts, developing and honing estimation skills. We also focus on the vertical method of representation once simple multiplication has been mastered.
 - Division –we begin with the concept of sharing, moving on to understanding division as repeated subtraction, developing and honing estimation skills. We use all of the methods of representing division in all classes in order to ensure pupils are familiar with all of the guises.
 - We add and subtract fractions using pictorial representation initially and then moving on to the formula “find a common denominator and add the numerator” . We use these correct terms always.
 - We add and subtract time by converting an hour to sixty minutes initially when needed.

Children encouraged to develop personal benchmarks, particularly in the measures strand, *e.g. noting their height in relation to a metre, the width of their finger as close to a centimetre, the corridor is 105 tiles long.*

- Mathematical games are in used at each level, *e.g. dice, cards, dominoes, spinner games,*
- Websites are used to support the teaching of mathematical concepts. Many of the games on these sites are used in classes throughout the school. A list of commonly used sites can be found at the back of this plan.

2.4 Collaborative and co-operative learning

- We ensure that children learn the skills needed to work *as* a group rather than just *in* a group, *e.g. listening to others, turn-taking, appreciating that others’ opinions are important?* Opportunities are provided for children to learn from their peers, *e.g. buddy systems, think/pair/share, problem solving in groups*
- Each class use a variety of organisational styles, *e.g. pair work, group work and whole class work*

2.5 Problem-solving

The child’s attempts to solve a problem require him/her to call on many skills. Problems in mathematics have often been seen as textbook examples at the end of a section on a particular topic. Problems in life are rarely that simple and there is often more than one way of finding a solution.

Problem solving experiences should develop the ability to plan, take risks, learn from trial and error, check and evaluate solutions and think logically. Discussion and acceptance of the points of view of others is central to the development of problem-solving strategies.

Problems can be classified in many ways. They can be presented concretely, diagrammatically or in written form. They can be open or closed. They can relate to one particular content area or include elements from one or more strands.

A written problem can be difficult to solve because of the readability or because it has multiple steps to solution procedure. Large and awkward numbers often frighten children away from attempting a problem and if the information is not presented in the order in which it is to be used some children just give up without trying. If children are taught to analyse the problem carefully and extract the relevant information they can often find it easier to solve than it appeared at first.

Children need to develop problem solving skills in general and to be confident in their own ability to attempt a solution.

- Children will be taught a number of strategies for problem solving and to experiment with applying the same strategy to different problems and different strategies to the same problems. These strategies will vary according to the child's age. They will include
 - *RAVECCC – Read, Attend to key words, Visualise, Estimate, Choose numbers, Calculate, Check
 - *ROSE – Read, Organise, Solve, Evaluate
 - *RACE-Read, Analyse, Choose, Evaluate
- The teacher will need to structure the problems given to the children so that they experience success
- Rereading of the problem by the child will be encouraged
- Cooperative group work and class discussion of the results of a problem solving exercise is encouraged. Children are asked to try different approaches themselves, to offer alternative solutions and to try them out on the board
- We sometimes give children in senior classes problems with irrelevant information or with no solution possible because of missing information. This encourages them to analyse what it is that they are being asked for
- Senior children are encouraged to invent problems for others to solve and discuss the results.

Problem Solving Strategies

Problem solving strategies must be varied and the children given ample opportunity to try them out concretely, orally or in a written task. Many children fail at mathematics because their mathematical vocabulary is insufficient to cope with the terminology of problems. Development of the necessary vocabulary in a consistent manner throughout the classes is stressed. Some strategies that we teach to children include

- Constructing a model

- Drawing a diagram to illustrate a problem
- Looking for patterns in a problem
- Making a guess and testing it out
- Breaking the problem down and solving each part
- Writing a number sequence for a problem
- Using appropriate equipment to solve a problem, for example balance, measuring instruments, calculator, blocks
- Solving a simpler version of the problem, for example using smaller numbers

2.6 Using the environment

- We use the school environment to provide opportunities for mathematical problem-solving *e.g. how high/wide is the door*
- Mathematical trails developed by class teachers within or outside of the school building, are in line with the school's Health and Safety policy?
- Children are given the opportunities to present/display their mathematical work in the class and on noticeboards in the corridors.

2.7 Skills through content

- All teachers ensure that skills are being actively developed through the content? (See *Teacher Guidelines: Mathematics pp 68-69*) There is evidence that the transfer of those skills is taking place in other areas
 - **Applying and problem solving**, *e.g. selecting appropriate materials and processes in science*
 - **Communicating and expressing**, *e.g. discussing and explaining the processes used to map an area in geography*
 - **Integrating and connecting**, *e.g. recognising mathematics in the environment*
 - **Reasoning**, *e.g. exploring and investigating patterns and relationships in music*
 - **Implementing**, *e.g. using mathematics as an everyday life skill*
 - **Understanding and recalling**, *e.g. understanding and recalling terminology, facts, definitions, and formulae*
- All classes encourage the use of mental mathematics. This is done through the use of Mental Maths Homework books and web/non website based problems

3. Assessment and record keeping

(See *Curriculum pp. 114-121, Teacher Guidelines pp. 64-65, the school's Assessment Policy*)

- We know that assessment is being used to direct teaching and learning, as the staff look at results on both a class and school basis to see if there are areas of mathematics that can be improved. This is done following the SIGMA-Ts in the final term.
- We have an agreed whole-school approach to assessment in mathematics.

- SIGMAS are administered from First to Sixth each year in May/June. Results are relayed in the form of STENs via parent/teacher meets and reports cards.
- Teachers administer their own class based tests at their discretion and results are kept in their own records.
- We ensure that a broad range of assessment tools are used. This include
 - Teacher observation
 - Teacher-designed tests and tasks
 - Work samples, portfolios and projects
 - Curriculum profiles
 - Mastery records
 - Diagnostic tests (mainly resource/learning-support)
- We ensure that standardised tests are being used in accordance with instructions given with the test by following the teacher guidelines given in each class booklet.
- We share information with other teachers in other schools and with other professionals upon written consent from parents.
- All records managed and stored in line with the school's policy on record keeping.

4. Children with different needs

4.1 Children with learning difficulties

(Refer to school's Learning-Support Policy and to our Special Needs Assistant Policy)

- Our school policy allows for flexibility within the Maths programme to accommodate children with differing abilities.
 - Children with special needs have access to all strands of the Primary School Curriculum.
 - Teachers will tailor the Mathematics Curriculum to make it accessible to all pupils.
 - Differentiation is used in each class level within the class. This may be within the areas of expected outcome, teaching style, resource used etc.
 - The LS/RT team provides supplementary teaching in Maths for children identified with learning difficulties. The availability of supplementary teaching for maths will be facilitated first if LS/RT timetables will allow after Literacy hours are used.
 - The LS/RT team have access to and make use of many resources to assist children with special needs. These will include programmes like Maths Together and many sites.
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- ICT is used regularly to support teaching and learning for children with special needs.
 - LS/RT will liaise regularly with class teachers regarding I.E.P.s and I.P.L.P.s for pupils with special needs.
 - Resources for Mathematics will be purchased by the teacher with responsibility for Numeracy-Mrs Healy.
 - Ms O'Hanlon and Mrs Adams are trained in Mata saRanga. Elements of this programme will be used with pupils with SEN. They will also be used for Station

Teaching in **Infants for 10 weeks in the second term**.LS/RT, class teacher and S.N.A.s will help to facilitate this event.

4.2 Children with exceptional ability

- The school will provide a range of strategies to provide challenges for children of exceptional ability
 - Teachers provide a differentiated programme
 - Children are facilitated to work on independent research projects
 - ICT is used to support their work
 - Children can be facilitated to work with older/other pupils
- What arrangements are in place to liaise with their parents?
- Does the school consult organisations such as An ÓigeThréitheach, Centre for Talented Youth?
- What other measures, appropriate for your school, are required?

5. Equality of participation and access

(Refer to school's Equality Policy)

- Mathematics can often wrongly be perceived as a subject that boys are better at than girls. In St Fergus' N.S. we endeavour to work to eradicate this myth.
- Equal opportunities are given to boys and girls to participate in discussions, use of manipulatives, presentations etc
- All children have access to services, facilities, or amenities in the school environment.
- Provision is made, as and where necessary, for the following
 - Members of the Traveller community
 - Children experiencing any form of disadvantage
 - Children with disabilities
 - Families with literacy problems
 - Families for whom English is not the first language

6. Timetable

- All teachers are aware of the time allocation at each level for mathematics and timetable it as such. *(i.e. 3hours15 minutes per week in the Infant classes and 5 hours 10 mins from Rang I-Rang VI)*
- When drafting timetables for withdrawal of pupils for supplementary teaching, teachers include these pupils for as much of the mainstream mathematics programme as possible? *(Refer to Learning-Support Policy)*
- When timetabling maths in a multi-class situation teachers will try in as far as possible to timetable the same topic at the same time for all classes.

7. Homework

(Refer to school's Homework Policy)

- Mathematics homework reflects the active learning approach as described in the curriculum.
- As a staff we believe that Mathematics homework is a vital component of Home/School relations. Homework in this area should inform parents of the work being done at school and allow for consolidation of same.
- Teachers differentiate homework taking into account the range of abilities within the class. This will be reflected in the cúntaisímíosúla.

- We ensure that children attending resource/learning-support are not going home with two sets of mathematics homework. This is done through constant communication between teachers and is taken on a case by case basis.

8. Resources

(Refer to *Teacher Guidelines: Mathematics p. 18, pp.72-73*)

Equipment, textbooks, supplementary materials, calculators

- Mathematics resources/materials
 - Are stored distributed to classrooms where they are needed. It is envisaged that in the future they will be centrally located.
 - Mathematics equipment is purchased by Mrs Healy the teacher with responsibility for Mathematics.
 - Individual teachers are responsible for managing resources in their rooms.
- Each class has supplementary resources such as posters that correspond to the Maths Curriculum.
- Resources for Mata Sa Rang are stored by the learning-support/resource teacher.
 - *Mata Sa Rang: "Teaching Number in the Classroom with 4-8 yr olds"* manual,
Empty numberline, fivewise and pairwise cards, ten plus cards, near ten plus cards, placevaluearrowcards, numeral track, pattern cards, five frame cards, five frame minibus, pairwise dot cards, fivewise dot cards, domino cards, bead strings, arithmetic rack, double ten frame, double deck bus frame, double ten cards, numeral cards, chocolate box and cards, ten bead boards, spinners for leap frog, hundred square, 1-20 counting frame, counters, hide and see flipstand, Teaching Number in the Classroom CD Rom.
 - Maths Together Level 1 and 2, Mulberry Publications

ICT

(See *Teacher Guidelines: Mathematics pp. 60-61, Information and Communications Technology (ICT) in the Primary School Curriculum: Guidelines for Teachers*)

- Each class has an Interactive Whiteboard which teachers use daily to enhance the teaching of Mathematics.
- Software is stored in each classroom for the appropriate level. Individual teachers are responsible for the safe store and maintenance of this equipment.
- Staff share opportunities for enhancing pupil learning in mathematics through using the Internet. Useful websites are listed/displayed at the end of this plan and on our Dropbox site.
- The school's Acceptable Usage Policy ensures safe Internet usage.

9. Individual teachers' planning and reporting

- Teachers individual yearly and fortnightly plans are informed by the whole school plan and the curriculum documents for mathematics.
- New teachers/Substitutes are able to access the school plan on the schools' Dropbox account. The principal will provide information on this when required.

- CuntasMíosúilserve in reviewing and developing the whole school plan/individual teacher preparation for following years. Standard CúntasMíosúlaare collected on the second Tuesday of every month by the principal.

10. Staff development

- Teachers have access to current research, reference books, resource materials, websites, associations dealing with mathematics.
- Staff meetings, underCroke Park Hours are used to facilitate the sharing of this information.
- Teachers are encouraged to attend courses in the area of Numeracy, online, in Tarbert/Tralee/Limerick Education Centres as part of C.P.D. at to relay information gathered to whole staff.
- Opportunities for team-teaching can be facilitated in classes using LS/RT and also for Mata saRanga/Maths for Fun sessions in Rang I&II.

11. Parental involvement – home school links

(Refer to Teacher Guidelines: Mathematics p. 21 and also Guidelines for Parents - Your child's learning (Primary School Curriculum)

- We make parents aware of the content of the mathematics programme and the approaches/methodologies used in this school through homework, parent/teacher meeting, this plan and on our website.
- Parents are informed of standardised test results at Parent/Teacher meetings and Report Cards. Class tests results are relayed through test sheets and signed by parents.

12. Community links

- Members of the community who could make a particular contribution to the mathematics programme are always welcomed and encouraged to share their knowledge base with pupils
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Success criteria

This plan will make a difference to the teaching and learning of mathematics in our school.

We will know that the plan has been implemented

- *Teachers' preparation will bebased on this plan*

- *Procedures outlined in this plan consistently followed*
- *CúntaisíMíósúla*

Indicators that the plan has achieved it's aims

- *Feedback from teachers/parents/pupils/community*
- *Inspectors' suggestions/report*
- *Feedback from second level schools*

The plan will have achieved it's aims when the pupils are

- *Enabled to access the mathematical curriculum at their level, while improving their mathematical skills*

Implementation

(a) Roles and Responsibilities

This plan will be coordinated by the teacher with responsibility for Mathematics-Mrs Healy, along with the Principal of the school. Whole staff feedback on it's implementation and development will be reported at staff meetings.

The plan will be monitored and evaluated bi-annually.

(b) Timeframe

The plan will be implemented in September 2014.

Review

It will be necessary to review this plan on a regular basis to ensure optimum implementation of the mathematics curriculum in this school.

(a) Roles and Responsibilities

State those involved in the review

- *Teachers*
- *Pupils*
- *Parents*
- *Post holders/plan co-ordinator*
- *BoM/DES/Others*

The Principal has responsibility for co-ordinating the review of this plan. This will be done in conjunction with the teacher with responsibility for Maths-Mrs Healy and the whole school staff.

(b) Timeframe

This plan will be reviewed in June 2016.

Ratification and Communication

This plan was ratified by the Board of Management of St Fergus' N.S. on _____ and will be reviewed in June 2016.

Reference Section

- Curriculum documents for Mathematics
- National Strategy to Improve Literacy and Numeracy among Children and Young People 2011-2020.
- Our S.I.P. also informed decisions in this plan.
- NCCA Assessment Guidelines

- Primary School Curriculum. Your child's learning. Guidelines for Parents
- Learning-Support Guidelines, 2000, Government Publications
- NCCA Draft Guidelines for Teachers of Students with General Learning Disabilities, 2002

Websites:

PCSP	<u>www.pcsp.ie</u>
SDPS	<u>www.sdps.ie</u>
NCTE	<u>www.ncte.ie/internetsafety</u>
DES	<u>www.education.ie</u>
NCCA	<u>www.ncca.ie</u>
PTMA Primary Teachers' Mathematics Association	<u>www.primarymathematics.ie</u>
NPC Primary	<u>www.npc.ie</u>
DES	<u>www.education.ie</u>

Other websites that are used in this school include

- www.topmarks.com
- www.kidsnumbers.com
- www.mathsplayground.com
- www.coolmath4kids.com
- www.mathsisfun.com
- www.xls.com
- www.seomraranga.com
- www.primaryresources.co.uk/
- www.math-drills.com/
- www.primaryhomeworkhelp.co.uk/maths/
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This list is not exhaustive and will vary and adapt as new websites come online

Resources used in the delivery of the Maths Programme in St Fergus' N.S.

Early Mathematical Activities	Number	Algebra	Shape and Space	Measures	Data
A variety of counters Unifix cubes Links Sorting bowls Teddy bears Lollipop sticks Matching cards Pegs	Counters Cubes Lollipop sticks Abacus BINGO-addition and subtraction	Counters Beads Number lines Unifix cubes	2-D Shapes 3-D Shapes Tangrams Geo-strips Lollipops Protractors Set squares Compass	Coins Clock Trundle wheel Measuring Jugs Metre sticks Balance Thermometer Kitchen scales	Posters Dice Tables and charts from newspapers Playing cards

	100 square Coins Dienes Blocks Number lines Calendar Dice Digit Flips Fans Fraction charts and games Fraction walls Calculators Target Boards Playing cards			Set of standard weights Samples of food in grams Measuring tape Cm Rulers Measuring spoons Volume set Egg timer Stop watch Timetables TV Guides Atlas Catalogues Currencies	
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Language Used in St Fergus' N.S. across the Maths Strands

Junior Infants	Senior Infants
Long/Short, longer/shorter More than/less than/Same as First/last Over, under, up, down, on, beside, in Shape, Square, circle, triangle, rectangle, roll/do not roll Fit/do not fit Round/not round, thick/thin Long/short.tall/short, wide/narrow, longer/shorter, wider than Heavy/light, heavier than/lighter than, balance, weigh Full/nearly full, empty,holds more/less than, holds as much as Morning/evening. Night/day, lunchtime, bedtime, early/late, days of the week, schooldays, weekends Buy, sell, spend, coins, cent, how much? Enough/more/as many as/less	As for Junior Infants plus Ordinal Number-first, second, third, last Above, below near, far, right, left Cube, cuboid, face, straight, curved, round, flat, side, corner As long as/as wide as, longest/shortest Yesterday/today/tomorrow, seasons, soon/later/not yet/birthdays Cost, price, cheap/expensive, change, too much/too little Sets
First Class - As Senior Infants plus Between, underneath, on top of, around, through, left, right Semi/circle, Hemi sphere Half Sphere, pyramid Length, width, height, measure, nearly a metre, a bit more/less than a metre Heavy, heavier, heaviest, light, lighter, lightest, Pour, fill, full, empty, holds more/less, the same amount as	Second Class - As First Class plus Quarter Cone, oval Metre/centimetre Euro Symmetry Area Digital/Analogue clock/time Block graph Corners

<p>Reading day, date and month using a calendar Hour, half hour Metre, litre, kilogramme</p>	
<p>Third Class - As for Second Class plus Regular/irregular shapes Prism, pyramid, sides, angles, parallel, and non-parallel lines Tessellate Nets Symmetry Vertical, horizontal and parallel lines Right angles Clockwise/anti-clockwise Gramme. Kilogram Possible, impossible, might, certain, not sure Roll, toss, spin, chance, random Tenths Minute Equivalent Bar chart</p>	<p>Fourth Class -As for Third Class plus Equilateral, isosceles, scalene triangle Parallelogram, rhombus, pentagon, octagon Diagonal Oblique, parallel lines Acute, obtuse and right angles Perimeter Hundredths Chance, likely, unlikely, never, definitely Bar line graph Scale</p>
<p>Fifth Class - As for Fourth Class plus Thousandths Prime and composite numbers Square and rectangular numbers Factors, multiples Positive and negative numbers Equations Quadrilaterals Diameter, radius, chord, circumference, arc, sector, tangent Tetrahedron Vertices</p>	<p>Sixth Class - As for Fifth Class plus Square roots Quotients Ochtedhedron Scale Ares/Hectares Trend Graph Pie Charts</p>

This is the language used in our school for each operation

+	-
<p>Infants-and, add, plus, all together makes First and Second-as above plus, count on, what is the sum of, total Third and Fourth-all of the above plus, total, increase ___ by, how many between</p>	<p>Infants-take away, minus, First and Second-subtract, less, find the difference, what's the difference?, go back from ___ on the numberline, less/more than, what has to be added to? Third and Fourth-fewer, decrease</p>
X	/
<p>Infants-groups of, sets of, bundles of First and Second-as above plus, repeated addition in rows Third and Fourth-all of the above plus,</p>	<p>First and Second-give, how many in each group Third and Fourth-as above plus, divided by/into, shared, over, remainder/left</p>

<p>multiply, product Fifth and Sixth-all of the above plus, power of **We begin all multiplication sums at the bottom**</p>	<p>over, split Fifth and Sixth-dividend, divisor, quotient **Long division is introduced in Fifth class. **All methods of writing division are used in all classes from Third class up</p>
<p style="text-align: center;">=</p> <p>Infants-same as, means, all together, equals First and Second-as above plus, answer is, makes Third and Fourth-represents, will be</p>	