If you have suggested additions, or you find that some links are not working, please email [resourcelist@fess.ie](mailto:resourcelist@fess.ie)

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| --- | --- |
| **Minor Award Name** | **Functional Mathematics** |
| **Minor Award Code** | 3N0930 |
| **Level** | 3 |

**Some suggested resources to support delivery:**

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| --- | --- | --- | --- | --- |
| **Theme/Topic** | **Type** | **Relevance** | **Author/Source** | **Web Link** |
| **Role of numbers in daily life** | Website | A website with videos, guides, posters and resources to assist people to see the maths they do every day. It helps make maths meaningful and relevant to the learner. | Maths Eyes | <http://www.haveyougotmathseyes.com/> |
| **integers** | Teaching and learning plan | A lesson plan for teaching integers. It including addition, subtraction, multiplication and division of integers. Student activity sheets are included. | Project Maths Development Team | <http://www.projectmaths.ie/documents/T&L/Integers.pdf?strand> |
| **Properties of addition and subtraction** | Worksheet | A worksheet explaining the properties of addition and subtraction, including the commutative property, associative property and identity property. | Reteach | <https://www.eduplace.com/parents/hmcam/reviews/pdf/5/5hmmca-cr-06-03-rt.pdf> |
| **Addition and subtraction** | Selection of worksheets | This webpage contains a variety of worksheets for addition and subtraction practice. The sheets include single digit and multiple digit calculations in various layouts. Some calculations include money, decimals, time, etc. Worksheets are randomly generated. | Math-Aids.com | <http://www.math-aids.com/Mixed_Problems/> |
| **Fractions, ratios, decimals and percentages** | YouTube video | A visual representation of fractions, decimals and percentages, including real life examples. The video demonstrates equivalence between them by conversion. | abc teach | <https://www.youtube.com/watch?v=Kr52yfR3wGA> |
| Worksheet | Worksheet to practice conversion. | Super Teacher Worksheets | <https://www.superteacherworksheets.com/percents/converting-fractions-decimals-percents_EASIE.pdf> |
| **Ratio and Proportion** | PDF handout | A visual guide for ratio and proportion, including worked examples | John Mensah | <http://www.skillsworkshop.org/resources/ratio-and-ratio-sharing> |
| Worksheet | Ratio worksheet including a good mix of questions. One question involves working backwards from a paint mixing chart to discover what colour paint you will end up with. | Dave Hagon | <http://www.skillsworkshop.org/resources/mixing-paint> |
| **Rounding** | Interactive PowerPoint presentation | Rounding presentation that uses number lines and animation to demonstrate rounding whole numbers, decimals and using significant figures. This is useful as a class activity with the tutor facilitating discussion. | Jane Marsh | <http://www.skillsworkshop.org/resources/rounding> |
| **Solving problems from real life situations** | Collection of lessons | A collection of lessons, which shows realistic applications of math skills and concepts, including managing credit cards, determining the economics of buying vs. leasing a car, accruing simple or compound interest in saving accounts, communicating data visually, calculating rectangular and rounded areas to determine the quantity of materials needed for home decorating improvements, and applying ratios, proportions, and measurement conversions in working with recipes. | Annenberg Learner | <http://www.learner.org/interactives/dailymath/> |
| **The concept of algebra** | Webpage | Explains the use of algebra very well using various methods. Includes student activities. Explains the similarity of algebra to arithmetic. | Mathisfun.com | <https://www.mathsisfun.com/algebra/introduction.html> |
| **Simplify algebraic expressions of one or two variables** | Worksheet generator | Creates various worksheets for simplifying algebraic expressions of one or two variables. | Math-Aids.Com | <http://www.math-aids.com/Algebra/Pre-Algebra/Expressions/> |
| **Solve algebraic equations of one variable** | Interactive practice questions | A range of questions to practice solving algebraic equations. Includes explanations when a question is answered incorrectly. | IXL learning | <https://www.ixl.com/math/algebra-2/solve-linear-equations> |
| Handout | A handout explaining how to solve algebraic equations of one variable. Practical examples included. | Maths.mq.edu.au | <https://maths.mq.edu.au/numeracy/web_mums/module2/Worksheet22/module2.pdf> |
| **Transpose formulae and equations** | PowerPoint  Cards | A power point and interactive cards to introduce the students to reversing calculations / formulas.  The PPT demonstrates the basics of how to rearrange formulae and use reverse calculations to check answers.  The cards with symbols can be used to physically rearrange the formula showing the moves of each symbol. | Rajal Naik | <http://www.skillsworkshop.org/resources/reverse-calculations-and-rearranging-formulas> |
| **Solve inequalities of one variable** | Webpage | Explains how to solve inequalities | Mathisfun.com | <http://www.mathsisfun.com/algebra/inequality-solving.html> |
| **Solving simultaneous equations** | Webpage | A webpage that uses examples to demonstrate how to solve simultaneous equations. Practice questions are included. | BBC | <http://www.bbc.co.uk/schools/gcsebitesize/maths/algebra/simultaneoushirev1.shtml> |
| Exploring Project Maths – Books 1, 2 & 3 | Books | All areas of the course are included in these books. They contain many worked examples, classroom activities, practice questions and real life problems.  Only some sections of the book are relevant to this programme, however the book has relevance across other Mathematics programme modules. | Author: Seamus McCabe  Published by: CjFallon | <http://www.cjfallon.ie/books/mathematics/> |
| New Concise Project Maths – Books 1 & 2 | Books | All areas of the course are included in these books. They contain many worked examples, classroom activities, practice questions and real life problems.  Only some sections of the book are relevant to this programme, however the book has relevance across other Mathematics programme modules. | Authors: George Humphrey, Brendan Guildea, Geoffrey Reeves and Louise Boylan  Published by: Gill & Macmillan | [http://www.gilleducation.ie/gill-education-search?Q=Concise+Project+Maths&x=13&y=17#&sSearchWord=Concise+Project+Maths](http://www.gilleducation.ie/gill-education-search?Q=Concise+Project+Maths&x=13&y=17%23&sSearchWord=Concise+Project+Maths) |
| IXL | Website or App for iPad or tablet | Interactive skills and problem type questions for all parts of the programme. Gives students an explanation of the answer when they answer incorrectly. Questions are arranged into different classes from Junior Infants up to Leaving Cert – this allows for differentiation. | IXL learning | <https://ie.ixl.com/math/> |
| Maths Everywhere | Website or App for iPad or tablet | Covers most areas of the course – number, calculations, fractions, decimals, percentages. Consists of a range of interactive practice questions and very well explained videos of the different topics. It is split into three levels – this allows for differentiation. | Bolton College and Modern-English Digital in partnership with NIACE | <http://www.mathseverywhere.org.uk/> |
| Maths Online | Website | Provides lots of maths material and puzzles. Relevant to most parts of the course. | Maths Online | <http://www.mathsonline.org/> |
| Maths Challenge | Website | Contains various maths puzzles. Relevant to most parts of the course. | Maths Challenge | <http://mathschallenge.net/> |

**Useful Organisations:**

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| **Name** | **Contact Information** |
| National Council for Curriculum and Assessment (NCCA) | [www.ncca.ie](http://www.ncca.ie) |
| Quality and Qualifications Ireland (QQI) | <http://www.qqi.ie/> |
| Further Education Support Service (FESS) | [www.fess.ie](http://www.fess.ie) |
| National Adult Literacy Agency (NALA) | <https://www.nala.ie/> |

**Other Resources:**

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| **MOOCs (Massive Online Open Courses)** | |
| Online courses delivered mainly by Universities and Colleges worldwide.  Useful to search regularly for new courses and new start dates. Most courses are free. Charge often applies if assessment and certification is required.  Provide excellent CPD for individuals or resources that can support teaching and learning. | What is a MOOC?  <https://www.youtube.com/watch?v=eW3gMGqcZQc> |
| Providers of MOOCs  e.g.  <https://www.mooc-list.com/> |
| <https://www.coursera.org/> |
| <http://www.extension.harvard.edu/open-learning-initiative> |
| <https://www.uclaextension.edu/pages/search.aspx?c=free+courses> |
| <http://oyc.yale.edu/> |