## eTask Maker Manual

Tasks have been developed and refined in hundreds of classrooms through the 40+ year history of the Task Centre concept. In this context a task means a card introducing an investigation. It is accompanied by hands-on materials chosen to encourage entry to, and exploration of, the challenge. Tasks are designed to be used by pairs of students and are an invitation to independently 'have a go' at learning to work like a mathematician.

- eTasks are print ready task cards and ancillary resources delivered electronically.
- You provide materials to create the tasks.
- Grow your Task Library over time as a professional development project.
- Enlist the help of the school community.

Print materials are published for the exclusive use of the purchaser.
In addition to this Maker Manual, your eTask package includes:

- 241 task cards - plus playing boards, cut-out masters, recording sheets - as PDF.
- Answers and teaching notes freely available on site as Task Cameos.
- Professional development leadership notes and slides.
- Teachers' Handbook of collected wisdom from classrooms.
- Our web site rich with teacher stories, student work, unit plans, assessment information, photographs, additional support documents and a Content Finder.

To discover more visit our site or contact Doug. Williams:

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## Working Like A Mathematician

invitation
A library of eTasks invites students to choose their own mathematical adventure, just like a library of books invites students to choose their own reading adventure.

Also, in the same way as a teacher selects one book to use with the whole class to explore literature, a maths teacher can select any task as a whole class investigation to model working like a mathematician.

Add Investigation Guides (examples on site) to extend reasoning and skills and each eTask now

> modelling


Balancing a Working Mathematically curriculum. has three lives. The Task Cameo Content Finder lists the skills in each task.

## Printing Files

eTasks have been prepared in three categories:

- Easy to make (E)
- Extra Work involved - printing and cutting (W)
- Special Equipment required not commonly available in schools (S)


## Production Quality

Professional presentation encourages teachers and students to look after the task library. Therefore all PDF files have been prepared for high quality printing, assuming that they will be printed on card, some with use of colour, and laminated.

From there, print production quality is your choice. The files will print equally well on paper and pages can be slipped into plastic sleeves. Files could also be used on student devices in a room with access to collections of relevant equipment.

Equipment is essential to the use of tasks. Without equipment your print files are just another text, so we encourage every effort to select or make the best possible materials.

Tasks are designed to appeal to many learning styles. Logical/mathematical intelligence is the focus of each task but adding equipment creates opportunity for visual/spatial and kinaesthetic learning. Working in pairs encourages verbal/linguistic learning resulting in mathematical conversation which calls on interpersonal and intrapersonal learning skills.

Research available on site (see INISSS in Research \& Stories) testifies that this multiple intelligence approach to learning to work like a mathematician produces big learning gains in language development, reasoning and problem solving and mathematical skills. (mathematicscentre.com/taskcentre/do.htm\#inisss)

## Equipment

The Task Library (mathematicscentre.com/mathematicscentre/task_lib.htm) has a photo of every task. Prepacked tasks as in the photos are no longer available, but the photos represent the print and equipment quality to aim for and the range of equipment overall. Creating your own eTasks requires a good supply of:

- circular counters (discs) in several colours and in 2 or 3 sizes
- $\quad 2.5 \mathrm{~cm}$ square tiles in several colours
- 2 cm wooden cubes in several colours
- $1 \mathrm{~cm} \& 2 \mathrm{~cm}$ plastic cubes which link in 3 dimensions
- cube dice in both dot and numeral versions
- small objects which can represent people or animals or...

You wll also need press-seal bags or plastic boxes for storage. Beyond that, special equipment needed for some tasks is detailed on the following pages. Finding or preparing it is a great opportunity to enlist the creative assistance of other departments in the school and the wider school community.

## Preparing the Printing

Each printing category includes two files.

- One for printing in colour on white card.
- One for printing in monochrome on coloured card.

The table shows the PDF file name, the file code used on the following pages and the number of eTasks in the file.

## Easy

- easy_COL_wht.pdf E1 ... 19 tasks

Preview the file and note the number of pages.
Take the file to your printer.
Ask for 1 copy of each page colour printed on white card.

- easy_BW_col.pdf E2 ... 136 tasks

Preview the file and note the number of pages.
Take the file to your printer.
Select 5-8 bright colours of card. Arrange them in an order.
Repeat to make a pile equal to the number of pages.
Ask for 1 copy of each page printed in monochrome on your pile of card.
Arrange laminating with rounded corners (for safety) for all pages.
See Special Comments on pages 5-9 for tasks: 13, 27, 34, 69, 70, 77, 90, 135, 200

## Extra Work <br> - work_COL_wht.pdf W1 ... 6 tasks <br> - work_BW_col.pdf W2 ... 22 tasks

Preview each of these files and choose the tasks you are ready to make.
Check Special Comments on pages 5-9.
For the most part these tasks require equipment that is easy to organise.
The extra work is in cutting after laminating.

Prepare printing for your chosen tasks guided by the notes for Easy.

## Special Equipment

- spec_COL_wht.pdf S1 ... 3 tasks
- spec_BW_col.pdf S2 ... 55 tasks

Preview each of these files and choose the tasks you are ready to make.
If you have any of the special equipment then making the task becomes easy.
Check Special Comments on pages 5-9.
A few of these tasks require cutting after laminating as well as special equipment.

Prepare printing for your chosen tasks guided by the notes for Easy.

## Note

- If you have Maths With Attitude eManuals an alternative starting point is to make the 20 tasks for one kit. Plan the use of that kit using the planning pages of the manual, then repeat with other kits.
- You only need one copy of the printing and equipment for any task.
- In the future if you need multiple copies of a task (as a library might order multiple copies of a popular picture story book or novel) you will have the resources to do so.
- Tasks resource the reasoning and problem solving core of your curriculum. We make no claim that they represent the whole mathematics curriculum.
- Tasks are designed to encourage independent learning. They require a level of language comprehension that usually develops around Year 2, so that's when task use tends to begin. However some teachers of younger students have adapted some tasks. See information in the Teachers' Handbook and at: mathematicscentre.com/taskcentre/infant.pdf
- Working Mathematically with Infants is designed to resource a core curriculum in working like a mathematician. (mathematicscentre.com/calchange/\#wmi)


## First Workshop: Preparation

All 241 eTasks are supplied so you can continue your professional development by meeting as a team once a term or semester to add to your task library. However it will save time to arrange printing and laminating of all the Easy files prior to the first workshop. One trip to the print shop to create the starting point for 155 tasks. That's more than enough, so make a selection if budget is limited. For example:

- 10 tasks become a work station and if from one content strand a Mixed Media Unit is possible.
- 20 tasks from one content strand can become a Replacement Unit.
- 20 tasks from a Maths With Attitude eManual will build several weeks of work integrating your hands-on tasks with whole class investigations from Maths300.
mathematicscentre.com/taskcentre/mwa.htm
- 50 tasks will resource a year level of parallel classes.
- $\quad 100$ tasks will resource a school.


## Note

- Mixed Media and Replacement unit plans and other curriculum planning models can be found at: mathematicscentre.com/taskcentre/plans.htm
- Maths With Attitude is most useful if you are a Maths300 member. Find membership information at: www.maths300.com/subscribe.htm
- In addition to the print file codes these codes are also used in the following pages.


## School Year Codes

A: Junior Primary, Years 2-4
B: Upper Primary, Years 4-7
C: Lower Secondary, Years 6-8
D: Middle Secondary, Years 8-10

## Content Codes

| $\mathbf{A}=$ Algebra | $\mathbf{C}=$ Chance \& Data |
| :--- | :--- |
| $\mathbf{L}=$ Logic | $\mathbf{M}=$ Measurement |
| $\mathbf{N}=$ Number | $\mathbf{P}=$ Pattern |

S = Space

If your starting point printing is done and your basic equipment is organised you are ready to begin. You will also need:

- Packets of white and coloured sticky dots for teachers.
- A few permanent black markers for teachers.
- Scissors and a guillotine for teachers.
- A box of the bits you find in the storeroom that seem to have no known purpose - some might find new life as a ... 'something' ... needed for a task.
- Several non-permanent black markers for students to write on laminate.
- Swatches of soft cloth for students to wipe off the laminate for the next student.

The history of constructing task collections began with teachers working together to make their own based on notes from other schools. True to this concept, the Workshop Notes in your eTask package offer thoughts about running your first workshop day. Slides are also included in your package. However, if you prefer the professional development to be presented by an external leader, contact Doug. Williams (see front page) to discuss the program and arrangements.

## Summary

Work together to make a starter set of tasks - a Task Library - offered to pairs of students as an invitation to work like a mathematician.

- Involve parents and interested students in the process.
- Learn about, share, discuss and imagine as you construct each task.
- Plan the use of tasks together. Build units of work using Maths With Attitude or other models.
- Extend the units of work with Menu Maths, Picture Puzzles, Maths300.
- Trial, review, revise, repeat.

Your task collection will help develop the questioning, reasoning, justifying and communicating skills highly valued by every modern national curriculum document.

| No. | NAME | Level | Strand | PDF file | Special Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | Final Eight | BC | C | W2 | 1 extra pg. to laminate \& cut / 1 board to print A3 from separate file 001board.pdf |
| 2 | Cars In A Garage | ABCD | N/P | E2 |  |
| 3 | Doug's Tablecloth | BC | M/S/N | W1 | 1 extra pg. to laminate before cutting |
| 4 | Window Frames | BCD | N | W2 | 1 pg. printed or traced onto plastic - laminate before cutting / 1 board |
| 5 | Make A Snake | ABCD | P/A | E1 |  |
| 6 | Counter Escape | ABCD | C | E2 |  |
| 7 | Consecutive Sums | BC | N/P/A | E2 |  |
| 8 | Addition Totals | BC | N/P/A | E1 |  |
| 9 | Row Points | ABC | S/N | E2 |  |
| 10 | Find My Pattern | ABC | N/P/A | E1 |  |
| 11 | Lining Up | ABC | P/A/N | E2 |  |
| 12 | Matching Cards | AB | S/N/C | W2 | 3 extra pages to laminate before cutting |
| 13 | The Frog Pond | ABC | N/C | E1 | Cut board into 2 strips (1 to use, 1 spare) |
| 14 | Heads And Legs | ABC | N/P/A | W2 | 2 extra pgs. to laminate before cutting / 1 board |
| 15 | Domino Trails | AB | N | E2 |  |
| 16 | Octaflex | ABCD | S | S1 | Read pg. 'Octaflex Teaching Notes' first - in file |
| 17 | Truth Tiles 2 | ABCD | N | E2 |  |
| 18 | Same Or Different | BCD | C/P/A | E2 |  |
| 19 | Cookie Count | AB | N | E2 |  |
| 20 | Pack The Box | ABCD | S/M | S2 | Equipment must be made by carpenter according to instructions in file |
| 21 | Tactical | ABCD | L | E2 |  |
| 22 | Time Together | ABCD | M/N | S2 | 2 model (or real) clocks with movable hands |
| 23 | Two Colour Game | ABCD | L | E2 |  |
| 24 | Squares Around Squares | BCD | P/A | E2 |  |
| 25 | In Between Time | BCD | M/N | S2 | 2 model (or real) clocks with movable hands |
| 26 | Travelling Australia | ABC | M | W2 | 2 boards - map printed A3 / 2pgs. to lam. \& cut |
| 27 | Can Stack | BCD | P/A | E2 | 'Cans' can be easily cut from 2 cm dowel |
| 28 | Plate Triangles | BC | N/A | E2 |  |
| 29 | The Farmer's Puzzles | AB | S | E2 |  |
| 30 | Truth Tiles 1 | ABC | N | E2 |  |
| 31 | Cube Nets | ABCD | S | S2 | 12 Geoshape or Mini Geofix squares |
| 32 | Tetrahedron Nets | ABCD | S | S2 | 8 Geoshape/Mini Geofix equ'l triangles $2 \times 4$ cols |
| 33 | Dominoes | ABCD | N | E2 |  |
| 34 | Dice Differences | ABCD | C | E2 | Cut board into 4 strips (2 to use, 2 spare) |
| 35 | Crosses | BC | N/P | E2 |  |
| 36 | Making Triangles | ABC | S | S2 | At least 60 dowel rods (or equivalent) of different lengths $-4 \times 15$ colours. Lengths: $6,7,8,10 \mathrm{~cm}$ |
| 37 | Fraction Magic Square | BCD | N | E2 |  |
| 38 | The Mushroom Hunt | BCD | N | E2 |  |
| 39 | Criss-Cross Numbers | AB | N/L | E2 |  |
| 40 | Diamonds \& Rectangles | BCD | L/C | S2 | Laminate \& cut label card. Find 6 diamonds and 6 squares and 3 opaque bags or containers. |
| 41 | Scale Drawing | AB | S | E2 |  |
| 42 | Triangles Around Triangles | BCD | P/A | S2 | Mini Geofix triangles: Col A = 43, Col. B = 21 |
| 43 | Number Tiles | BCD | N | E2 |  |
| 44 | Latin Squares | ABCD | S/P | E2 |  |
| 45 | Eric The Sheep | ABCD | P | E2 |  |
| 46 | Duelling Dice | BCD | C | E2 |  |
| 47 | Red/Black Card Game | BC | N/C | E2 |  |
| 48 | How Many Triangles? | BCD | P/S/A | S2 | 16 Geoshape or Mini Geofix triangles |
| 49 | Take A Chance | BCD | C | E2 |  |
| 50 | Flight Departures | AB | L | E2 |  |


| No. | NAME | Level | Code | PDF file | Special Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 51 | Staircase | BCD | P/A | E2 |  |
| 52 | Which Floor | AB | N/S | E2 |  |
| 53 | Have A Hexagon | ABCD | C/N | E2 |  |
| 54 | Fay's Nines | BCD | N | E2 |  |
| 55 | Fold Up Houses | BCD | P/A/S | S2 | 24 each of Mini Geofix squares \& triangles |
| 56 | Challenge | ABC | N | E2 |  |
| 57 | Two Squares | BC | P/M/S | E2 |  |
| 58 | See-Saw | AB | M | E2 |  |
| 59 | 13 Away | AB | N | E2 |  |
| 60 | Back To Back Building | ABCD | S | E2 |  |
| 61 | Double Staircase | BCD | P/A | E2 |  |
| 62 | 4 \& 20 Blackbirds | ABCD | N/L | E2 |  |
| 63 | Fried Rice | ABC | M | E2 |  |
| 64 | Difference Btn 2 Squares | CD | A/M/S | S2 | Template supplied. Could be printed but will look more professional if made by a carpenter. |
| 65 | Shape Algebra | ABC | A/S | S2 | 1 extra pg. to laminate before cutting / 1 board |
| 66 | Pentominoes | BCD | S | S2 | Requires a pentomino set / 2 boards |
| 67 | Making Solids | ABCD | S | S2 | Glue wooden cubes to make pieces. L=3, S=4 |
| 68 | Six Square Puzzle | AB | S | E2 |  |
| 69 | Tricubes | ABCD | S | E2 | Use 2cm linking cubes to make Tricubes |
| 70 | Symmetric Shapes | ABCD | S | E2 | Use 1cm linking cubes to make these pieces |
| 71 | Algebra Through Geometry | CD | A/S | S2 | 1 extra pg. to laminate before cutting / 1 board |
| 72 | Farmyard | AB | S | E2 |  |
| 73 | In The Bag | ABCD | S | S2 | 4 extra pgs. to laminate before cutting |
| 74 | Button Sort | AB | L | E2 |  |
| 75 | What's It Worth? | ABC | S/N | S2 | 20 accurately cut 2 cm equilateral triangles |
| 76 | Tube Toss | BCD | C | S2 | Tube container, possibly from chemist / 3 discs |
| 77 | Tricube Constructions A | BC | S/M | E2 | Use 2cm linking cubes to make Tricubes |
| 78 | Which View? | ABC | S | E2 |  |
| 79 | Tangram Teasers | ABC | S | E2 |  |
| 80 | A Dollar To Spend | BC | N | E2 |  |
| 81 | Pentagon Triangles | BCD | S/P | W1 | 1 extra pg. to laminate before cutting |
| 82 | Snail Trail | ABCD | L/N/A | S2 | Cuboid of wood and dowel rod. See Cameo. |
| 83 | Racetrack | ABCD | S | S2 | Safe mirror / dry wipe pen / cloth / 3 boards |
| 84 | Rectangle Nightmare | BCD | S/M/P | S2 | 1 extra pg. to laminate before cutting |
| 85 | Time Swing | BC | M | E2 |  |
| 86 | Thirty-one | BC | N/P/A | E2 |  |
| 87 | First Down The Mountain | BCD | C | E2 |  |
| 88 | Rice, Rice, Rice | BC | M | E2 |  |
| 89 | Doctor Dart | BCD | N/C | E2 |  |
| 90 | Tricube Constructions B | BC | S/M | E2 | Use 2cm linking cubes to make Tricubes |
| 91 | Pick A Box | BCD | N | W1 | 1 extra pg. to laminate before cutting |
| 92 | Magic Squares | BCD | N/S | E2 |  |
| 93 | Leading The Blind | ABC | S | W2 | 1 pg. printed or traced onto plastic - laminate before cutting |
| 94 | Crossing The Desert | BC | L | E1 |  |
| 95 | Reflections | BC | S | E2 |  |
| 96 | Networks | BC | S/L | W2 | 1 extra pg. to laminate before cutting / 1 board |
| 97 | Pythagoras Rods | BCD | M/S/N | S2 | Collection of specific Cuisenaire Rods |
| 98 | Martian Maths | BC | N | E2 |  |
| 99 | How Many Things? | BC | N | E2 |  |
| 100 | Mirror Patterns 1 | BC | S | W2 | 1 extra pg. to laminate before cutting / 1 board |


| No. | NAME | Level | Code | PDF file | Special Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 101 | Pyramid Puzzle | ABCD | S/P/A | S2 | Can be made from foam spheres, sticks \& glue |
| 102 | Crazy Animals | ABCD | C/N/A | W2 | 1 extra pg. to laminate before cutting |
| 103 | Four Cube Houses | ABC | S | E2 |  |
| 104 | Building Views | BC | S | E2 |  |
| 105 | Soma Cube 1 | ABC | S/L | E2 |  |
| 106 | Crossing The River 2 | BC | L | E1 |  |
| 107 | McMahon's Triangles 2 | BCD | S | W1 | 1 extra pg. to laminate before cutting |
| 108 | How Many Squares? | BC | P/N/A | E2 |  |
| 109 | Number Game | BC | N | E2 |  |
| 110 | Who Lives Where? | ABC | L | W2 | 1 extra pg. to laminate before cutting / 1 board |
| 111 | Square Numbers | BCD | N | E2 |  |
| 112 | Coloured Squares | ABCD | L/S/N | E2 |  |
| 113 | Calendar | ABC | N | E2 |  |
| 114 | Where Is The Rectangle? | BC | S | E2 |  |
| 115 | Dividing Shapes | BC | S | E2 |  |
| 116 | Who Owns The Monkey? | BCD | L | W2 | 6 extra pgs. to laminate before cutting |
| 117 | 12 Counters | ABCD | C | E2 |  |
| 118 | Ice-cream Flavours | ABCD | P/A | E2 |  |
| 119 | Police Line-up | ABC | L | W2 | 1 extra pg. to laminate before cutting |
| 120 | Nim | ABC | L/N | E2 |  |
| 121 | Farmyard Views | ABC | S | W2 | 1 extra pg. to laminate before cutting / 1 board |
| 122 | Football Ladder | BC | L/N | W1 | 1 extra pg. to laminate before cutting |
| 123 | Bob's Buttons | ABC | N | E2 |  |
| 124 | Human Moves Monster | ABC | S | E1 |  |
| 125 | Farmyard Race Day | BC | L | E2 |  |
| 126 | Planets | BCD | N/M | W1 | 1 extra pg. to laminate before cutting |
| 127 | Highest Number 1 | ABCD | C/N | E2 |  |
| 128 | Highest Number 2 | ABCD | C/N | E2 |  |
| 129 | Farmyard Friends | ABCD | L/N | W2 | 1 extra pg. to laminate before cutting |
| 130 | Protons \& Anti-protons | BCD | N | E2 |  |
| 131 | Walk The Plank | ABCD | C/N | E2 |  |
| 132 | Red To Blue | BCD | L | E1 |  |
| 133 | Win At The Fair | BCD | C | E2 |  |
| 134 | Eight Queens | BCD | S | E2 |  |
| 135 | Famous Mathematicians | BCD | L | E2 | Cut name board into 4 strips (1 to use, 3 spare) |
| 136 | Four Bead Mix | CD | N | S2 | Check the art room or craft shop for beads |
| 137 | Training For Maths | BCD | P/N | E2 |  |
| 138 | Rectangle Of Squares | BCD | S/M | S2 | 1 set of accurately cut squares as on card |
| 139 | Squound | BCD | L | E2 |  |
| 140 | Time For Tiling | BC | P/A | E2 |  |
| 141 | Flags From A Ship | ABCD | N | E1 |  |
| 142 | Tower Of Hanoi | ABCD | N/P/A | S2 | Base with dowel towers and discs. See Cameo. |
| 143 | Hearts And Loops | ABCD | S | S2 | Requires wire bending and welding as in file. |
| 144 | Pascal's Triangle In Asia | ABCD | P/N | E2 |  |
| 145 | Land Of ET | BCD | L | E2 |  |
| 146 | Haberdashers' Problem | CD | S | S2 | Template supplied. Could be printed but will look more professional if made by a carpenter. |
| 147 | Garden Beds | BCD | P/A | E2 |  |
| 148 | McMahon's Triangles 1 | BCD | N/P | W2 | 1 extra pg. to laminate before cutting |
| 149 | A Stacking Problem | BCD | P | E2 |  |
| 150 | Chess Queens | BC | S/L | E2 |  |


| No. | NAME | Level | Code | PDF file | Special Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 151 | Knight Swap | BCD | L/S | E2 |  |
| 152 | Painted Rods | BCD | P/A/N | E2 |  |
| 153 | Knight Protectors | BCD | L | E2 |  |
| 154 | 4 Arm Shapes | ABC | P/A | E2 |  |
| 155 | $64=65$ | BCD | M/P/N | E2 |  |
| 156 | Photo Angles | ABCD | S/M | S2 | Print photo file 156photo.jpg / 1 board / objects |
| 157 | Paving Views | BC | S | S2 | About 40 accurately cut 2 cm squares /1 board |
| 158 | Brick Walls | BCD | N/M/P/A | S2 | Construction bricks with a volume of 2 cubes |
| 159 | Mirror Patterns 2 | BCD | P/A | W2 | 1 extra pg. to laminate before cutting |
| 160 | Painted Cubes | BCD | P/A/N | S2 | 1 board / Big cubes from various MAB (Multibase Arithmetic Block) sets or 1 cm cubes glued |
| 161 | Soma Cube 2 | ABCD | S | E2 |  |
| 162 | Game Show | ABCD | C | E2 |  |
| 163 | Eureka | BC | N | E1 |  |
| 164 | Symmetric Tiles | BC | S | S2 | 28 accurately cut 2 cm squares - different colour each side /1 board |
| 165 | Change | AB | N | S2 | Special selection from play money set |
| 166 | Sphinx | ABCD | S/N/P/M | S2 | Template supplied. Could be printed but will look more professional if made by a carpenter. |
| 167 | Sliding Tiles | ABCD | L | S2 | Equipment must be made by carpenter. See Task Library for design. |
| 168 | Mirror Patterns 3 | BC | S | W2 | 1 extra pg. to laminate before cutting |
| 169 | Wallpaper Patterns | BC | S | W2 | 1 extra pg. to laminate before cutting / 1 board |
| 170 | Equilateral Triangles | ABC | S | E2 |  |
| 171 | Number Discs | ABCD | L | E2 |  |
| 172 | Cover Up | BC | N/L/C | E1 |  |
| 173 | Crossing The River 1 | BC | L/A/P | E1 |  |
| 174 | Magic Cube | BCD | N/S | E2 |  |
| 175 | Pythagoras 1 | CD | M/S | W2 | 1 extra pg. to laminate before cutting |
| 176 | Steps | ABCD | N/P | E2 |  |
| 177 | Making Fractions 2 | ABC | N/M/P | S2 | 1 extra pg. to laminate before cutting / 1 board |
| 178 | Match Triangles | BC | P/A | E2 |  |
| 179 | Unseen Triangles | BC | P/A | E2 |  |
| 180 | Making Monuments | BC | P/A | E2 |  |
| 181 | Pointy Fences | BCD | P/A | S2 | 10 Geoshape/Mini Geofix squares \& 8 triangles |
| 182 | Jumping Kangaroos | BCD | L/P/A | E2 |  |
| 183 | Pizza Toppings | ABCD | N/P | E2 |  |
| 184 | Reverse | BCD | L/P | E2 |  |
| 185 | Coloured Cubes | ABCD | L/S | E1 |  |
| 186 | Tetrahedron Triangles | BCD | P/A/S | S2 | 16 Geoshape/Mini Geofix triangles |
| 187 | Area Of A Triangle | BC | S/M/A | S2 | 2 grids printed on clear plastic / 3 different triangles cut to instructions in card or wood. |
| 188 | Arithmagons 1 | BC | N/P/A | E2 |  |
| 189 | Pythagoras 2 | CD | M/S | W2 | 1 extra pg. to laminate before cutting / 1 board |
| 190 | Magic Hexagon | BCD | N/L | E2 |  |
| 191 | Choosing Beads | BCD | L/C | E2 |  |
| 192 | Keith's Kubes | BC | S/L | E2 |  |
| 193 | Surface Area With Tricubes | BCD | M/S | S2 | 4 Tricubes made by gluing wooden cubes |
| 194 | Arithmagons 2 | BC | N/P/A | E2 |  |
| 195 | Stop At 4 | BC | N | E2 |  |
| 196 | Cross \& Square | ABC | M/S | S2 | Template supplied. Cut from wood or card. |
| 197 | Chocolate Chip Cookies | BC | C | E1 |  |
| 198 | What's In the Bag? | BC | C | E2 |  |
| 199 | Making Fractions 3 | BC | N/M/P | S2 | 1 extra pg. to laminate before cutting / 1 board |
| 200 | Greedy Pig | BC | C | E2 | Cut board into 2 strips (1 per student) |


| No. | NAME | Level | Code | PDF file | Special Comments |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 201 | Rectangle Fractions | BC | N | E2 |  |
| 202 | Rod Mats | BC | N | S1 | Needs Cuisenaire Rods |
| 203 | Make The Whole | BC | N | S2 | Cuisenaire Rods / 1 extra pg. to laminate before cutting |
| 204 | Decimals With A Tape | BC | N/M | E2 |  |
| 205 | Fraction Estimation | BC | N/M | E2 |  |
| 206 | Intersections | BC | P/A | E2 |  |
| 207 | Triangle Perimeters | BC | M/S/N | S2 | 16 accurately cut 2 cm equilateral triangles |
| 208 | Cube Numbers | CD | N/A/S | E2 |  |
| 209 | Pattern Cube | ABCD | S/L | E2 |  |
| 210 | Division Boxes | BCD | N | E2 |  |
| 211 | Soft Drink Crates | ABCD | N/S/L/P | E2 |  |
| 212 | Monkeys \& Bananas | ABCD | N/A/L | E2 |  |
| 213 | Chains | BCD | N/L | E2 |  |
| 214 | Angle Estimation | BC | M/S | S1 | Needs Rotagrams / 1 board to laminate before cutting |
| 215 | Take Away Tiles | BCD | N/A | E2 |  |
| 216 | Square Pairs | BC | N | E2 |  |
| 217 | Kids On Grids | BC | P/M/S | W2 | 1 board to enlarge to A3 before laminating |
| 218 | Guessing Colours Game | AB | N/C | E2 |  |
| 219 | The Hole In The Triangle | BCD | S/M/N | W2 | 1 extra pg. to laminate before cutting |
| 220 | Smooth Edge Tiles | BC | P/A/N | E2 |  |
| 221 | Triangles \& Colours | ABCD | P/N/A | E1 |  |
| 222 | Making Fractions 1 | BCD | N/M/P | S2 | 1 extra pg. to laminate before cutting / 1 board |
| 223 | Cat and Mouse | ABCD | C | E1 |  |
| 224 | Matching Faces | BCD | C/N | E1 |  |
| 225 | Add The Pack | BC | N/P | E2 |  |
| 226 | Playing With Objects | ABC | S/M/L | S2 | 1 set of commercial objects if available. See Task Library for example / 1 extra pg. to laminate before cutting / small container of rice |
| 227 | Volume Line Up | ABCD | M/N | S2 | 1 set of commercial objects if available. See Task Library for example / small container of rice / measuring cup in millilitres |
| 228 | Koala Karts | ABCD | L | S2 | Specific set of attribute koalas / 1 board \& 1 extra pg. to laminate before cutting |
| 229 | Animal Farm | AB | N | E2 |  |
| 230 | Pack Up Your Bears | AB | N | S2 | 10 counting bears / 1 board |
| 231 | Flowers In The Field | ABCD | N | E2 |  |
| 232 | Dice Footy | ABC | N/C | E1 |  |
| 233 | Money Money Money | BCD | N/P/L | S2 | Specific set of play money bank notes / 1 board |
| 234 | Growing Tricubes | BCD | M/S/P | S2 | 16 Tricubes made by gluing wooden cubes |
| 235 | Tables For 25 | BC | N | E2 |  |
| 236 | Star Numbers | ABCD | P/A/N/S | E1 |  |
| 237 | Trisquares | ABCD | S/M | S2 | 8 Trisquares cut from card or wood |
| 238 | Growing Trisquares | BCD | P/A/N/S | S2 | 16 Trisquares cut from card or wood |
| 239 | Money Charts | ABC | N/L | S2 | Selected play money coins / 2 boards |
| 240 | Less Than Fractions | BCD | N | E2 |  |
| 241 | Sicherman Dice | BCD | C/N | E2 |  |

