

End of Key Stage 1

Mathematics Moderation

Attainment Target 1 Tasks

2008-11

Guidance to Kent Schools



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Advice for schools completing the KS1 tasks

Many teachers have found it useful to plan a range of tasks across the school year and for their children to have a special book or folder for this work. These regular opportunities to tackle open ended tasks mean that their children are confident with this way of approaching mathematical learning and are better prepared for the moderation.

If you are looking for ideas for appropriate tasks don't forget you have the bank of tasks from previous years. They all come with levelling sheets that you may find helpful. There are further examples of similar tasks in the primary mathematics section of www.kenttrustweb and on the nrich site at www.nrich.

If you are looking for more guidance for levelling problem solving and investigative tasks there is guidance available on www.kenttrustweb. The Assessing Pupil Progress guidance for AT1 at Levels 1, 2 and 3 and the relevant standards files may also be supportive.

2008

Button problem

How many ways can I sort 7 buttons into three boxes?

- An empty box is acceptable
- The order of the boxes is not important (e.g. 2,4,1 is seen as the same as 4,2,1)
- Problem solving skills:
 - Recording – pictures or symbols
 - Ordering – recognising a link between answers
 - Checking for repeats – reviewing own work
 - Reasoning – responding to questions posed about the problem
- Answers:
 - 0,0,7
 - 0,1,6
 - 0,2,5
 - 0,3,4
 - 1,1,5
 - 1,2,4
 - 1,3,3
 - 2,2,3 (8 possible ways)

Level Statements

Level	Evidence in work
1c	<ul style="list-style-type: none">• Represent work using objects and pictures• Recognise and use simple patterns (these boxes have the same number of counters in)
1b	<ul style="list-style-type: none">• Represent and discuss work using objects and pictures• Recognise and use simple patterns or relationships (move one counter at a time to make a new answer)
1a	<ul style="list-style-type: none">• Represent and discuss work using objects and pictures, ask questions• They can use a pattern they have recognised to predict (find the answers that have at least one empty box)
2c	<ul style="list-style-type: none">• Select mathematics for classroom activities (add the counters from each box rather than counting individually)• Discuss work using simple mathematical language and ask questions about it (one less, one more, double, pair, zero, add)
2b	<ul style="list-style-type: none">• Select mathematics for classroom activities (add the counters from each box rather than counting individually)• Beginning to represent their work using symbols (able to record $2+2+3$)

	<p>independently after suggestions from an adult if necessary)</p> <ul style="list-style-type: none"> Discuss their work. They respond appropriately to questions (explain how they are finding different solutions, why is there no answer with double 4?)
2a	<ul style="list-style-type: none"> Select mathematics for classroom activities (add the counters from each box rather than counting individually) They can discuss their work They ask and respond appropriately to questions including <i>'What would happen if...'</i> (What would happen if you were not allowed to put the same number of counters in two boxes? what would happen if you tried this with 8 counters?)
3c/3b	<ul style="list-style-type: none"> They are beginning to organise their work and sometimes check results (looking for repeats) They use and interpret mathematical symbols Pupils discuss their mathematics work... <i>'I am trying all the ones with empty boxes first'</i>. Pupils show that they usually understand a general statement by finding a particular example to match it
3a	<ul style="list-style-type: none"> They are beginning to organise their work and consistently check results (looking for repeats) They consistently use and interpret mathematical symbols Pupils discuss their mathematics work and are beginning to explain their thinking... <i>'I kept 1 counter in the first box and moved the others around'</i>. Pupils show that they consistently understand a general statement by finding a particular example to match it

Assessment Activities

Level 1

- Encourage children to draw their practical work.
- Place 1 counter in a box, ask the children to tell you what could go in the other boxes. Show answers on flashcards – do the children notice anything?

$$1 + 1 + 5$$

$$1 + 2 + 4$$

$$1 + 3 + 3$$

Level 2

- Question children to encourage use of mathematical vocabulary
- Encourage children to move recording from pictures to symbols

- Question: 'why is there no answer with double 4?'
'what would happen if we tried with 8 counters'?
- Ask children to explain their approach to the problem

Level 3

- How are the children checking they have found all the answers?
- Do they check for results?
- Ask children to explain their approach to the problem.

Show the answers on flashcards, discuss how they can be grouped/ordered, formed into sets.

Cars problem

Three cars have to drive across a bridge, (one red, one blue, one green) in what different orders can they cross over?

Preparation activities

- Use Oral and Mental starter time on the days before the problem solving session to consider problems that will rehearse similar problem solving skills

Choose from...

- How can three children line up?
- If I have to put 10p, 5p and 2p into a slot machine for a bar of chocolate, in what order can I feed in the coins?
- I have a drink, an apple and a sandwich for lunch. In what order can I eat them?
- How many ways can the Three Billy Goats Gruff cross the rickety bridge?
- Discuss recording methods (drawing, using full words, using initial letters)
- Model and discuss using a systematic approach
- Model writing statements about the problem... *'I know there are six ways to eat the lunch because I put the drink first, then the apple first and then the sandwich first'*

When tackling the car problem, allow the majority of children to choose their own recording method (on plain paper) and any apparatus they like to use (counters in three colours, multilink, sketches of cars on scraps of paper).

Least able can be supported with outlines of cars which they colour in – encouraged to order and record using shorter notation under the drawings.

If a child thinks they have found all the ways allow them to make a permanent record (useful for assessment) and then pose the same problem with 4 cars of different colours.

Level Statements

Level	Evidence in work
1c	<ul style="list-style-type: none"> Represent work using objects and pictures
1b	<ul style="list-style-type: none"> Represent and discuss work using objects and pictures Recognise and use simple patterns or relationships – (the red car is going first in these pictures)
1a	<ul style="list-style-type: none"> Represent and discuss work using objects and pictures, ask questions They can use a pattern they have recognised to predict – (there are 2 ways with the red car going first and 2 ways with the blue car going first...)
2c	<ul style="list-style-type: none"> Discuss work using simple mathematical language and ask questions about it (first, second, third. Same number of ways for each car)
2b	<ul style="list-style-type: none"> Beginning to represent their work using symbols (able to record using r,b,g to represent colours or coloured dots) Discuss their work. They respond appropriately to questions (explain how they are finding different solutions)
2a	<ul style="list-style-type: none"> They can discuss their work They ask and respond appropriately to questions including ‘What would happen if...’ (What would happen if there were only 2 cars... or a yellow car arrived? Do not need to know the answer but can talk about how the problem would change)
3c/3b	<ul style="list-style-type: none"> They are beginning to organise their work and sometimes check results (looking for repeats) Pupils discuss their mathematics work... <i>‘I am trying all the ones with the red car first’.</i> Pupils show that they usually understand a general statement by finding a particular example to match it (can see and describe the symmetry in the answers)
3a <i>working on 4 car problem</i>	<ul style="list-style-type: none"> They are beginning to organise their work and consistently check results (looking for repeats) Pupils discuss their mathematics work and are beginning to explain their thinking... <i>‘I kept the red car first and moved the others around’.</i> Pupils show that they consistently understand a general statement by finding a particular example to match it (predict that there will be the same number of ways for each car going first, use fact to convince themselves that their total answer is correct)

Name _____

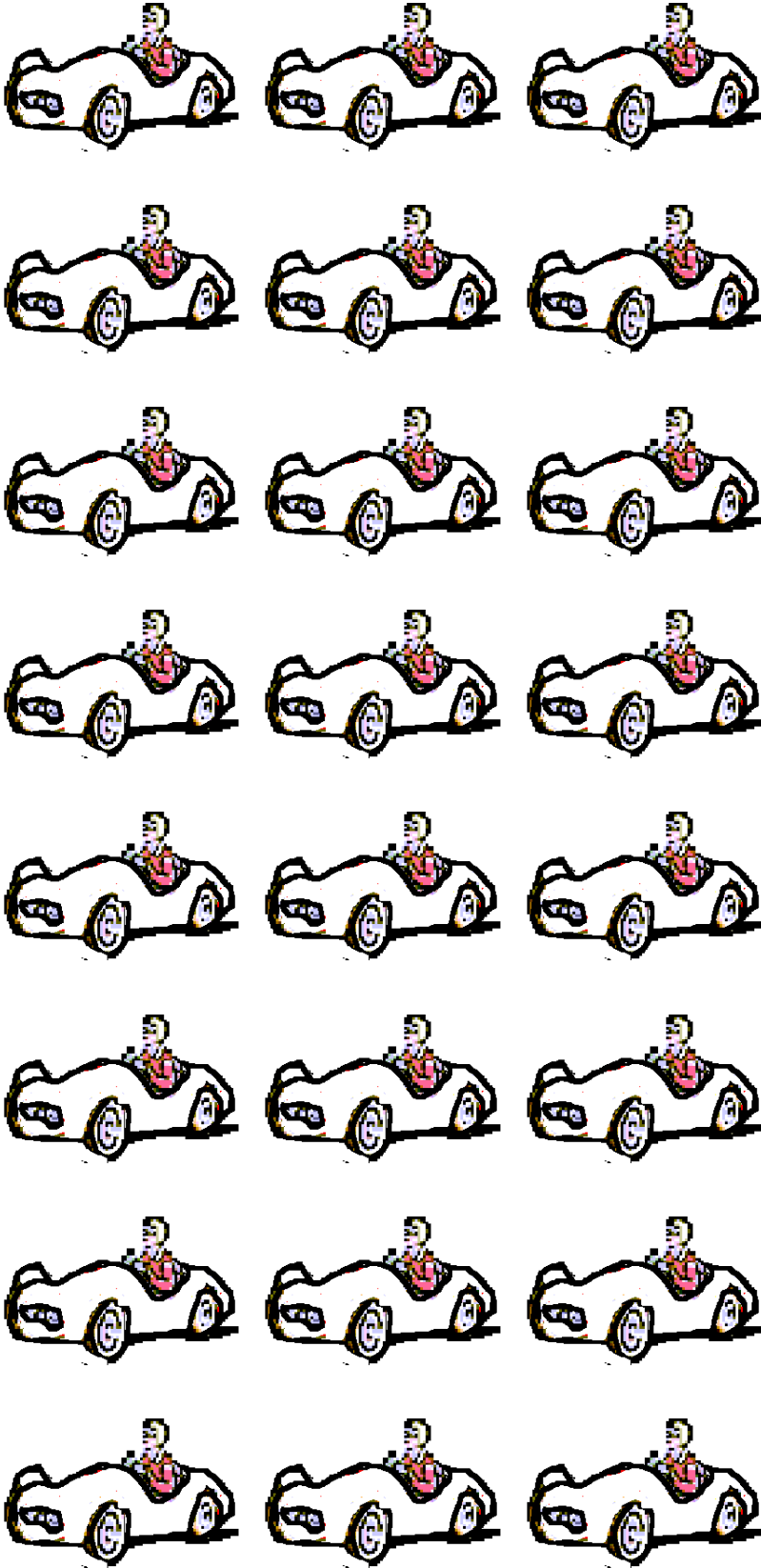
Date _____

Three cars have to drive across a bridge, (one red, one blue, one green) in what different orders can they cross over?

Show your answers:

Write about how you did the problem:

Photocopy and cut into strips



Key Stage 1 maths moderation problems

Guidance for using the problems:

- All pupils should attempt problem 1 and 2
- Problem 3 *should be given* to more able pupils who are capable of independent working
- These problems are intended as a common point for discussion on your table at moderation. By themselves, they **DO NOT PROVIDE A NATIONAL CURRICULUM LEVEL**, but can be used as supporting evidence to inform your overall judgement.
- For Problem 1, use the suggested levelling document for finding rules and describing patterns and follow the guidance at the bottom of the page.
- For Problems 2 and 3, use Assessing Pupils' Progress guidelines for AT1 and AT2.



My Striped Scarf Problem

I love wearing my colourful, striped scarf. It has **25** stripes in total, and they make a repeating pattern: **blue, blue, green, green, red.**

What colour is the last stripe on my scarf?
How many red stripes does my scarf have altogether?

Support: Use a simpler pattern, such as blue, green, blue... have a shorter scarf!

Extension: My friend has a much longer scarf with the same striped pattern. What colour will his 40th stripe be? How did you work it out?
How long would my scarf have to be to have 10 red stripes?

Prompts:

- Predict what colour comes next – why do you think that?
- What do we call this type of pattern? (*repeating*)
- Can you describe the rule for this pattern?
- How might you solve the problem? – What equipment could you use?
- How are you keeping track of the number of stripes in the pattern so far?
- How will you know when you have reached the 25th stripe?
- Why did you choose to organise your results in this way?
- If you only had a pencil and paper, how might you have recorded the results?
- What do you notice about the red stripes on the scarf?

The last stripe on the scarf will be
..... colour.

I know this because.....

.....
.....
.....

Numeracy – Levelling Problem Solving

Piece of work: _____ Date: _____

Finding Rules and Describing Patterns	
Decide on the information you need to describe and continue the pattern <ul style="list-style-type: none"> • Pupils able to continue pattern using practical resources or 'acting it out' • Can continue a pattern using apparatus or drawing • Pupils move from working with practical apparatus to diagrams to continue to pattern, some evidence of systematic approach (1st term, 2nd term, ...) 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Levels 1 - 3</div>
Describe a rule of a pattern or relationship in pictures, words or mathematical symbols <ul style="list-style-type: none"> • Simple recording of findings in pictures or diagrams (adult support allowed) • Can explain a pattern in words and record results using simple diagrams • Use appropriate diagrams and symbols to represent their work – enabling their results to be checked, able to describe a simple rule found in the results 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Levels 1 - 3</div>
Give examples to match a given statement and ones which do not <ul style="list-style-type: none"> • Able to discuss in simple terms how the pattern will develop as more terms are added • Able to predict with some accuracy what would happen if the pattern was continued, with reference to results already found • Use a simple rule to decide whether a given number will be in the sequence or not 	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;">Levels 1 - 3</div>
Best – Fit Assessed Level:	

Suggested use: determine NC level as 'best fit'. If you consider the piece of work to be within level 2, use Assessing Pupils' Progress guidelines to make a decision about security within the level (eg 2a, b or c).

How consistently, independently and reliably can the pupil demonstrate the above skills?

Problem 2 : All abilities problem:

The answer is 12. What could the question be?

Support: Ask less able children to use a smaller number e.g. 6.
Provide apparatus to encourage finding of number bonds.

Extension: After children have found all addition bonds, ask them if they can make 12 with more than 2 numbers, or use different calculations e.g. subtraction, multiplication or division.

Prompts:

Have you found all the addition facts that make 12?

How do you know you have found them all?

Can you make 12 using more than 2 numbers?

Can 12 be the answer to some different types of calculation?

Problem 3 - Additional problem for more able pupils:

How many pairs of numbers can you find with a difference of 9?

(This activity is intended for more able children and the expectation is that they are working on this independently. The prompt below may be used, but only for a child who has found more than 10 pairs but is continuing to use 2 digit numbers)

Prompt: Can you do this for 3 digit numbers?

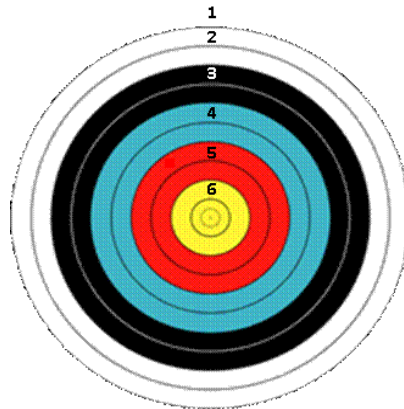
2010

Guidance for using the problems:

- All pupils should attempt Problems 1 and 2.
- Problem 3 *should be given* to more able pupils who are capable of independent working
- These problems are intended as a common point for discussion on your table at moderation. By themselves, they **DO NOT PROVIDE A NATIONAL CURRICULUM LEVEL**, but can be used as supporting evidence to inform your overall judgement.
- For Problem 1 (Hit the Target) -use the suggested levelling document for finding all possibilities.
- For Problem 2 (20p) - use relevant APP Grids to consider the level.
- For Problem 3 (Shapes in the Bag) - use the Observation Sheet.

Hit the target

(Problem 1: Finding all possibilities – all abilities)



The target board shows numbers 1 – 6 with one number in each ring. This activity assumes that all arrows hit the board – a zero score is not possible.

Consider providing visual support and opportunities to carry out the activity in a practical context – e.g. throwing bean bags on to a marked target on the playground.

Please encourage pupils to record their mathematics on a plain piece of paper.

- Find all possible totals with **two** arrows where each arrow lands on a **different** ring (e.g. a score of 2 and 6).
- What happens if the **two** arrows land in the **same** ring – how will this change the range of possible scores? (e.g. a score of 2 and 2).
- What is the largest/smallest odd/even score that can be gained with two arrows?
- Is it possible to gain a score of 13 with two arrows? Explain your thinking.

SUPPORT

- Ask less able children to use numbers 1 – 4 only.

EXTENSION

- Find all possible totals using **three** arrows where the arrows can land in any ring (e.g. a score of 4, 4 and 3).
- How many different ways can a score of 10 be gained using **three** arrows?
- Investigate this statement: All numbers from 4 to 24 (inclusive) can be scored using **four** arrows where each arrow lands in a **different** ring. True or false?

Finding all possibilities (Hit the Target assessment criteria)	
<p>Have a system for finding the possibilities (e.g. start with the smallest number)</p> <ul style="list-style-type: none"> • Can find some possibilities that match the context set (random) • Can find most possibilities that match the context set (random) • Notice links between possibilities, use them to find other answers (some systematic working) 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Organise the recording of possibilities (e.g. in an ordered list or table)</p> <ul style="list-style-type: none"> • Possibilities recorded in pictures or with practical resources (random) • Possibilities recorded in pictures or diagrams with some evidence of an order • Possibilities recorded in an ordered list or table using numbers/colours as appropriate 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Use a method of tracking what has been included and what has not</p> <ul style="list-style-type: none"> • Needed adult support to check work or continue looking for possibilities • Some attempts made to check for repeats and missing answers • Refer to recording system adopted to find repeats and missing answers (independently) 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Have a way of deciding when all possibilities have been found</p> <ul style="list-style-type: none"> • Unable to discuss concept that all possibilities have been found • Able to describe verbally why they think they have found all possibilities • Be able to give some justification (spoken/written) for why all possibilities have been found 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Reasoning:</p> <ul style="list-style-type: none"> • Recognise a simple pattern or relationship involving numbers • Decide whether examples satisfy given conditions. Make predictions and test with examples • Identify properties of numbers and use patterns and relationships to show understanding of a general statement about numbers by finding examples to match it 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
Best-Fit Assessed Level:	

20p Question

The answer is 20p. What could the question be?

Support: Ask less able children to use a smaller amount e.g. 10p.
Provide coins to allow the activity to be done practically and/or set up a real life scenario e.g. shop

Extension: Encourage children to use all four operations. Use £ and pence.

Prompts:

Have you found all the *totals* that make 20p?
How do you know you have found them all?
Can 20p be the answer to some different types of calculation?

For this activity use the relevant APP grids for level 1 and 2 to consider the level.

Shapes In The Bag Investigation

This task is for those pupils who you consider to be working around Level 3 on a day to day basis and so it would be expected that they are able to work with a higher level of independence.

Use a feely bag and a selection of 2D shapes: triangles, hexagons and squares.

Show them to the children.

Explain that you are going to put some of the 2D shapes in the bag but do not show the children which ones you are using.

Say "There are 24 corners (vertices) in my bag. What shapes could I have in the bag?"

Give pupils a blank piece of paper to record on.

Use the observation sheet to make notes as the children work through the problem and record quotes when you discuss their findings with them.

Possible extensions

1. Allow pupils to select other 2D shapes to use
2. Change the criteria e.g. to 15 sides
3. Use 3D shapes.
4. Allow pupils to choose their own criteria.

The solution to the "24 corner "puzzle –not to be shared with pupils before they have completed the task!

squares	triangles	hexagons
6	0	0
0	8	0
0	0	4
0	6	1
0	4	2
0	2	3
3	2	1
3	4	0
3	0	2

Observation sheet for Level 3 Shapes task

<u>Independent approach by pupil</u>	<u>Notes and quotes</u>
Breaks into the problem confidently and independently	
Uses practical resources to understand the problem, try out ideas and follow a line of enquiry	
Recognises that the problem is about counting in 3s, 4s and 6s	
Uses knowledge of multiplication tables (3s, 4s and possibly 6s) rather than counting or addition.	
Finds all the combinations using only one shape	
Finds all the combinations using two shapes	
Finds all the combinations using three shapes	
Finds own way to record- pictorially, with symbols, as jottings, as a diagram, a list or a table.	
Perseveres to find all nine combinations, possibly trying different approaches and overcoming difficulties	
Checks results are reasonable and self corrects if necessary	
Checks there are no repeats or missing examples	
Can explain and justify why they think all possibilities have been found.	
Can refer to the properties of shapes or numbers and to patterns and relationships when explaining thinking orally or in writing.	
Possibly extended learning to one of the extension tasks.	

2011

For the **2011 tasks** children will need access to practical equipment-dominoes, 2D shapes and interlocking cubes. It is probably useful for them to have had plenty of opportunity to explore and play with these resources before tackling the tasks.

All the tasks can be approached individually, in pairs or small groups. The first two need to be attempted by all children in Year 2 and in Year 3 who are taking the Year 2 or Year 3 mathematics test or taking part in the level 1 task. The third task is only intended for more able pupils.

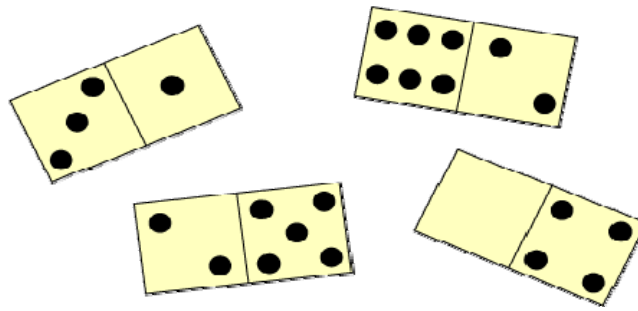
There should be no need for teachers to make a worksheet or photocopy the pages from the “Red book”. All the tasks are designed to be explained orally and recorded on a plain piece of paper. Experience suggests it is best to avoid giving the extension questions to the children before they have had an opportunity to tackle the initial task as some children may naturally extend the task without prompting.

Many schools are finding it useful to organise regular cross phase and whole school moderation of mathematics and to view the KS1 moderation as part of their ongoing assessment cycle. It is certainly good practice to involve the maths subject leader and other members of staff, most especially those from Year 6, in the preparations for KS1 moderation.

Teachers in Years 2 and 3 will need to plan in time to moderate all aspects of mathematics in order to standardise their teacher assessments. In addition they will need further time to consider those samples that they intend to bring to moderation. Schools have also found it useful to share and agree all samples at a staff meeting prior to moderation.

It is unreasonable to expect a teacher to represent their colleagues and their school unless there has been adequate time for moderation and a briefing.

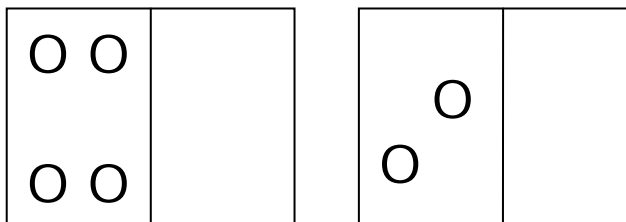
Exploring Dominoes



You will need a complete set of dominoes.

Explore the dominoes to find out how many different **pairs** of dominoes have 6 spots in total?

Here is an example-:



$$4 + 0 + 1 + 1 = 6$$

How many can you find?
What do you notice?

Simplifications –

How many **single** dominoes have spots that total 5?
How many **single** dominoes have spots with a difference of 2?

Extension-

Try using 3 dominoes to reach a total of 6 spots.

What about 4?

Is it possible with more than 5 dominoes? Why do you think that?

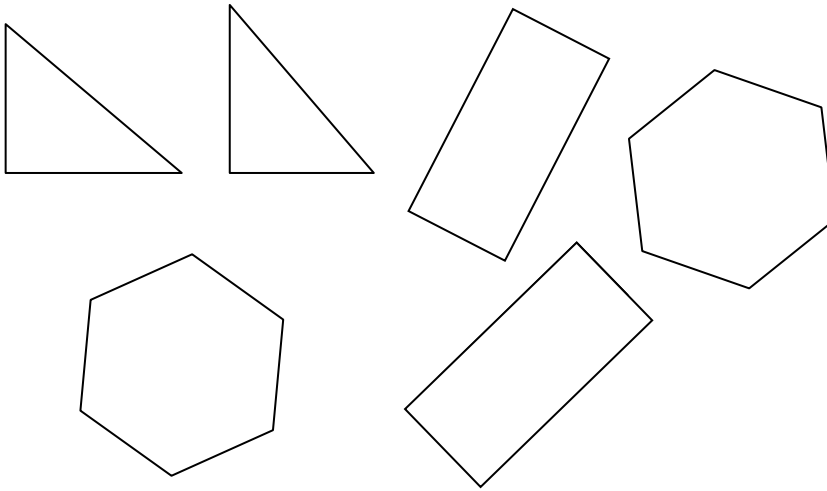
Dominoes levelling support

<p>Have system for finding the possibilities</p> <ul style="list-style-type: none"> • Can find some sets that total 6 (random) • Can find most of the sets that total 6 (random) • Notice links between the sets, use them to find other answers 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Organise the recording of the possibilities</p> <ul style="list-style-type: none"> • Sets recorded with a display of practical resources,(photographed) or pictures (random) • Sets recorded in pictures with some evidence of an order such as use of doubles • Sets recorded in an ordered way such as using numbers and symbols including zero to represent a blank domino e.g. 2+0+3+1=6 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Use a method of tracking what has been included and what has not</p> <ul style="list-style-type: none"> • Needed adult support to check work or continue looking for possibilities • Some attempt made to check for repeats or missing answers • Refers to recording system adopted to find repeats or missing answers (independently) 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Have a way of deciding when all possibilities have been found</p> <ul style="list-style-type: none"> • Unable to discuss the concept that all possibilities have been found • Able to describe verbally why they think all the possibilities have been found • Able to give some justification(spoken/written) for why all possibilities have been found 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>

Answers to pairs for 6

1,0 +1,4 or +2,3, or +5,0
1,1+ 2,2 or +3,1 or +4,0
2,0 +2,2 or +3,1 or +4,0
1,2 + 3,0
0,0 +1,5 or+2,4 or, 3+3 or 6,0

Making symmetrical patterns



Find these shapes in your shapes box.

- 2 identical right angled triangles
- 2 identical rectangles
- 2 identical hexagons

Put them **all** in a straight line to make a symmetrical pattern. Don't forget to show the line of symmetry.

(It doesn't matter how you orientate them but remember to keep the orientation the same as you explore further.)

Now rearrange the shapes to make as many new symmetrical patterns along the straight line as you can.

How many symmetrical patterns can you make using these 6 shapes?

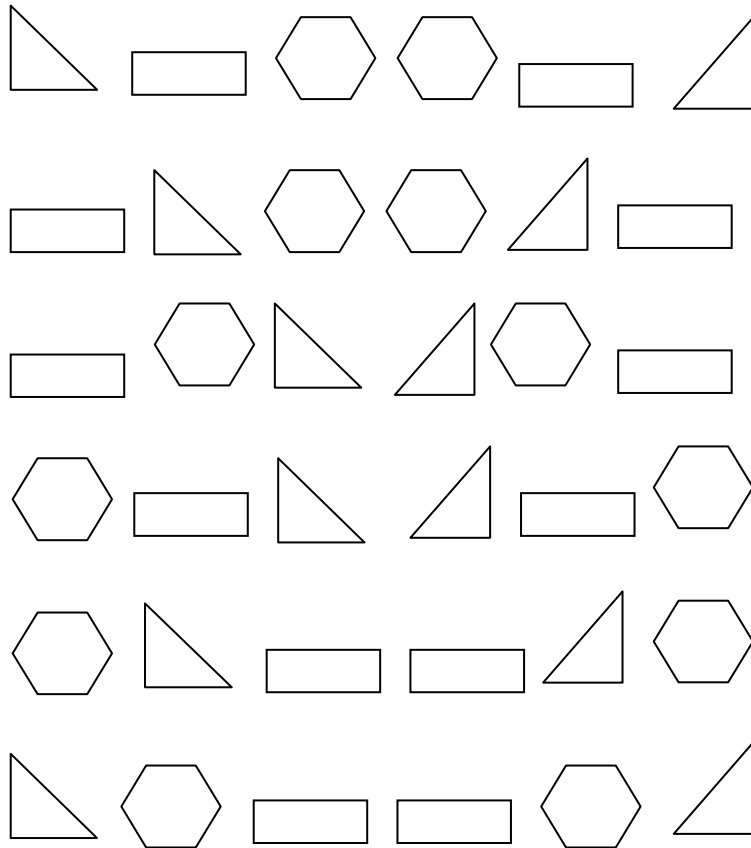
Extension

What would happen if you change the orientation of the shapes?

What would happen if you introduced another shape?

Can you make a pattern with 2 lines of symmetry?

one possible set of answers



NB: – in this case the orientation of each shape is the same in each new example until the 6 possibilities are found.

However your children may also like to explore the range of symmetrical patterns they can create if they do change the orientation.

For example – Can you create new patterns if you stand the rectangle on one of its shorter sides or the hexagon on one of its corners?

Symmetrical patterns levelling support

<p>Have system for finding the possibilities</p> <ul style="list-style-type: none"> • Can find some sets that are symmetrical (random) • Can find all of the sets that symmetrical (random) • Notices links between the sets such as the 2 with hexagon in the centre, uses them to find other answers 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Organise the recording of the possibilities</p> <ul style="list-style-type: none"> • Patterns s recorded with a display of practical resources, (photographed) or pictures (random) • Sets recorded in pictures with some evidence of an order such as those starting with triangles recorded first • Sets recorded in an ordered way such as using diagrams or symbols 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
<p>Use a method of tracking what has been included and what has not</p> <ul style="list-style-type: none"> • Needed adult support to check work or continue looking for possibilities • Some attempt made to check for repeats or missing answers • Refers to recording system adopted to find repeats or missing answers (independently) 	<p><i>Level 1</i> <i>Level 2</i> <i>Level 3</i></p>
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Exploring growing patterns

L3 investigation

Allow children to explore “multi-link” or similar cubes and show them how to make a series of shapes that they can see growing as they add more cubes. Ensure that they realise that the colour of the cubes they use doesn’t matter.

Encourage them to talk about their pattern and how it is changing as it grows.

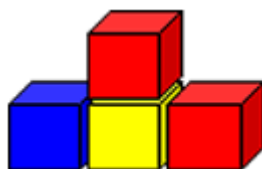
Now

-introduce this “up-and-down staircase” pattern from www.nrich.maths.org if no one has already made it -:

1 block is needed to make an up and down staircase with 1 step up and 1 step down.



4 blocks are needed to make an up and down staircase with 2 steps up and 2 steps down



.....and so on.

How many blocks are needed for a 3 step up-and-down staircase?
How many blocks would be needed to build an up-and-down staircase with 5 steps up and 5 steps down?

Ask the children to make the first 3 patterns in this sequence and then predict how any cubes will be needed for the 5th pattern.

Then let them try it and see if they were correct.

Explain how you would work out the number of blocks needed to build a 100 steps staircase or one with any number of steps
Try making a table of the number of blocks needed for each numbers of steps.
Can you rearrange the blocks for each staircase to make a square pattern?
How might this help?

Answers

- 1 step - 1 block
- 2 steps - 4 blocks
- 3 steps - 9 blocks
- 4 steps - 16 blocks
- 5 steps - 25 blocks

So ...if you multiply the number of steps by itself (generating square numbers) you will find out the number of blocks needed.

You can prove this by taking one half of the staircase and putting on top of the other half which will make a square.

6 steps would be $6 \times 6 = 36$ etc.

100 steps would be $100 \times 100 = 10\,000$ (if you have enough bricks.)

Any number of steps would be any number...let's call that N multiplied by itself, so $N \times N$

Extension - explore another growing pattern of their own, in the same way, and look for the rule.

Exploring growing patterns levelling support

<p>Decide on the information needed to describe and continue a pattern</p> <ul style="list-style-type: none"> • Can devise the first shape for a growing pattern and then continue it, using apparatus • Follow a line of enquiry to continue the pattern using apparatus, drawings or diagrams and use first, second etc to describe their work 	<p><i>Level 2</i></p> <p><i>Level 3</i></p>
<p>Describe the rule of their pattern in pictures, words, mathematical symbols or diagrams</p> <ul style="list-style-type: none"> • Recognise and explain a pattern in words (orally) and record the results as simple diagrams • Use diagrams and symbols to represent their pattern and to describe a simple rule found in their results 	<p><i>Level 2</i></p> <p><i>Level 3</i></p>
<p>Give examples to match a given statement and ones which will not</p> <ul style="list-style-type: none"> • Predict with some accuracy how the pattern will develop as it continues, with reference to results already found • Suggest a simple rule to decide whether a given number of cubes will be needed to make a shape to continue the sequence. 	<p><i>Level 2</i></p> <p><i>Level 3</i></p>