SPEAR Maths Sample Pack

The Primary Maths Problem Solving Framework

A comprehensive framework that:

- supports teaching and learning in Maths problem solving
- is easy to use
- is flexible
- promotes independence
- encourages the transfer of process skills
- includes a resource of over 550 problems
- has been fully updated in line with the 2014 Curriculum

The Challenge

- Problem solving in Maths is under-developed in many primary schools
- Few primary school teachers are Maths specialists
- Maths problem solving is complex
- Many teachers feel they should do more problem solving in Maths but don't know where to start
- The 2014 Curriculum centres on problem solving but provides little guidance or support for this
- Pupils often struggle to transfer knowledge and understanding to unfamiliar contexts

The Framework

- A five step process which children can understand, remember and use
- Supported by a comprehensive range of materials: graded problems, records, self evaluation sheets, etc.
- Linked to the NC but not restricted to it or by it
- Accessible to children of all ages and abilities from EYFS to Y7 and above
- An ideal resource to use alongside schemes such as Singapore Maths

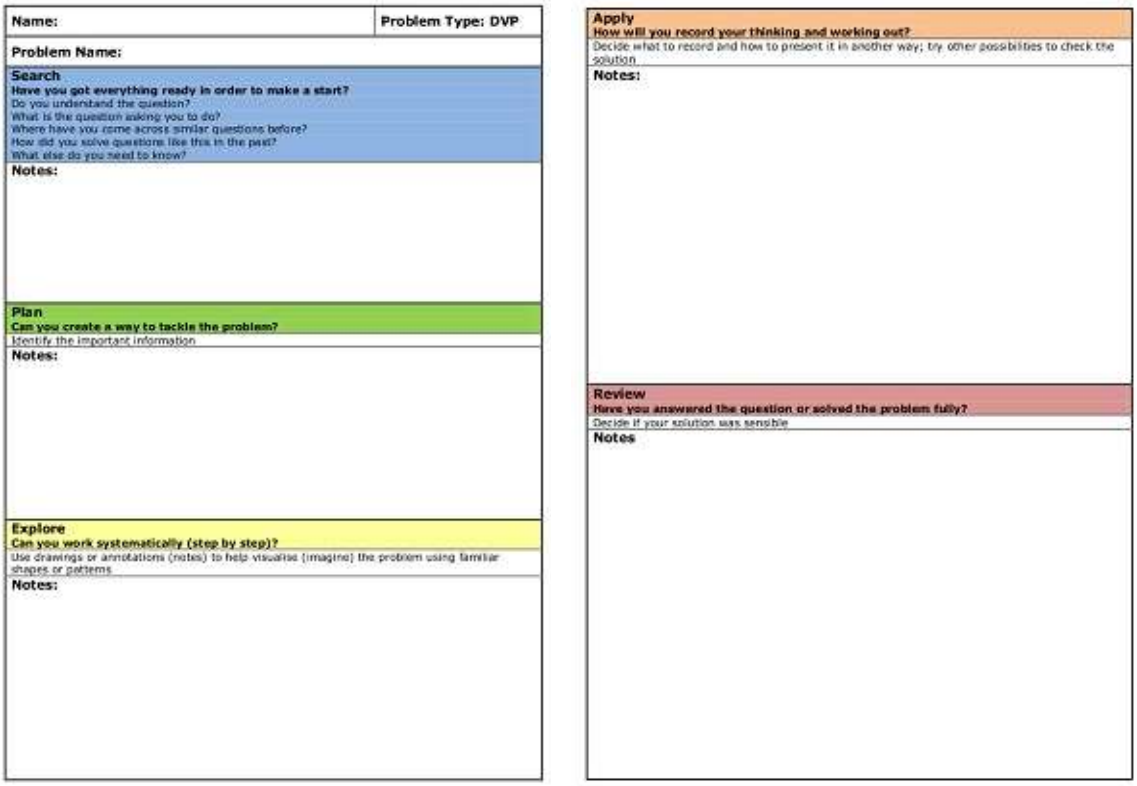
Sample Pack

The contents of this sample pack have been selected to give you a clear understanding of what you get when you purchase a licence for using SPEAR Maths.

Overview of SPEAR Maths Contents

Activity Records

Activity record sheets for each type of problem as well as general and simplified record sheets.



Name: | Problem Type: DVP

Problem Name:

Search
Have you got everything ready in order to make a start?
Do you understand the question?
What is the question asking you to do?
Where have you come across similar questions before?
How did you solve questions like this in the past?
What else do you need to know?

Notes:

Plan
Can you create a way to tackle the problem?
Identify the important information

Notes:

Explore
Can you work systematically (step by step)?
Use drawings or annotations (notes) to help visualise (imagine) the problem using familiar shapes or patterns

Notes:

Apply
How will you record your thinking and working out?
Decide what to record and how to present it in another way; try other possibilities to check the solution

Notes:

Review
Have you answered the question or solved the problem fully?
Decide if your solution was sensible

Notes

There are **7** different Activity Record Sheets in all.

Help Me Cards

Help Me Cards for each stage of each type of problem (a common SEARCH card and specific cards for PLAN, EXPLORE, APPLY and REVIEW for each problem type).

Also, the same information organised into Help Me cards for each Level of each problem type and for each Year Group (2014 version)

All: SEARCH

Level 1	Talk to an adult about what you are doing
	With help, find different ways to do it or put things in order
Level 2	With a little help, decide how you are going to start With a little help, decide on what's important to think about
	Tell an adult how you will use something you learned before to solve this problem
Level 3	Use pictures, writing, numbers and talk to explain exactly how you could solve the problem
	Talk about how to tackle the problem, remembering what you did with similar problems in the past and explaining the steps to take
Level 4	Use pictures, writing, numbers and talk to clearly explain the mathematical ideas you are using to solve the problem
	Think about questions to do with the problem and try and answer them using mathematical ideas
Level 5	Even when asked to solve a complicated problem that you have never seen before, use what you have learned in the past to think of things you can try in order to solve the problem
	Even when asked to solve a complicated problem that you have never seen before, try to work out a way to tackle it without asking for help

Level 4 FAP	Use pictures, writing, numbers and talk to clearly explain the mathematical ideas you are using to solve the problem
	Think about questions to do with the problem and try and answer them using mathematical ideas
	Think of your own ways to tackle a problem you have never seen before by remembering how you solved problems in the past, if this is helpful
	Use your imagination to come up with new ways of trying to solve a problem
	Make a good choice about the way to record all the answers you find that will be easiest to do and clearest for others to understand
	Organise the important information into a list or table, as you decide, in order to see what might be missing
	Write down your answers in a clear and organised way using symbols that other people can understand
	Without help, find a way to work that allows you to be clear about what you have tried and what you still need to do
	Only record what you need to record and be able to explain your choices about this and, when you have found some results, say what else you expect to find using mathematical ideas to give reasons
	Use mathematical ideas and mathematical language to explain clearly how you *know* your answer(s) are correct
	Use what you have learned in one problem to say what you expect to find in other problems before you do them
	Without any help, explain how you know your answer is right even for difficult problems involving lots of information

There are **46** different Help Me Cards in the SPEAR Maths resources

2014 Versions

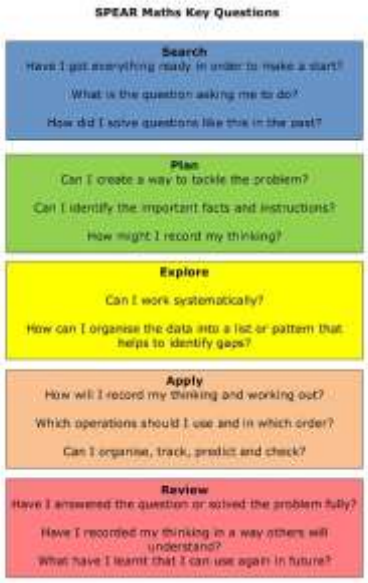
Year 3 General	Tell an adult how you will use something you learned before to solve this problem
	Tell an adult your plan for solving the problem
	With a little help, explain the problem in your own words to an adult and say which bits are important
	With help, choose the apparatus you need to solve the problem and draw any pictures that will help you
	Find all the answers that you can
	With a little help, highlight the words and numbers in the problem that are important and say why you have chosen them
	With a little help, decide how to solve the problem one step at a time
	Remember that you can choose which clue to start with
	Explain why some clues go together to tell you something important
	With a little help, make drawings about the problem you are working on to show how you will do it
	With a little help, talk about different ways to show the information in the problem and explain which you prefer
	Explain to an adult what would happen if the problem was changed
	Write or draw what you have done and what you have found out in the best way you can think of so that other people can understand
	Talk to an adult about whether if it would help to start with the smallest number
	With a little help, fill in an empty table given to you by an adult by putting the information you have in the right places
	With a little help, decide whether to add (+), subtract (-), multiply (x) or divide (÷). If you need to do more than one of these, decide which you need to do first
	Explain to an adult why you are sure you have found all the possible answers
	With a little help, explain how you know that your answer is right
	With a little help, look for missing answers (and answers you have written down twice) by organising what you have found out
	With a little help, look for answers you have written down twice
	Try to remember to say what units your answer is measured in

Year 7 Logic	Even when asked to solve a complicated problem that you have never seen before, use what you have learned in the past to think of things you can try in order to solve the problem
	Even when asked to solve a complicated problem that you have never seen before, try to work out a way to tackle it without asking for help
	Explain to others in a way that they can easily understand, by talking or in writing, how you intend to tackle the problem and why you think this is a good way to approach it
	In complicated problems, highlight the words and numbers that you will need to use and put them in the order in which you will use them, using mathematical ideas to decide this
	Even before you have started to work on a tricky problem, think of ways you could find out, and write down, important information and results
	Be able to use a lot of different types of lists, table, notes, drawings, symbols, plans and calculation strategies to solve different types of problem, showing that you can make the best choices in different situations
	Always work step by step, showing that you can choose one piece of information and see what happens when you use this information in the problem
	Always work step by step, without needing to be told, when you are looking for answers, writing them down and checking that the answers are right
	Write down what you have found out, using words and symbols in the best ways you can to make it easy for other people to understand, ask questions about and use your findings
	Ask yourself questions about your answers to a problem, for example 'what would happen if...?' and then try to find an answer to that question
	Use mathematical ideas about logic problems to make choices about what the solution might, or might not, be
	Without help, and without waiting to be told, use what you have learned in one problem to say what you expect to find in other similar problems and draw some general conclusions about problems of this type
	Without any help, and without waiting to be told, explain how you know your answer is right even for the most complicated problems involving lots of information
	Without any help, and without waiting to be told, use mathematical ideas to decide whether your answer is correct, sensible and complete in every respect

Key Questions

Key questions in SPEAR Maths colours at three levels of difficulty (Y12, Y34 and Y56)

Specific Key Questions for each type of problem



There are **8** different question sheets in all.

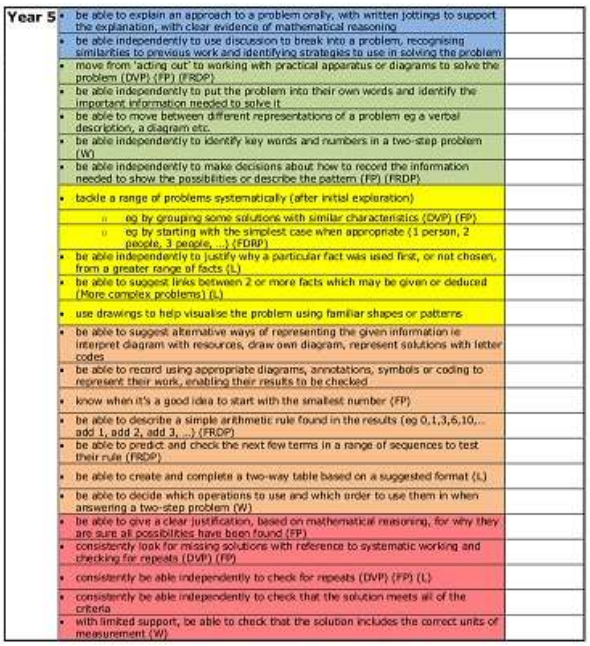
Next Step Records

General pupil records for all problem types (Landscape and Portrait layouts) organised in Levels and year groups (2014 version)

Sample

Next Steps Record for All Problem Types

Level		Date
Level 1	• be able to use everyday language to talk about their work	
	• with support, be able to make connections and use prior knowledge to solve similar practical problems in a new context	
	• with support, be able to 'act out' a simple problem within a small group	
	• with support, be able to use practical resources to represent aspects of a problem	
	• be able to describe verbally, or with resources, possible solutions to a problem	
	• be able to count accurately the number of possible solutions to a simple problem	
	• be able to understand a 'not' statement in the context of a simple problem (L)	
	• with support, be able to record solutions using simple pictures, diagrams or resources	
	• with support, be able to recognise solutions with common characteristics and group them (FAP)	
	• with support, be able to understand key concepts eg that the number of possible solutions increases with the number of options available (FRDP)	
	• with support, be able to check a solution for a simple problem and be able to explain why some solutions are not acceptable ○ may be able to use this information to find missing solutions or repeats (FAP) (L)	
Level 2	• with limited support, be able to find a starting point for solving a problem, identifying key facts and relevant information	
	• be able to independently transfer knowledge and use it to solve problems	
	• be able to use practical resources to accurately represent aspects of a problem	
	• with some independence, be able to 'act out' a simple problem within a small group	
	• with limited support, be able to find examples that satisfy the rules of a simple problem (FAP)	
	• with support, be able to work systematically (after initial exploration) on a simple problem	
	• be aware that facts can be used in any order (limited number of facts) (L)	
	• be able to identify links between two given facts (L)	
	• be able to explain an approach to a problem orally, with some evidence of reasoning	
	• begin to use drawings to illustrate ideas about simple problems	
	• be able to record solutions found through annotating, sketching a diagram or using simple mathematical symbols	
	• be able to organise solutions into groups with similar characteristics e.g. 'all the rectangles made up of two squares' (DVP) (FAP)	
	• be able to predict what would happen to the pattern if the criteria were changed, with reference to results already found, giving simple reasons (FRDP)	
	• be able to check that the solution meets all criteria -after adult prompting if necessary	
	• with support, be able to use organising (eg ordering) and recording information to find repeats and missing solutions (FAP) (FRDP)	
	• be able to describe verbally why they are sure they have found all the solutions (FAP)	

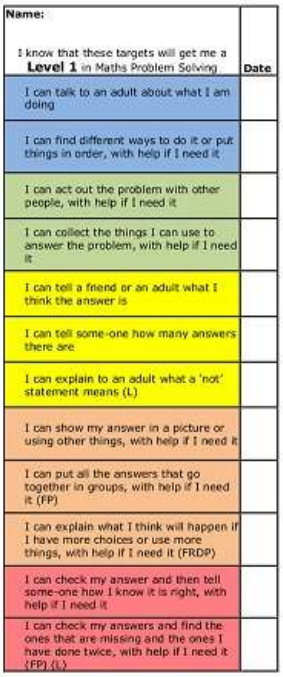


Year 5		
	• be able to explain an approach to a problem orally, with written jottings to support the explanation, with clear evidence of mathematical reasoning	
	• be able independently to use discussion to break into a problem, recognising similarities to previous work and identifying strategies to use in solving the problem	
	• move from 'acting out' to working with practical apparatus or diagrams to solve the problem (DVP) (FP) (FRDP)	
	• be able independently to put the problem into their own words and identify the important information needed to solve it	
	• be able to move between different representations of a problem eg a verbal description, a diagram etc.	
	• be able independently to identify key words and numbers in a two-step problem (W)	
	• be able independently to make decisions about how to record the information needed to show the possibilities or describe the pattern (FP) (FRDP)	
	• tackle a range of problems systematically (after initial exploration)	
	○ eg by grouping some solutions with similar characteristics (DVP) (FP)	
	○ eg by starting with the simplest case when appropriate (1 person, 2 people, 3 people, ...) (FDRP)	
	• be able independently to justify why a particular fact was used first, or not chosen, from a greater range of facts (L)	
	• be able to suggest links between 2 or more facts which may be given or deduced (More complex problems) (L)	
	• use drawings to help visualise the problem using familiar shapes or patterns	
	• be able to suggest alternative ways of representing the given information ie interpret diagram with resources, draw own diagram, represent solutions with letter codes	
	• be able to record using appropriate diagrams, annotations, symbols or coding to represent their work, enabling their results to be checked	
	• know when it's a good idea to start with the smallest number (FP)	
	• be able to describe a simple arithmetic rule found in the results (eg 0,1,3,6,10,... add 1, add 2, add 3, ...) (FRDP)	
	• be able to predict and check the next few terms in a range of sequences to test their rule (FRDP)	
	• be able to create and complete a two-way table based on a suggested format (L)	
	• be able to decide which operations to use and which order to use them in when answering a two-step problem (W)	
	• be able to give a clear justification, based on mathematical reasoning, for why they are sure all possibilities have been found (FP)	
	• consistently look for missing solutions with reference to systematic working and checking for repeats (DVP) (FP)	
	• consistently be able independently to check for repeats (DVP) (FP) (L)	
	• consistently be able independently to check that the solution meets all of the criteria	
	• with limited support, be able to check that the solution includes the correct units of measurement (W)	

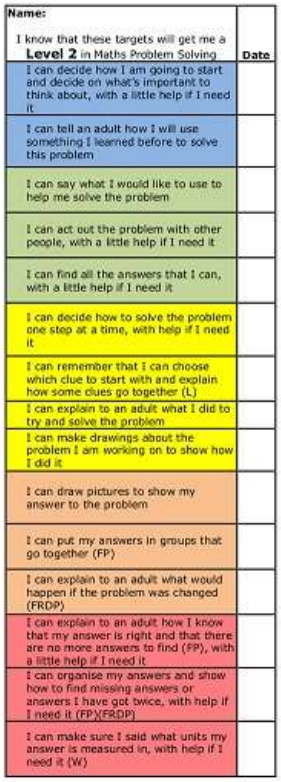
Pupil records for each type of problem. There are **13** different Next Steps Records to choose from.

Target Cards

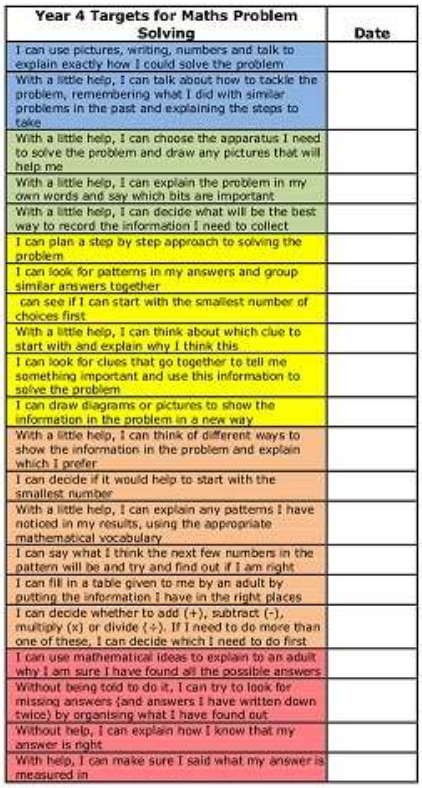
Target cards for Levels 1-5 (three versions). Also Target cards in individual year groups (2014 version)



Name: I know that these targets will get me a **Level 1** in Maths Problem Solving	Date
I can talk to an adult about what I am doing	
I can find different ways to do it or put things in order, with help if I need it	
I can act out the problem with other people, with help if I need it	
I can collect the things I can use to answer the problem, with help if I need it	
I can tell a friend or an adult what I think the answer is	
I can tell some-one how many answers there are	
I can explain to an adult what a 'not' statement means (L)	
I can show my answer in a picture or using other things, with help if I need it	
I can put all the answers that go together in groups, with help if I need it (FP)	
I can explain what I think will happen if I have more choices or use more things, with help if I need it (FRDP)	
I can check my answer and then tell some-one how I know it is right, with help if I need it	
I can check my answers and find the ones that are missing and the ones I have done twice, with help if I need it (FP) (L)	



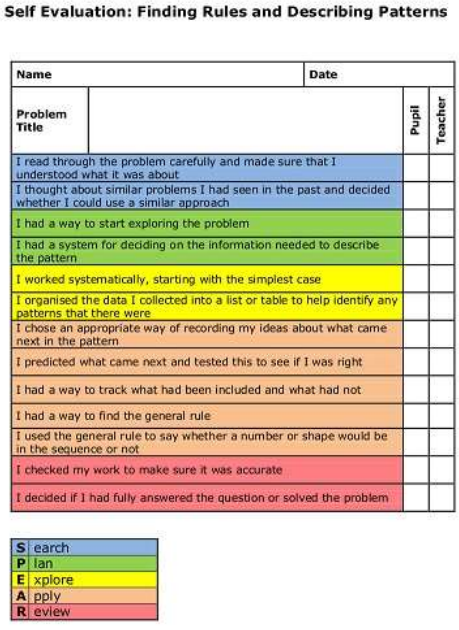
Name: I know that these targets will get me a **Level 2** in Maths Problem Solving	Date
I can decide how I am going to start and decide on what's important to think about, with a little help if I need it	
I can tell an adult how I will use something I learned before to solve this problem	
I can say what I would like to use to help me solve the problem	
I can act out the problem with other people, with a little help if I need it	
I can find all the answers that I can, with a little help if I need it	
I can decide how to solve the problem one step at a time, with help if I need it	
I can remember that I can choose which clue to start with and explain how some clues go together (L)	
I can explain to an adult what I did to try and solve the problem	
I can make drawings about the problem I am working on to show how I did it	
I can draw pictures to show my answer to the problem	
I can put my answers in groups that go together (FP)	
I can explain to an adult what would happen if the problem was changed (FRDP)	
I can explain to an adult how I know that my answer is right and that there are no more answers to find (FP), with a little help if I need it	
I can organise my answers and show how to find missing answers or answers I have got twice, with help if I need it (FP)(FRDP)	
I can make sure I said what units my answer is measured in, with help if I need it (W)	



Year 4 Targets for Maths Problem Solving	Date
I can use pictures, writing, numbers and talk to explain exactly how I could solve the problem	
With a little help, I can talk about how to tackle the problem, remembering what I did with similar problems in the past and explaining the steps to take	
With a little help, I can choose the apparatus I need to solve the problem and draw any pictures that will help me	
With a little help, I can explain the problem in my own words and say which bits are important	
With a little help, I can decide what will be the best way to record the information I need to collect	
I can plan a step by step approach to solving the problem	
I can look for patterns in my answers and group similar answers together	
can see if I can start with the smallest number of choices first	
With a little help, I can think about which clue to start with and explain why I think this	
I can look for clues that go together to tell me something important and use this information to solve the problem	
I can draw diagrams or pictures to show the information in the problem in a new way	
With a little help, I can think of different ways to show the information in the problem and explain which I prefer	
I can decide if it would help to start with the smallest number	
With a little help, I can explain any patterns I have noticed in my results, using the appropriate mathematical vocabulary	
I can say what I think the next few numbers in the pattern will be and try and find out if I am right	
I can fill in a table given to me by an adult by putting the information I have in the right places	
I can decide whether to add (+), subtract (-), multiply (x) or divide (÷). If I need to do more than one of these, I can decide which I need to do first	
I can use mathematical ideas to explain to an adult why I am sure I have found all the possible answers	
Without being told to do it, I can try to look for missing answers (and answers I have written down twice) by organising what I have found out	
Without help, I can explain how I know that my answer is right	
With help, I can make sure I said what my answer is measured in	

Self Evaluation Sheets

Self Evaluation Sheets for each type of problem with or without a teacher's column.



Self Evaluation: Finding Rules and Describing Patterns

Name	Date		
Problem Title		Pupil	Teacher
I read through the problem carefully and made sure that I understood what it was about			
I thought about similar problems I had seen in the past and decided whether I could use a similar approach			
I had a way to start exploring the problem			
I had a system for deciding on the information needed to describe the pattern			
I worked systematically, starting with the simplest case			
I organised the data I collected into a list or table to help identify any patterns that there were			
I chose an appropriate way of recording my ideas about what came next in the pattern			
I predicted what came next and tested this to see if I was right			
I had a way to track what had been included and what had not			
I had a way to find the general rule			
I used the general rule to say whether a number or shape would be in the sequence or not			
I checked my work to make sure it was accurate			
I decided if I had fully answered the question or solved the problem			

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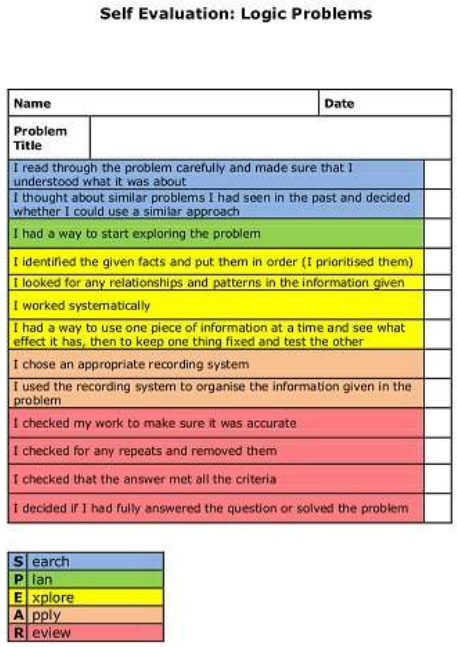

Self Evaluation: Logic Problems

Name	Date	
Problem Title		
I read through the problem carefully and made sure that I understood what it was about		
I thought about similar problems I had seen in the past and decided whether I could use a similar approach		
I had a way to start exploring the problem		
I identified the given facts and put them in order (I prioritised them)		
I looked for any relationships and patterns in the information given		
I worked systematically		
I had a way to use one piece of information at a time and see what effect it has, then to keep one thing fixed and test the other		
I chose an appropriate recording system		
I used the recording system to organise the information given in the problem		
I checked my work to make sure it was accurate		
I checked for any repeats and removed them		
I checked that the answer met all the criteria		
I decided if I had fully answered the question or solved the problem		

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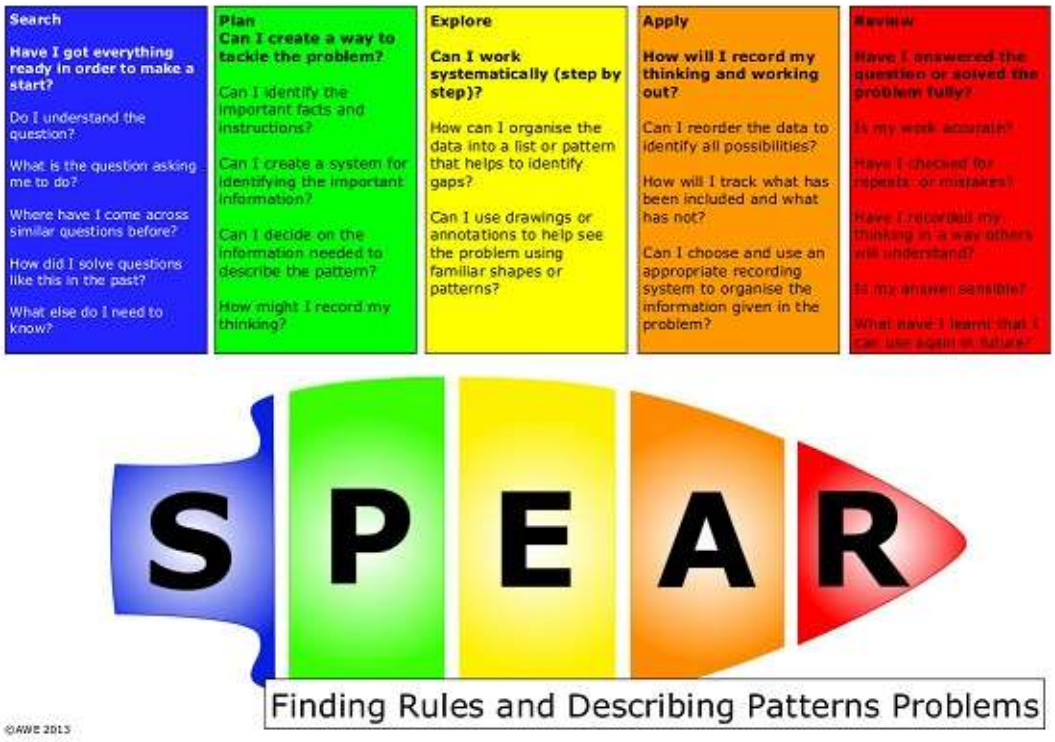
There are **10** Self Evaluation Sheets in all.

SPEAR Graphics

SPEAR graphic with key questions for each problem type:



Simplified SPEAR graphic with icons for younger children:

There are **10** documents like this in all.

Teachers' Manuals

Teachers' Guides for each type of problem containing Statements of Attainment with examples of achieving each objective and suggested next teaching steps.

The same information compiled into a comprehensive teachers' guide covering all problem types.

SPEAR Maths Next Steps Teachers' Guide with SPEAR Colours

Level	Descriptor	Example	Next Teaching Steps
Level 1	• be able to use everyday language to talk about their work	With some prompts is able to explain what has been done using mathematical language eg 'I put two cakes on Teddy's plate and three cakes on Humpty's plate and that makes five altogether'	Create opportunities for children to explore and discuss patterns (eg patterns of Lego bricks in a model) using mathematical language
	• with support, be able to make connections and use prior knowledge to solve similar practical problems in a new context	With support, engages with practical mathematical activities involving sorting, counting and measuring by direct comparison eg can find different ways to dress teddy, can order cars in a line, can find out how many cars can be made using eight wheels	Create opportunities for children to find lots of possibilities eg find different ways to make a tower with three coloured blocks Give children opportunities to choose useful resources from a limited range of resources
	• with support, be able to 'act out' a simple problem within a small group	With support eg packs a picnic for the Three Bears, lays the table for the Three Bears; solves practical problems involving counting, adding, subtracting in the context of numbers, measures or money	Create opportunities for children to act out a wide range of mathematical problems involving numbers, measures or money with more independence
	• with support, be able to use practical resources to represent aspects of a problem	With support eg chooses criteria to sort buttons, shows that toy cars can be lined up in different orders	Create opportunities for children to identify the mathematical knowledge needed to solve a problem eg by using coins to buy items of shopping
	• be able to describe verbally, or with resources, possible solutions to a problem	Is able to explain eg 'the blue car is biggest because it's longer', 'there are five sheep and seven cows,', 'there are three dolls and six hats, so the dolls can have two hats each'	Create opportunities for pupils to listen to each other's explanations, try to make sense of them, compare and contrast, evaluate…
	• be able to count accurately the number of possible solutions to a simple problem	With some support, is able to say eg 'there are three ways to have two plates of cakes with two cakes altogether (1+1, 2+0 and 0+2)'	Create opportunities for pupils to start to make connections and begin to apply their knowledge to new situations eg to recognise that the number of ways to throw three bean bags into two buckets involves the same pattern as the number of ways to put three apples in two bowls
	• be able to understand a 'not' statement in the context of a simple problem (L)	Is able to explain eg that 'the ball is not on the top shelf' means that the ball is on the middle or the bottom shelf of a three shelf bookcase	Create opportunities for pupils to practice applying their understanding of 'not' statements in a range of increasingly challenging contexts eg include an extra shelf and an extra toy

A new teachers' guide organised into year groups (2014 version)

Year	Descriptor	Example	Next Teaching Steps
Year 4	• be able to explain an approach to a simple problem orally, with written jottings to support the explanation, with some evidence of reasoning	Is able to put the problem into their own words and use a wide range of pictures, diagrams and some mathematical symbols to communicate their thinking or demonstrate a solution or process; is able to make a generalisation with some assistance of probing questions or prompts; when they have solved a problem, is able to pose similar problems for a partner	Create opportunities for pupils to experience a broadening range of problems of different types, asking them to make suggestions about how they might tackle each one and encouraging them to try different approaches, making connections to previous work eg explore ways to navigate a maze finding a route that totals 100
	• with limited support, be able to use discussion to break into a problem, recognising similarities to previous work and identifying strategies to use in solving the problem	With limited support, is beginning to try a variety of approaches to overcome difficulties when solving problems eg when covering an area with rectangular tiles; with limited support, is able to break up a complicated task into smaller steps in order to make a start; is able to answer questions to clarify a problem; with limited support, is able to show understanding of a general statement by finding examples that match it eg 'If you add two odd numbers you get an even number'	Create opportunities for children to make choices about how they intend to approach a problem and then to explain the thinking behind the choices made, using language such as 'it can't be… because…' Create opportunities for pupils to discuss, and show understanding of general statements that are true by finding examples that match it and statements that are false by giving counter examples eg Sam says 'all numbers ending in 4 are in the 4x table. Is Sam correct?'
	• with limited support, move from 'acting out' to working with practical apparatus or diagrams to solve the problem (DVP) (FAP) (FRDP)	With limited support, is able to choose appropriate practical resources, including resources that are not immediately available, and use these resources effectively to break into problems of different types	Create opportunities for pupils to choose, and use, formal problem-solving strategies; encourage pupils to move quickly on from 'acting out' to more formal strategies; encourage pupils to think creatively to search for a solution to a problem eg by asking questions such as 'how are you going to show the rest of the class what you did?' and 'is there another way you could do this?'
	• with limited support, be able to put the problem into their own words and identify the important information needed to solve it	With limited support, is able to tackle and solve one-step problems involving numbers, money or measures including time using Y4 content; with limited support, is able to tackle	Create opportunities for pupils to practise reframing a problem eg by putting it into their own words, by explaining it to a peer, by discussing it in a group, by presenting to the

Pupil Passports

Suggested collections of graded and ordered problems arranged termly for Y1 to Y6 classes. Each passport contains a mixture of problem types of increasing levels of difficulty and includes a brief description of each problem and necessary prior knowledge:

Type					Y3 Autumn			
D	L	P	R	W	Title	Description	Necessary Prior Knowledge	Date/ Comment
•					**D6 Spot the Shapes 1**	Count triangles/ rectangles in a picture	Recognise triangles and rectangles Count accurately to 20	
	•				**L15 Take it Easy**	Understand how to win a simple number based logic game	Add and subtract mentally 1,2 and 3	
				•	**W1 Stamps**	Find multiples of 5 and 10 which add to 55	5x and 10x table facts	
			•		**R80 Hundred Square Fragments**	Complete fragments of hundred square by filling in missing numbers	Understand the layout of a hundred square	
		•			**P128 Which Toys Can You Buy?**	Which combinations of 3 out of 6 toys can you buy with £5?	Add and subtract £ and p to around £5	
•					**D64 Odd Square**	Put numbers 1-9 in 3x3 grid so that differences of adjacent numbers are odd	Know the meaning of 'difference'	
	•				**L13 Build a Tower**	Use clues to work out which cube was on top of a four colour tower	Know positional language	
		•			**P124 Odd Numbers**	Find ways of adding 4 odd numbers to make 20	Add mentally to 20 Understand 'odd' and 'even'	
			•		**R10 L-shaped Model**	Understand the pattern in a sequence of shapes and predict the 10th term	Recognise and describe patterns	
		•			**P30 Ben's Number**	Whole numbers whose digits add to 5	Add small numbers mentally	
				•	**W94 I Think of a Number**	Simple word problems involving inverse operations	Experience of using inverse operations	
		•			**P22 Christmas Tree**	How many ways can four stars on a Christmas tree be coloured either red or yellow?	Work systematically	

There are **6** Pupil Passports in all.

Problems

Over **550** problems covering Levels 1-5 and all problem types in an easy to use searchable database. In addition, there are EYFS ideas for Maths problem solving. New problems are being added all the time. Many problems now include ready-made resources such as empty tables, as well as extension and support materials.All problems include complete answers.

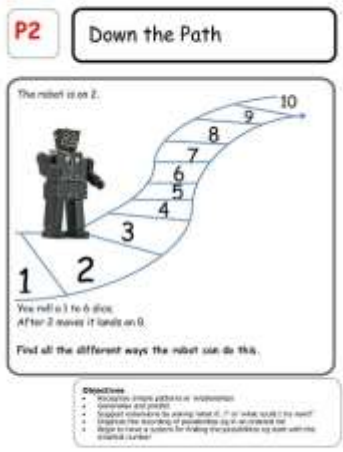
Early Years Ideas

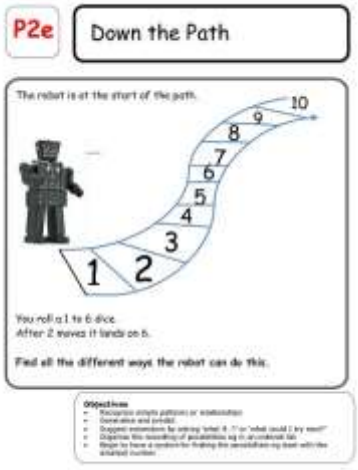
These activity sheets are intended to be used by adults to inform their support of pupils as they experience learning opportunities. Each sheet includes an activity, resources and focusing and extending questions, as well as key objectives:

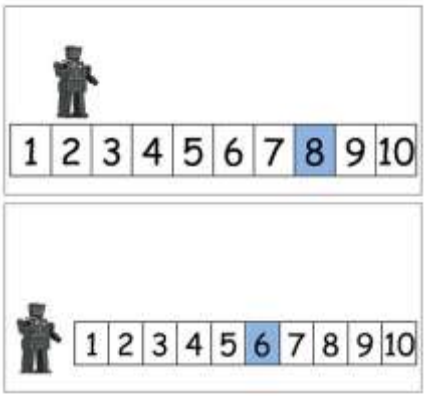
There are **25** EYFS activites.

A complete problem:

Here is an example Y1 problem with answers, resources, simplified version etc:







Answer to P2 Down the Path

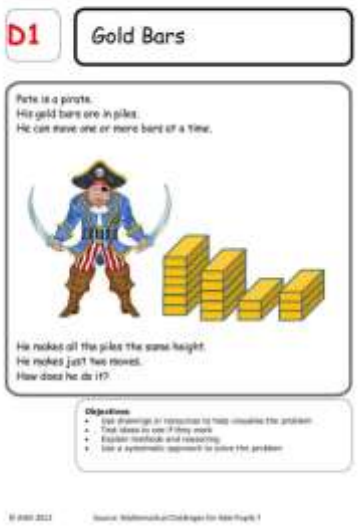
1 + 5
2 + 4
3 + 3
4 + 2
5 + 1

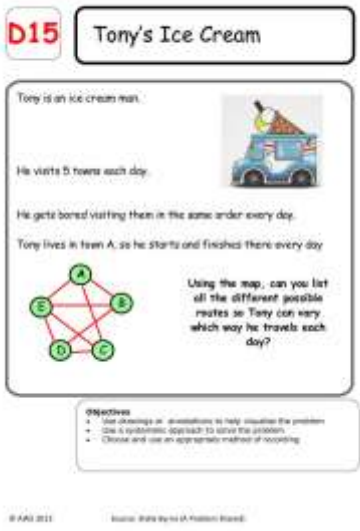
Notes

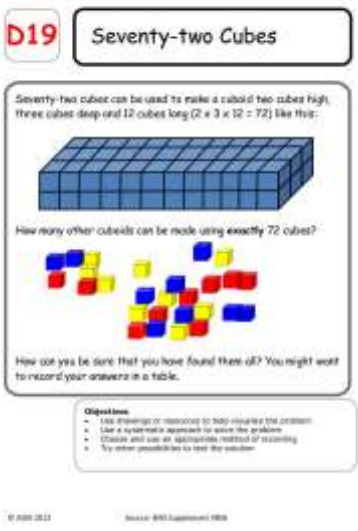
Some children may find the idea of the robot starting on 2 confusing. For this reason, you may wish to use the simplified version of the problem on the next page. This generates exactly the same answers but without the complication of starting on 2.

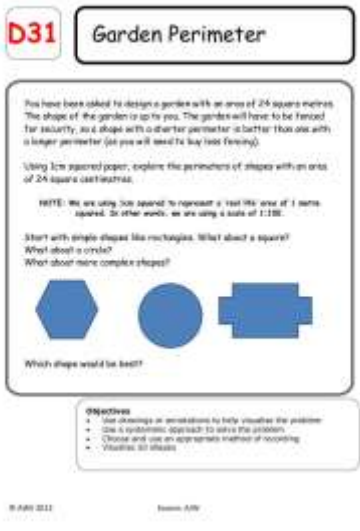
Diagram and Visual Puzzles

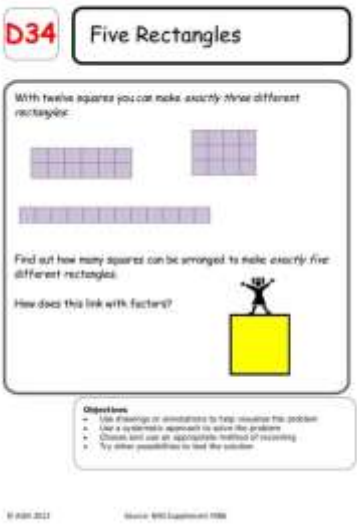
There are currently **70** separate Y1-Y6 DVP problems in the Problem Bank:

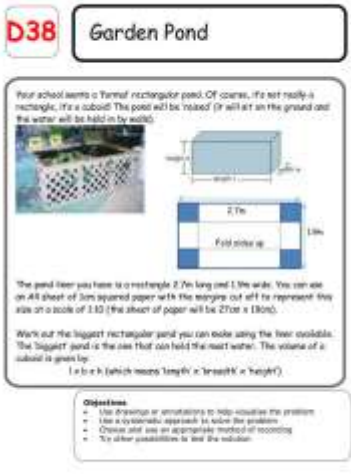


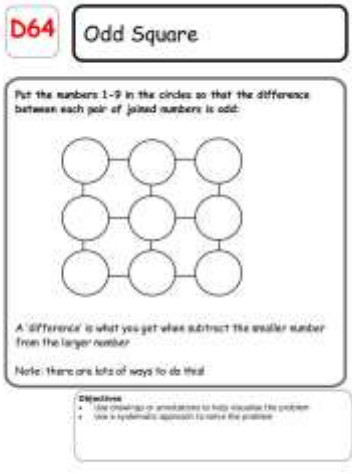






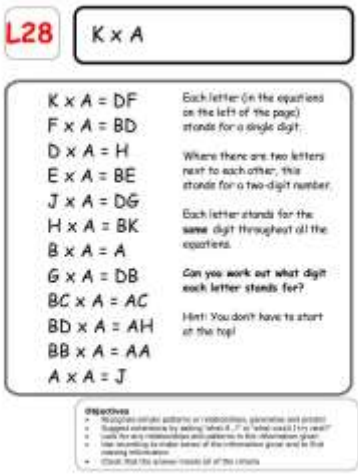


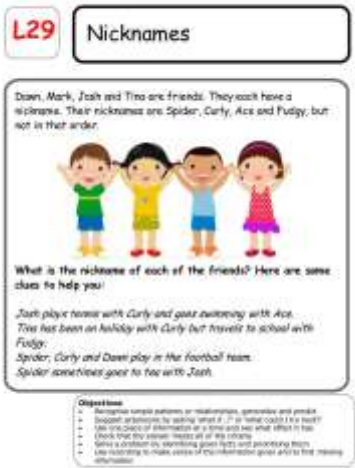




Logic Problems

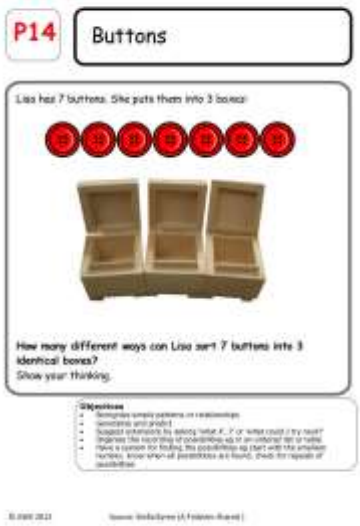
There are currently **109** separate Y1-Y6 Logic problems in the Problem Bank:

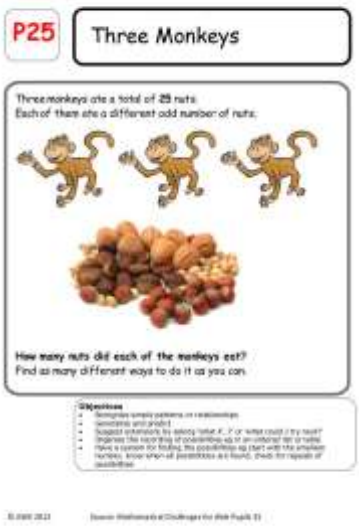


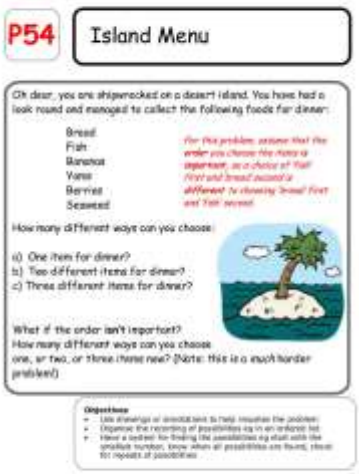


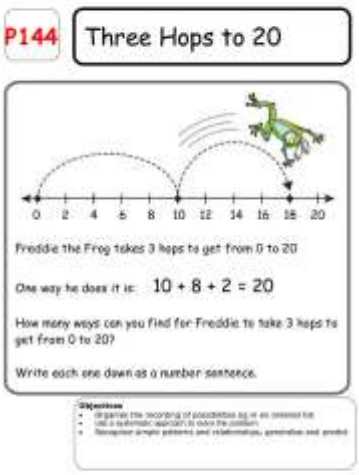
Finding All Possibilities Problems

There are **152** separate Y1-Y6 Finding All Possibilities problems in the Problem Bank:



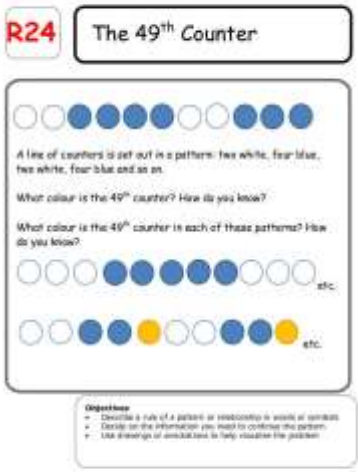


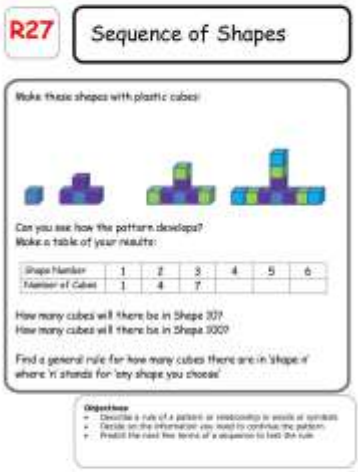


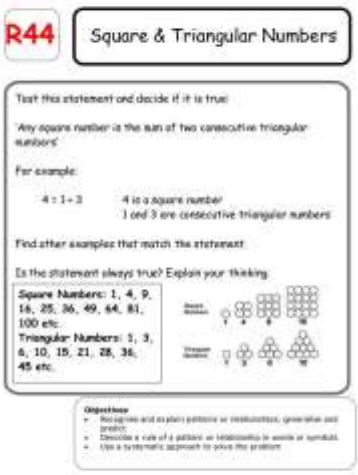


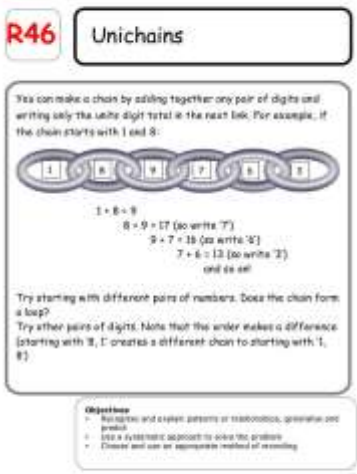
Finding Rules and Describing Patterns Problems

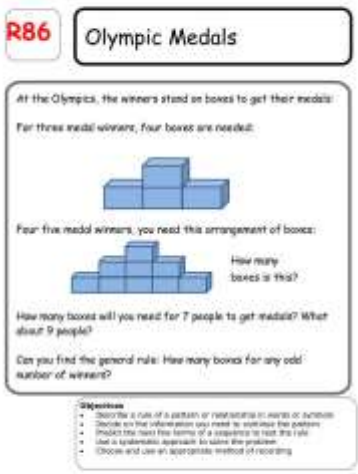
There are **95** Y1-Y6 Finding Rules and Describing Patterns problems altogether:





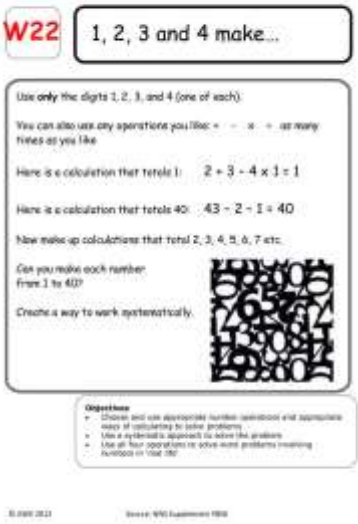


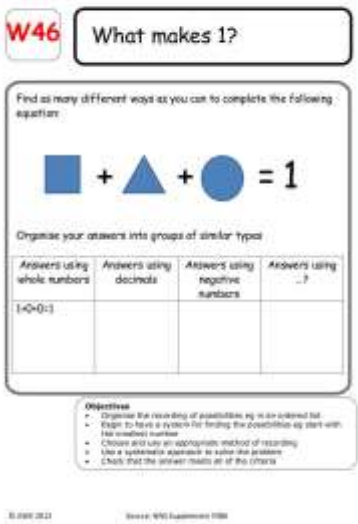


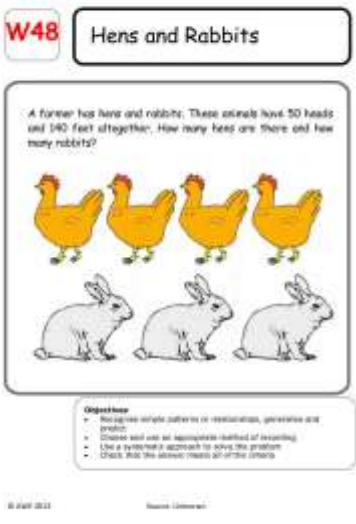


Word Problems

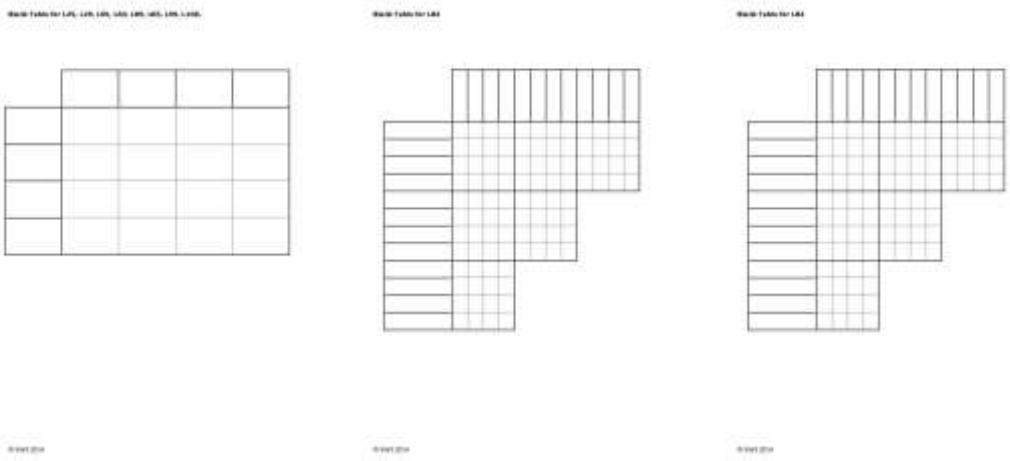
There are currently **125** Y1-Y6 Word Problems in the SPEAR Maths Problem Bank:







Other Resources included in SPEAR Maths



A range of blank two way tables for use with Logic Problems

How to identify the type of problem

Coming Soon

- US versions of all materials
- Materials for KS3
- Improved notes and resources
- More simplified problems to use with less able pupils