

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P1:
Pupil shows a reflex response to sensory stimuli.	Pupil remains passive or shows no observable response.	Pupil shows resistance or negative response to sensory stimuli, e.g. withdraws hand or grimaces to show displeasure.	Pupil changes facial expression or body position in response to tactile or visual stimuli during a mathematical activity.	Pupil accepts adult physical prompting during an activity.	<b>P1 (i) Pupils encounter activities and experiences. They may be passive or resistant. They may show simple reflex responses, for example, startling at sudden noises or movements. Any participation is fully prompted.</b>  <b>P1 (ii) Pupils show emerging awareness of activities and experiences. They may have periods when they appear alert and ready to focus their attention on certain people, events, objects or parts of objects, for example, grasping objects briefly when they are placed in their hand. They may give intermittent reactions, for example, sometimes showing surprise at the sudden presence or absence of an event or object.</b>
Pupil demonstrates awareness by any observable response, e.g. facial expression or body movement.	Pupil may briefly turn head or smile at a familiar sound or situation.	Pupil will maintain contact with a mathematical resource for a short period of time.	Pupil can locate an object presented in different positions, visual or auditory.	Pupil responds to a familiar activity by an occasional response, e.g. vocalisation.	

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✓	P1(i) e	0.15	✓✓	P1(i) d	0.30	✓✓✓	P1(i) c	0.45	✓✓✓✓	P1(i) b	0.60	✓✓✓✓✓	P1(i) a	0.75
✓	P1(ii) e	0.90	✓✓	P1(ii) d	1.05	✓✓✓	P1(ii) c	1.20	✓✓✓✓	P1(ii) b	1.35	✓✓✓✓✓	P1(ii) a	1.50

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P2:
Pupil begins to Respond consistently to an event or activity.	Pupil can locate an object presented in different positions.	Pupil begins to interact consistently to familiar people and activities.	Pupil accepts partial prompting to engage in exploring new objects and activities, <i>e.g. lifting them towards the face.</i>	Pupil can track an object horizontally when held at eye level or pupil shows a distinct recognition of a sound-making object and tracks its sound from side to side.	<b>P2 (i) Pupils begin to respond consistently to familiar people, events and objects. They react to new activities and experiences, for example, becoming excited or alarmed when a routine is broken. They begin to show interest in people, events and objects, for example, tracking objects briefly across their field of awareness. They accept and engage in coactive exploration, for example, lifting objects briefly towards the face in shared investigations.</b>
Pupil can explore objects by touch, banging them, moving them, dropping them, etc.	Pupil can reach for or look at objects when placed within his/her visual/aural field.	Pupil can show consistent preference for favoured items, <i>e.g. reach for/eye point to favourite item from a choice of two.</i>	Pupil can, using trial and error, operate a simple switch activated toy, <i>e.g. pop up toy or jack in a box.</i>	Pupil will continue an action or interaction with an adult by repeating a sound or action, <i>e.g. pupil responds with an 'a' sound when you say 'a'; when their hand is placed on a drum and they feel the vibration of a drum beat, they tap the drum in response.</i>	<b>P2 (ii) Pupils begin to be proactive in their interactions. They communicate consistent preferences and affective responses, for example, showing a desire to hold a favourite object. They recognise familiar people, events and objects, for example, looking towards their own lunch box when offered a selection. They perform actions, often by trial and improvement, and they remember learned responses over short periods of time, for example, repeating an action with a familiar item of equipment. They cooperate with shared exploration and supported participation, for example, handling and feeling the texture of objects passed to them.</b>

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✓	P2(i) e	1.65	✓✓	P2(i) d	1.8	✓✓✓	P2(i) c	1.95	✓✓✓✓	P2(i) b	2.1	✓✓✓✓✓	P2(i) a	2.25
✓	P2(ii) e	2.4	✓✓	P2(ii) d	2.55	✓✓✓	P2(ii) c	2.7	✓✓✓✓	P2(ii) b	2.85	✓✓✓✓✓	P2(ii) a	3

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P3:
Pupil will explore objects in increasingly complex ways, using more than one action, <i>e.g. tapping, turning, shaking, rolling, etc.</i>	Pupil pushes items towards adult or pulls adult's hand towards them, as a means of requesting more of a specific activity.	Pupil can remember a learned response from day to day (as opposed to remembering daily routines).	Pupil will observe the result of their own actions with interest, <i>e.g. listen to/watch the result of a switch activated operation (pop up toy or jack in a box).</i>	Pupil can retrieve an object which has been seen or heard and then placed in an open container, <i>e.g. when a ball is placed in a container large enough for the child to reach into.</i>	<b>P3 (i) Pupils begin to communicate intentionally. They seek attention through eye contact, gesture or action. They request events or activities, for example, pushing an item of equipment towards a member of staff. They participate in shared activities with less support. They sustain concentration for short periods. They explore materials in increasingly complex ways, for example, banging or rubbing objects together. They observe the results of their own actions with interest, for example, as they throw or drop objects on to different surfaces. They remember learned responses over more extended periods, for example, remembering how to activate a pop-up object from a previous lesson.</b>
Pupil independently explores shapes, feeling the edges, corners or curves for extended periods of time.	Pupil can track quickly moving objects, <i>e.g. pendulum.</i> Pupil can track a ball as he/she rolls it away from themselves out of their immediate field of vision, <i>e.g. rolls a ball off the table and watches it trace a path along the floor.</i>	Pupil can grasp two shapes at once and explore whether or not they fit together, <i>e.g. interlocking objects.</i>	Pupil will respond to options and choices by accepting and rejecting, <i>e.g. shaking the head, pushing an item away or intentionally discarding an item.</i>	Pupil can intentionally attract the attention of an adult to assist them in retrieving an object that has been placed just out of their reach.	<b>P3 (ii) Pupils use emerging conventional communication. They greet known people and may initiate interactions and activities, for example, dropping objects to prompt interventions from adults. They can remember learned responses over increasing periods of time and may anticipate known events, for example, collecting coats and bags at the end of the school day. They may respond to options and choices with actions or gestures, for example, pointing to or giving one object rather than another. They actively explore objects and events for more extended periods, for example, manipulating objects in piles, groups or stacks. They apply potential solutions systematically to problems, for example, using items of equipment purposefully and appropriately.</b>

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✓	P3(i) e	3.2	✓✓	P3(i) d	3.4	✓✓✓	P3(i) c	3.6	✓✓✓✓	P3(i) b	3.8	✓✓✓✓✓	P3(i) a	4
✓	P3(ii) e	4.2	✓✓	P3(ii) d	4.4	✓✓✓	P3(ii) c	4.6	✓✓✓✓	P3(ii) b	4.8	✓✓✓✓✓	P3(ii) a	5

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P4 AND P5:
Pupil follows simple sequences in a range of settings, and can create very simple sequences of their own, <i>e.g. using light and/or sounds.</i>	Pupil demonstrates an awareness of cause and effect and begins to apply this in a range of activities, <i>e.g. switch activated equipment – bubble tube, toys, fan, hair dryer, vibrating cushion, etc.</i> In role play, pupil can exchange a coin for a chosen item at the tuck shop.	Pupil can post objects down a tube and look for the object to re-appear at the opposite end. Pupil repeats the same activity using different objects, <i>e.g. car, ball, etc.</i>	During practical activities, pupil demonstrates an awareness of changes, <i>e.g. in shape, changing shapes in dough; in position, changes in direction.</i>	Pupil joins or stacks similar objects, <i>e.g. 4 or more bricks, nesting beakers, cereal boxes, etc.</i>	<b>P4 Pupils are aware of cause and effects in familiar mathematical activities, for example, knowing that in a role-play shop a coin can be exchanged for an item; hitting a mathematical shape on a concept keyboard to make it appear on the screen. They show awareness of changes in shape, position or quantity, for example, grouping objects that have similar key features such as shape; creating very simple sequences of light or sound using switched equipment; recalling an object which has been placed out of sight. They anticipate, follow and join in familiar mathematical activities when given a contextual cue, for example, anticipating the next chorus or action in songs and rhymes; matching cakes to plates.</b>
Pupil can find familiar objects which are kept in familiar places, <i>e.g. crayons in the box, coat on the peg, bag in the locker, etc.</i>	Pupil is able to solve simple problems by matching objects to pictures, <i>e.g. put the tambourine on the music trolley in the tray with the picture of the tambourine.</i>	With occasional prompts, pupil can match/sort objects for one criteria, <i>e.g. blue and yellow; circles and squares.</i>	With occasional prompts, pupil finds a similar object requested by another person, <i>e.g. from a collection of pupils' shoes, ask the child to find one to match the one held by the adult.</i>	Pupil will, with occasional prompts, solve simple problems, <i>e.g. find a matching glove for their other hand.</i>	<b>P5 Pupils sort or match objects or pictures by recognising similarities, for example, matching shoes or socks by placing next to one placed by an adult; find matching pairs from a collection of pictures; collating objects given one criterion e.g. blue or big. They make sets that have the same small number of objects in each, for example, distributing sweets into containers so that there are one or two in each. They solve simple problems practically, for example, selecting appropriate containers for items of different sizes; checking there is a knife for every fork.</b>

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✓	P4e	5.2	✓✓	P4d	5.4	✓✓✓	P4c	5.6	✓✓✓✓	P4b	5.8	✓✓✓✓✓	P4a	6
✓	P5e	6.4	✓✓	P5d	6.8	✓✓✓	P5c	7.2	✓✓✓✓	P5b	7.6	✓✓✓✓✓	P5a	8

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P6 AND P7:
Pupil searches for objects not found in usual places. Pupil can copy a simple pattern using objects or sounds when provided with a model, <i>e.g. apple, banana, apple, banana.</i>	Pupil will count reliably to 3 when playing a simple game, <i>e.g. roll the dice to collect 1p coins to the value of 3p.</i>	Pupil begins to demonstrate an understanding of more and less in practical situations, <i>e.g. when preparing drinks he/she recognises which cups contain more or less than each other.</i>	Pupil uses one-to-one correspondence in practical activities, <i>e.g. when preparing snacks for their class group they provide a cup for each pupil.</i>	Pupil sorts objects according to a given criteria, <i>e.g. pupil sorts a number of colours and a range of shapes.</i>	<b>P6 Pupils sort objects and materials according to a given criteria, for example, sorting footballs into a net and table tennis balls into a box. They copy simple patterns or sequences, for example, copying a drumbeat; copying a simple pattern of repeated movements; copying a pattern of large and small cups.</b>  <b>P7 Pupils complete a range of classification activities using a given criterion, for example, sorting a pile of coins by size, colour or shape; sorting all the blue Wellington boots; sorting all the size 6 shoes. They identify when an object is different and does not belong to a given familiar category, for example, removing odd items from sets; collecting items into sorting boxes or drawers. They respond appropriately to key vocabulary and questions, for example, 'How many?'</b>
Pupil can respond appropriately to key vocabulary and questions, <i>e.g. 'How many?'</i>	Pupil can complete a sorting activity, <i>e.g sort 2p, 10p and 20p coins; 50p, £1 and £2 coins.</i>	Pupil can describe why an object is different using words, symbols or gestures.	Pupil can use tallying to record values to 5. Pupil can collect tokens to record values to 5.	Pupil can identify the odd one out from a selection of similar objects, where only one is different.	

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✓	P6e	8.4	✓✓	P6d	8.8	✓✓✓	P6c	9.2	✓✓✓✓	P6b	9.6	✓✓✓✓✓	P6a	10
✓	P7e	11	✓✓	P7d	12	✓✓✓	P7c	13	✓✓✓✓	P7b	14	✓✓✓✓✓	P7a	15

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE P8:
<p>Pupil can continue a repeating pattern and describe the pattern using words, symbols or gestures.</p> <p>Pupil can, with help, rote count familiar objects or people up to 10 and beyond, e.g. <i>counting how many children are in their class.</i></p>	<p>Pupil can describe the positions of first and last, e.g. <i>when queuing for dinner.</i></p> <p>Pupil can identify an increasing range of objects by features and size, e.g. <i>identifies dogs within a collection of animals and then recognises large dogs and small dogs.</i></p>	<p>Pupil can collect a small number of items (up to 9) upon request.</p> <p>Pupil estimates the number of objects requested for a particular activity.</p>	<p>Pupil can recognise 1p and 2p coins.</p> <p>Pupil can understand the use of varied means of recording in games, e.g. <i>the use of tallying, of token collecting and numerical scoring for values to 10.</i></p>	<p>Pupil can say who has more or less when comparing two different amounts and check their answers by counting, e.g. <i>who has the most sweets?</i></p> <p>Pupil can begin to estimate larger quantities and then check their answers by counting, e.g. <i>how many cubes will fit in a box? (up to 9).</i></p>	<p><b>P8 Pupils talk about, recognise and copy simple repeating patterns and sequences, for example, recognising and describing simple repeating patterns on textiles or necklaces from different cultures; recognising and describing a pattern of socks on a line; joining in a pattern of hand claps; talking about and copying patterns such as beats in familiar music; shapes made by hand and feet in damp sand; sponge prints.</b></p> <p><b>Pupils use their developing mathematical understanding of counting up to ten to solve simple problems encountered in play, games or other work, for example, using tokens or marks to tally events or scoring in games; counting in the school environment; using ordinal words to describe positions and turns. Pupils make simple estimates, for example, estimating the number of cubes that will fit into a box or the number of strides across a room.</b></p>

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✓	P8e	16	✓✓	P8d	17	✓✓✓	P8c	18	✓✓✓✓	P8b	19	✓✓✓✓✓	P8a	20

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE ONE:
Problem solving	Representing	Communicating	Reasoning	Enquiry	
<p>Pupil uses mathematics as an integral part of classroom activities to solve problems involving counting, adding, subtracting, multiplying, dividing doubling or halving,</p> <p><i>e.g. The numbers in this count are mixed up, 6, 4, 2, 8. Put them in order.</i></p> <p><i>There are twelve pennies in this bag. I spend 3p. How much money will be left?</i></p> <p><i>I have two boxes of eggs containing 6 eggs in each box, how many eggs do I have altogether?</i></p>	<p>Pupil can represent their work with objects or pictures and use these to solve problems.</p> <p><i>e.g. There are thirteen baby birds in the nest. Four fly away. How many are left?</i></p> <p><i>Show me how you could use objects or pictures to work out the answer.</i></p> <p><i>Tell me a number between 10 and 20. Is it closer to 10 or 20?</i></p> <p><i>Show me how you know using this number line.</i></p> <p><i>How many fish are there altogether in the three fish tanks? Show me how you worked out your answer.</i></p>	<p>Pupil can discuss their work and describe ways of solving puzzles and problems, explaining choices and decisions orally or using pictures,</p> <p><i>e.g. The pictures on these cards tell a story (e.g. a day trip out). Look at your cards and think what the story might be about.</i></p> <p><i>Put the cards in time order. What do you think happens next?</i></p> <p><i>Using the balance to find out which of these three boxes is heaviest; which is the lightest and which is inbetween? How would you begin? How could you show someone else that this one is the heaviest?</i></p> <p><i>How did you find out how many more cartons of milk were needed so that the children had one each?</i></p>	<p>Pupil can describe and explain simple patterns and relationships involving numbers, objects or shapes, deciding whether examples satisfy a given criterion,</p> <p><i>e.g. Sort these shapes in your own way and tell me how you chose to sort them.</i></p> <p><i>Can you carry on this pattern: 1, 3, 5, _ ?</i></p> <p><i>How did you know what comes next?</i></p> <p><i>Can you make a pattern using these coloured counters?</i></p> <p><i>Can you make a pattern where the third counter is blue? Is that the only way it could be done?</i></p>	<p><i>Pupil can choose suitable equipment to answer questions, including sorting. They can present and interpret results in block graphs using practical equipment and ask and answer questions about the data.</i></p> <p><i>e.g.</i></p> <p><i>How many cubes can you hold in your hand?</i></p> <p><i>Who in your group can hold the most/fewest?</i></p> <p><i>How will you record your findings?</i></p> <p><i>What does your block graph show about how heavy the boxes are?</i></p> <p><i>How did you line up the blocks to make it easy to compare the weights?</i></p>	<p><b>PIVATS STAGE ONE-1, ONE-2 AND ONE-3</b></p> <p><b>Pupils use mathematics as an integral part of classroom activities. They solve problems and practical problems involving one-step problems that involve addition and subtraction using concrete objects and pictorial representations and missing number problems. They also solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. They represent their work with objects or pictures and discuss it. They recognise and use a simple pattern or relationship being able to recognise and create repeating patterns with numbers, objects and shapes.</b></p>

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✓	ONE-1e	21	✓✓	ONE-1b	24	✓✓✓	ONE-2c	28	✓✓✓✓	ONE-3d	32	✓✓✓✓✓	ONE-3a	35

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE TWO:
Problem solving	Representing	Communicating	Reasoning	Enquiry	
<p>Pupil selects the mathematics they use in some classroom activities and can solve problems involving addition, subtraction, multiplication and division in the context of numbers, measures or money.</p> <p><i>e.g. There are 10 apples and 5 children. If the apples are shared out equally between the children how many apples would they each have?</i>  <i>Sarah had 21 hairclips and Miriam had 13 hairclips. How many more hairclips did Sarah have?</i>  <i>Pencils cost 10p each. Mobin has 43p. How many pencils can he buy and how much money will he have left?</i>  <i>There are 14 days until the school holiday. A week has 7 days. How many weeks are there until the holidays?</i></p>	<p>Pupil begins to represent their work using symbols and simple diagrams and can identify and record the information or calculation needed to solve a puzzle or problem,</p> <p><i>e.g. Tom works out the answer to this: <math>75 - 43 = 32</math>. How did Tom work it out?</i>  <i>It costs adults £5 and children £3 to go swimming. How much would it cost for 3 adults and 2 children? Show how you have worked out your answer.</i></p>	<p>Pupil can explain why an answer is correct and present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences,</p> <p><i>e.g. Hannah worked out the correct answer to <math>30 \div 5</math>. Her answer was 6. Show how she could have worked out her answer.</i>  <i>Emma turns over three digit cards: 4, 7 and 2. She can use them to make the number 47. Write <b>all</b> the other two-digit numbers she can make. Explain how you know you have made them all.</i></p> <p><i>Three children have 17 toys altogether. Each child has an odd number of toys. How many toys could each child have?</i></p>	<p>Pupil can describe patterns and relationships involving numbers or shapes; make predictions and test these with examples,</p> <p><i>e.g. Here is a sequence: <math>\dots, 7, 9, 11, 13, \dots</math></i>  <i>If the sequence is continued forwards and backwards, which of these numbers will be in the sequence: 3, 16, 21, 58? Explain how you know.</i>  <i>Identify the shapes that are pentagons. Explain how you know. Draw two more.</i>  <i>We have worked out that <math>12 - 5 = 7</math> and <math>22 - 5 = 17</math>. Without calculating, tell me what <math>32 - 5</math> will be. What about <math>62 - 5</math>? Can you explain the pattern that you see?</i></p>	<p>Pupil can follow a line of enquiry; answer questions by choosing and using suitable equipment and selecting, organising and presenting information in lists, tables and simple diagrams,</p> <p><i>e.g. I have 20p in my pocket. Which coins could I have?</i>  <i>Write numbers from 1 to 30 into a table to show which are multiples of 5. What do you notice? Jayne says that there are more children in the class that have school dinners rather than packed lunch. How could we find out if that is true?</i></p>	<p><b>PIVATS STAGE TWO-1, TWO-2 AND TWO-3:</b></p> <p><b>Pupils select the mathematics they use in some classroom activities. They solve problems with addition and subtraction including with missing numbers by using concrete objects and pictorial representations, including those involving numbers, quantities and measures. They solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change and measures (including time). They solve problems involving multiplication and division (including those with remainders), using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in context. They discuss their work using mathematical language and are beginning to represent it using symbols and simple diagrams. They explain why an answer is correct. As well as identifying patterns and relationships they are able to test statements about patterns and relationship.</b></p>

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✓	TWO-1e	36.5	✓✓	TWO-1b	41	✓✓✓	TWO-2c	47	✓✓✓✓	TWO-3d	54	✓✓✓✓✓	TWO-3a	60



PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE THREE:
Problem solving	Representing	Communicating	Reasoning	Enquiry	
<p>Pupil can choose and use appropriate calculation strategies to solve one and two step problems and those involving money and measures and simple problems involving passage of time,</p> <p><i>e.g. There are 345 pupils at my local school. 112 have a packed lunch, 16 go home for lunch and the others have a school lunch. How many have a school lunch?</i></p> <p><i>I think of a number and add 14 to it. My total is 39. What is my number?</i></p> <p><i>Circle the number which is closest to the answer of 552 subtract 329: 200, 220, 230, 250, 300. Why do you think this?</i></p> <p><i>Calculate the arrival time of a train when given the departure time (e.g. 09:35) and journey time (e.g. 50 minutes).</i></p>	<p>Pupil uses mathematical symbols accurately and begins to work and record systematically. They can represent the information in a puzzle or problem using numbers, images or diagrams and uses these to find a solution and present it in context, where appropriate using the correct units of measure,</p> <p><i>How many wheels are there on thirteen cars? What did you write down/draw to help you work this out?</i></p> <p><i>Alison had 125 pears. She sold some and then had 30 left. Show the number sentence that shows this.</i></p> <p><i>Two snakes are 168 cm and 81 cm long. What is the difference in their lengths? Show how you have worked out the answer.</i></p>	<p>Pupil can describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams</p> <p><i>The total mass of two parcels is 350 g. One of the parcels is a multiple of 100. What masses could the parcels be?</i></p> <p><i>Caroline works out the answer to <math>82 - 67</math> and says that the answer is 25. Explain what she might have done to get this incorrect answer and what she should have done to work it out correctly.</i></p>	<p>Pupil can identify patterns and relationships involving numbers or shapes, and use these to solve problems,</p> <p><i>e.g. Sort the numbers 1 to 40 into two groups: 'multiples of 3' and 'not multiples of 3'. What do you notice? Tell me a number larger than 100 that would go in each group. How do you know?</i></p> <p><i>Sort the shapes into those that have pairs of parallel lines and those that do not. Can you think of an example where parallel lines are important in a real life situation? Can you explain why?</i></p>	<p>Pupil can follow a line of enquiry by deciding what information is important. They make and use lists, tables and graphs to organise and interpret the information,</p> <p><i>e.g. What is the biggest remainder you can have when you divide a number by 4? How could you collect information to answer this question? How could you record your findings?</i></p> <p><i>Give an example of when you have used a list, table or graph. Why was it helpful?</i></p>	<p><b>PIVATS STAGE THREE-1, THREE-2 AND THREE-3:</b></p> <p><b>Pupils choose appropriate mathematics for problem solving and react positively to difficulties. They solve problems, including missing number problems, involving multiplication and division (and interpreting remainders), using number facts, place value and more complex addition and subtraction. They solve problems involving money and measures and simple problems involving passage of time. They use mathematical symbols accurately and are beginning to work and record systematically. They are beginning to organise their work and check results. They use mathematical vocabulary accurately when explaining their thought processes rather than focusing on the answer.</b></p>

Number of PIVATS steps achieved:	PIVATS milestone equivalent:	PIVATS score	Number of PIVATS steps achieved:	PIVATS milestone equivalent:	PIVATS score	Number of PIVATS steps achieved:	PIVATS milestone equivalent:	PIVATS score	Number of PIVATS steps achieved:	PIVATS milestone equivalent:	PIVATS score	Number of PIVATS steps achieved:	PIVATS milestone equivalent:	PIVATS score
✓	THREE-1e	60.7	✓✓	THREE-1b	62.7	✓✓✓	THREE-2c	64.3	✓✓✓✓	THREE-3d	64.9	✓✓✓✓✓	THREE-3a	65.35

PIVATS PERFORMANCE INDICATORS:					PIVATS MILESTONE FOUR:
Problem solving	Representing	Communicating	Reasoning	Enquiring	
<p>Pupil can choose and use different strategies and use appropriate calculation strategies to solve one and two-step problems involving numbers, money and measures and simple problems that involve fractions and decimals, e.g. <i>In a sandwich bar storeroom there are 3 boxes of cola, 2 boxes of lemonade and 4 boxes of cherryade. There are 24 bottles in every box. How many bottles of pop are there altogether?</i></p> <p>How many cartons of juice costing 40p each can I buy with £3?</p> <p>These are the prices in a shoe shop: Sandals £24.99 Flip flops £21.50 Football boots £40.75</p> <p>How much more do the football boots cost than the flip flops? Rob buys two pairs of sandals. If he has £100, has he enough money to buy a pair of football boots? Explain how you know.</p>	<p>Pupil can use number sentences, statements or diagrams to represent and solve a problem or puzzle. They present and interpret the solution in the context of the problem, e.g. <i>One length of the swimming pool is 25 metres. Dave swims seven lengths of the pool. Sue swims 200 metres of the same pool. Who swims the furthest? How could you show someone how you have worked out this problem?</i></p> <p><i>A piece of rope 216 cm long is cut into four equal pieces. How could you work out what the length of each piece is?</i></p> <p><i>Sam is four times the height of his dog. His dog is 30cm tall. How tall is Sam?</i></p>	<p>Pupil can report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols.</p> <p>e.g. <i>A shop sells pens in packs of 2 or 6. A pack of 6 pens costs £1.50. A pack of 2 pens costs 50p. The shop has an offer on pens: The pack of 6 is half price and the packs of 2 are now 3 for the price of 2. What is the cheapest way to buy 6 pens?</i></p> <p><i>Add information to a Carroll diagram and explain why.</i></p>	<p>Pupil can identify and use patterns, relationships and properties of numbers or shapes. They investigate a statement involving numbers and test it with examples,</p> <p>e.g. <i>If you double an odd number you always get an odd number. A square always has four right angles. Is every shape that has four right angles a square? Find three consecutive numbers which add up to 48. What other numbers can you make by adding three consecutive numbers? What do you notice?</i></p>	<p>Pupil can suggest a line of enquiry and can follow their own strategy to collect, organise and interpret selected information to find answers,</p> <p>e.g. <i>Pupils to suggest lines of enquiry to answer questions such as: What are you trying to find out? What information are you aiming to collect? How? What do you think the result will be? Why?</i></p> <p><i>Joseph says that most children in our class travel to school by car. What data would you suggest that he collects to find out whether he is right?</i></p>	<p><b>PIVATS STAGE FOUR-1, FOUR-2 AND FOUR-3:</b></p> <p><b>Pupils try different approaches to problem solving and find ways of overcoming difficulties that arise when they are solving problems. They solve number and practical problems with increasingly large positive numbers. They solve addition and subtraction two-step problems in contexts, deciding which operations to use and why, and involving multiplying and adding, and division (including interpreting remainders) and integer scaling problems. They solve simple measure and money problems involving fractions and decimals to two decimal places. They use and interpret mathematical symbols and diagrams, and information and results are presented in the most appropriate way. They discuss their mathematical work and are beginning to explain their thinking making links between the problem solving process, the answer and other areas of mathematics. They understand a general statement by finding particular examples that match it and are beginning to suggest their own ideas and enquiries.</b></p>

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✓	FOUR-1e	65.5	✓✓	FOUR-1b	65.95	✓✓✓	FOUR-2c	66.55	✓✓✓✓	FOUR-3d	68.2	✓✓✓✓✓	FOUR-3a	70