

## DE - Mathematics, P scales

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Mathematics can provide pupils with powerful ways of exploring, investigating and understanding the world. The potential to apply the skills of making comparisons, identifying differences, investigating relationships and establishing connections reflects the importance of the subject across the curriculum during the school years. Mathematics is vital in everyday life as it encourages logical reasoning and the ability to think in abstract ways. At the earliest stages of development, where thinking centres around concrete situations and events, pupils strive to make sense of experiences and sensations that involve changes in pattern, quantity, space and time. Such experiences help them approach problem situations flexibly, to move from random to trial and improvement responses, and on to anticipate and predict. Increasingly, pupils will plan and reflect and come to recognise and evaluate alternative solutions. In this way, mathematical skills and understanding build on the earliest perceptual and cognitive learning.

The Ingot's Mathematics P scales provide learners with the opportunity to:

- build on their awareness of events and actions to recognise changes in pattern, quantity and space in their immediate environment and in the wider world
- use their developing awareness to anticipate and predict changes
- use their awareness and developing understanding of pattern, space, shape and number, to develop problem-solving skills that contribute to making choices, taking decisions and gaining control over their immediate environment
- extend mathematical skills, experiences and understanding which allows them to visualise, compare and estimate

For some pupils this will be achieved in abstract as well as concrete contexts

- begin to think about the strategies they use and explain them to others
- develop a powerful set of thinking tools to help them increase their knowledge and understanding of the world and, during the school years, to learn effectively in different subjects across the curriculum.

In response to these opportunities, pupils can make progress in mathematics by:

- increasing the breadth of their mathematical experience
- moving from an awareness of mathematical properties through using such information to anticipate and predict and then actively solve problems
- developing the ability to form mental representations of increasingly complex and detailed mathematical information
- communicating their understanding to others with increasing clarity
- using mathematical information to make choices and decisions in an increasing range of contexts.

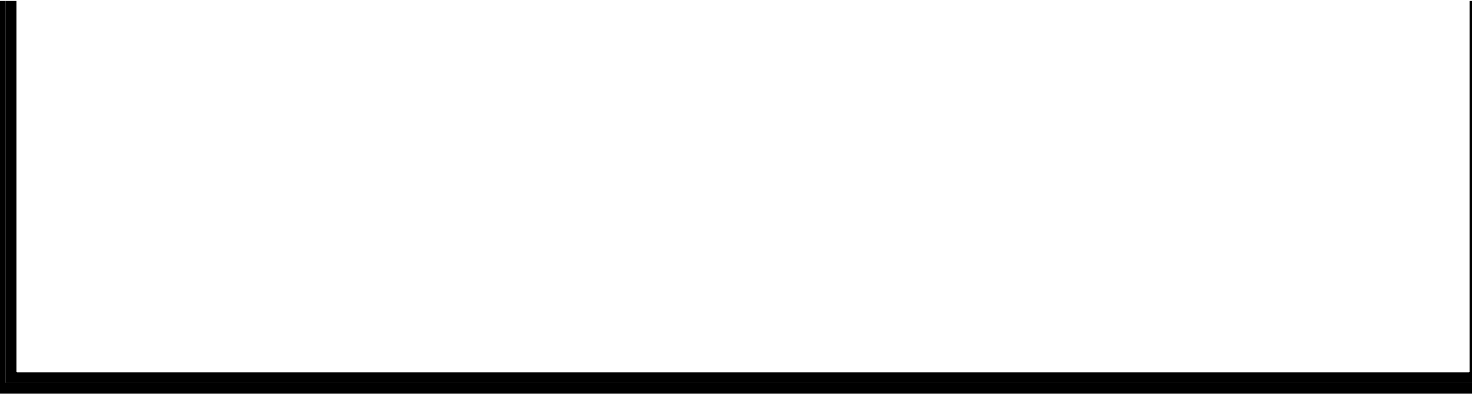
### [Number](#)

P4 - Mathematics, Number - Learning outcomes and assessment criteria



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PE - Mathematics, Number - Learning outcomes and assessment criteria

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1. [Introduction](#)

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1. *Journal of the American Medical Association*, 1997; 277: 1001-1005.

13 SEPTEMBER 2005

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P4 – Mathematics, Using and Applying – Learning outcomes and assessment criteria

<p>QUESTION 1</p> <p>ANSWER</p>	<p>QUESTION 2</p> <p>ANSWER</p>
<p>QUESTION 3</p> <p>ANSWER</p>	<p>QUESTION 4</p> <p>ANSWER</p>
<p>QUESTION 5</p> <p>ANSWER</p>	<p>QUESTION 6</p> <p>ANSWER</p>
<p>QUESTION 7</p> <p>ANSWER</p>	<p>QUESTION 8</p> <p>ANSWER</p>

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PE – Mathematics, Using and Applying – Learning outcomes and assessment criteria

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**P7 – Mathematics, Using and Applying – Learning outcomes and assessment criteria**

<p>1. <b>Identify the problem.</b></p> <p>2. <b>Define the problem.</b></p> <p>3. <b>Identify the causes.</b></p> <p>4. <b>Identify the effects.</b></p> <p>5. <b>Identify the stakeholders.</b></p> <p>6. <b>Identify the resources.</b></p> <p>7. <b>Identify the constraints.</b></p> <p>8. <b>Identify the risks.</b></p> <p>9. <b>Identify the opportunities.</b></p> <p>10. <b>Identify the solutions.</b></p> <p>11. <b>Identify the implementation plan.</b></p> <p>12. <b>Identify the evaluation plan.</b></p> <p>13. <b>Identify the monitoring plan.</b></p> <p>14. <b>Identify the reporting plan.</b></p> <p>15. <b>Identify the communication plan.</b></p> <p>16. <b>Identify the feedback plan.</b></p> <p>17. <b>Identify the improvement plan.</b></p> <p>18. <b>Identify the sustainability plan.</b></p> <p>19. <b>Identify the exit plan.</b></p> <p>20. <b>Identify the termination plan.</b></p>	<p>1. <b>Identify the problem.</b></p> <p>2. <b>Define the problem.</b></p> <p>3. <b>Identify the causes.</b></p> <p>4. <b>Identify the effects.</b></p> <p>5. <b>Identify the stakeholders.</b></p> <p>6. <b>Identify the resources.</b></p> <p>7. <b>Identify the constraints.</b></p> <p>8. <b>Identify the risks.</b></p> <p>9. <b>Identify the opportunities.</b></p> <p>10. <b>Identify the solutions.</b></p> <p>11. <b>Identify the implementation plan.</b></p> <p>12. <b>Identify the evaluation plan.</b></p> <p>13. <b>Identify the monitoring plan.</b></p> <p>14. <b>Identify the reporting plan.</b></p> <p>15. <b>Identify the communication plan.</b></p> <p>16. <b>Identify the feedback plan.</b></p> <p>17. <b>Identify the improvement plan.</b></p> <p>18. <b>Identify the sustainability plan.</b></p> <p>19. <b>Identify the exit plan.</b></p> <p>20. <b>Identify the termination plan.</b></p>
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## Links

- [1] <http://theingots.org/community/pscales>  
 [2] [http://www.theingots.org/community/pscales\\_mathematics#mathematics\\_number](http://www.theingots.org/community/pscales_mathematics#mathematics_number)  
 [3] [http://www.theingots.org/community/pscales\\_mathematics#mathematics\\_shape](http://www.theingots.org/community/pscales_mathematics#mathematics_shape)  
 [4] [http://www.theingots.org/community/pscales\\_mathematics#mathematics\\_using](http://www.theingots.org/community/pscales_mathematics#mathematics_using)