Insight Assessment Platform

Mathematics Online Interview: Starting points for subsequent assessments

All Mathematics Online Interview (MOI) results dated prior to 2017 will appear as points of growth in the Insight Assessment Platform. The points of growth have been aligned to the corresponding growth points in this document as a guide for teachers. For some points of growth there is no exact match to a growth point. It is recommended that this document is used along with teacher judgment to determine the appropriate starting point for a student.

All MOI results dated 2017 onwards will appear as growth points.

What is a growth point?

The growth points refer to a student's stage of mathematical growth in the strands of Number and Algebra, and Measurement and Geometry. The growth points are part of the framework which was developed through the Early Numeracy Research Project (ENRP).

A point of growth is a historical reference to a growth point.

How to use this document

Understanding the historical data dated prior to 2017

The historical data will appear as points of growth. The sections of the interview will also appear with different labels to the current interview. This is explained below:

Historical Data Section	MOI 2017
C (Counting)	Section A: Counting
PV (Place Value)	Section B: Place Value
AS (Addition and Subtraction)	Section C: Addition and Subtraction
MD (Multiplication and Division)	Section D: Multiplication and Division
MT (Measurement: Time)	Section E: Time
ML (Measurement: Length)	Section F: Length
MM (Measurement: Mass)	Section G: Mass
SS (Properties of Shape)	Section H: Properties of Shape
SL (Location)	
SV (Visualisation and Orientation)	Section I: Visualisation
*ML/MM * this is a combination of Length and Mass that is not a current section of the interview*	

This information is a guide. Teachers will need to apply their judgment to choose a section and starting point.

If students have completed the MOI before, the teacher will need to determine the starting point in preparation for the next interview. This document can assist teachers to decide on an appropriate starting point for each student by:

1. finding the highest point of growth (for assessments completed prior to 2017) or growth point achieved for each section of the interview using the most recent interview results

2. using the list in this document to locate the question to start the appropriate section when re-interviewing the student.
   Then choose the section using the sequential order of the interview.

   For example, if the student has achieved growth points over different sections of the interview such as Section A and B, the teacher should use their professional judgment to choose the section and starting point, using this document, to begin from in the next interview. Given that the student is completing questions of increasing complexity, the teacher may choose to start from Section A, rather than Section B, so that the student can demonstrate growth in Section A before proceeding to Section B.

NOTE

It is recommended that in order to assist the student to feel comfortable and relaxed, interviews begin with a task on which the student has experienced success previously. Usually this is the last question, or one before, in each section. For example, if the student achieved Growth Point 4 in Counting during their last interview, the teacher would choose to begin at Question 2 or 3. Teachers may also choose to verbally complete these questions as a 'warm up'.

SECTION A: COUNTING		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
1. Know some number names but have difficulty stating them in sequence above 10	0. Not apparent. *Not yet able to state the sequence of number names to 20.*	1
2. Rote count the number sequence to 10 but are unable to reliably count a collection of that size		
5. Recognise simple patterns		
6. Can place objects in order 1st to 5th		
7. Count a collection of around 10 objects		
10. Know numbers before and after a given number to 10		

11. Rote count the number sequence to at least 20	1. Rote counting *Rote counts the number sequence to at least 20, but is not yet able to reliably count a collection of that size.*	
12. Confidently count a collection of around 20 objects	2. Counting collections *Confidently counts a collection of around 20 objects.*	
18. Count by 1s forward/backward from various starting points between 1 and 100 19. Know numbers before and after a given number up to 100	3. Counting by 1s (forward/backward, including variable starting points; more/less) *Counts forwards and backwards from various starting points between 1 and 100; knows numbers before and after a given number.*	3
22. Count from 0 by 2s, 5s and 10s to a given target	4. Counting from 0 by 2s, 5s, and 10s *Can count from 0 by 2s, 5s, and 10s to a given target.*	4
23. Count from any two-digit number by 10s 28. Given a non-zero starting point, can count by 2s, 5s, and 10s to a given target	5. Counting from x (where x >0) by 2s, 5s, and 10s *Given a non-zero starting point, can count by 2s, 5s, and 10s to a given target.*	5
33. Count from a non-zero starting point by any single digit number 34. Can apply counting skills in practical tasks	6. Extending and applying counting skills *Can count from a non-zero starting point by any single digit number, and can apply counting skills in practical task*	6

SECTION B: PLACE VALUE		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
4. Read and record some single digit numbers 8. Recognise models of numbers from 0–10	0. Not apparent. *Not yet able to read, write, interpret and order single digit numbers.*	8
13. Read, record, interpret and order single-digit numbers	1. Reading, writing, interpreting, and ordering single digit numbers *Can read, write, interpret and order single digit numbers.*	
20. Read, record, interpret and order two-digit numbers	2. Reading, writing, interpreting, and ordering two-digit numbers *Can read, write, interpret and order two-digit numbers.*	9
24. Read, record, interpret and order three-digit numbers	3. Reading, writing, interpreting, and ordering three-digit numbers *Can read, write, interpret and order three-digit numbers.*	10
29. Read, record, interpret and order numbers beyond 1000.	4. Reading, writing, interpreting, and ordering numbers beyond 1000 *Can read, write, interpret and order numbers beyond 1000.*	18

35. Can extend and apply knowledge of place value in solving problems	5. Extending and applying place value knowledge *Can extend and apply knowledge of place value in solving problems*	Start at Section C, Q21

SECTION C: ADDITION AND SUBTRACTION		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
3. Can conserve number 9. Compare two small collections	0. Not apparent. *Not yet able to combine and count two collections of objects.*	21
14. Count all to find the total of two collections	1. Count all (two collections) *Counts all to find the total of two collections.*	
16. Count on from one number to find the total of two collections	2. Count on *Counts on from one number to find the total of two collections.*	22
17. Choose appropriately from strategies including count back, count down to and count up from in subtraction situations	3. Count back/count down to/count up from *Given a subtraction situation, chooses appropriately from strategies including count back, count down to and count up from.*	24
21. Add and subtract single digit numbers using basic number facts and strategies 25. In addition or subtraction problems, use strategies such as doubles, commutativity, adding 10, tens facts, and other known facts	4. Basic strategies (doubles, commutativity, adding 10, tens facts, other known facts) *Given an addition or subtraction problem, strategies such as doubles, commutativity, adding 10, tens facts, and other known facts are evident.*	
30. In addition or subtraction problems, use strategies such as near doubles, adding 9, build to next ten, fact families and intuitive strategies	5. Derived strategies (near doubles, adding 9, build to next ten, fact families, intuitive strategies) *Given an addition or subtraction problem, strategies such as near doubles, adding 9, build to next ten, fact families and intuitive strategies are evident.*	25
36. Given a range of tasks (including multi-digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts	6. Extending and applying addition and subtraction using basic, derived and intuitive strategies *Given a range of tasks (including multi-digit numbers), can solve them mentally, using the appropriate strategies and a clear understanding of key concepts.*	Start at Section D, Q30

SECTION D: MULTIPLICATION AN DIVISION		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
15. Find the total in a multiple group situation referring to individual items only	0. Not apparent *Not yet able to find the answer in a situation involving multiple groups.*	
	1. Counting group items by ones (all objects perceived) *Counting one by one to find the solution in situations involving multiple groups when all objects are modelled or perceived.*	
26. Model all objects to solve multiplicative and sharing situations	2. Modelling multiplication and division (all objects perceived) *Uses the multiplicative structure of the situation to find the answer when all objects are modelled or perceived.*	30
	3. Partial modelling multiplication and division (some objects perceived) *Uses the multiplicative structure of the situation to find the answer when objects are partially modelled or perceived.*	
27. Solve multiplication and division problems where objects are not all modelled or perceived	4. Abstracting multiplication and division (no objects perceived) *Mentally solves multiplication and division problems (no objects perceived) using the multiplicative structure of the situation.*	33
31. Can solve a range of multiplication problems using strategies such as commutativity, skip counting and building up from known facts	5. Basic, derived and intuitive strategies for multiplication *Mentally solves a range of multiplication problems using strategies that reflect attention to the multiplicative structure such as commutativity and building up from known facts.*	39
32. Can solve a range of division problems using strategies such as fact families and building up from known facts	6. Basic, derived and intuitive strategies for division *Mentally solves a range of division problems attending to the multiplicative structure using strategies such as fact families and building up from known facts.*	42
37. Solve a range of multiplication and division problems (including multi-digit numbers)	7. Extending and applying multiplication and division *Solves a range of multiplication and division problems (including multi-digit numbers) in practical contexts using multiplicative thinking.*	Start at Section E, Q47

SECTION E: TIME		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
	0. Not apparent *No apparent awareness of time, its descriptive language and features of clock-faces.*	47
40. Describe at least one feature and one purpose of clockfaces	1. Awareness of time, its descriptive language, and some features of clock-faces *Can describe at least one feature and one purpose of clocks.*	
43. Know some clock times, some days of week and months of year, and relate key events (personal, community) to these	2. Knowing some clock times, some days of week and months of year, and relating key events (personal, community) to these *Knows some clock times, some days of week and months of year, and can relate key events to these.*	48
45. Know clock times to the hour		
48. Know clock times to half-hour, all days of week and months of year (including order)	3. Knowing clock times to half-hour, all days of week and months of year (including order) *Knows clock times to half-hour, all days of week and months of year (including order).*	
52. Read analogue clock times to nearest five minutes and has good working facility with calendars	4. Facility with clocks and calendars *Can read analogue clock times to nearest five minutes and has good working facility with calendars.*	48 c
55. Solve a range of problems involving duration, and digital and analogue time to the nearest minute	5. Extending and applying knowledge, skills and concepts with time *Can solve a range of problems involving duration, and digital and analogue time to the nearest minute.*	Start at Section F, Q54

SECTION F: LENGTH		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
	0. Not apparent *No apparent awareness of the attribute of length and its descriptive language.*	54
38. Have awareness of the attribute of length and its descriptive language	1. Awareness of the attribute of length and use of descriptive language	

	Awareness of the attribute of length and its descriptive language.	
41. Compare, order and match objects by length 44. Use informal units to estimate and measure length and mass	2. Comparing, ordering, & matching with the attribute of length *Compares, orders, & matches objects by length.*	
46. Use uniform units appropriately to quantify length, assigning number and unit to the measure 49. Use appropriate informal and some formal units to measure length and mass	3. Quantifying length accurately, using units and attending to measurement principles *Uses uniform units appropriately, assigning number and unit to the measure.*	55
50. Use formal units for estimating and measuring length, with accuracy	4. Choosing standard units for estimating and measuring length, with accuracy *Uses standard units for estimating and measuring length, with accuracy.*	56
53. Solve a range of problems involving key concepts of length	5. Applying knowledge, skills and concepts of length *Can solve a range of problems involving key concepts of length.*	Start at Section G, Q58

SECTION G: MASS		
POINTS OF GROWTH	**GROWTH POINTS**	**START AT QUESTION**
	0. Not apparent *No apparent awareness of the attribute of mass and its descriptive language.*	58
39. Have awareness of the attribute of mass and its descriptive language	1. Awareness of the attribute of mass and use of descriptive language *Awareness of the attribute of mass and its descriptive language.*	
42. Compare, order and match objects by mass	2. Comparing, ordering, & matching with the attribute of mass *Compares, orders, & matches objects by mass.*	
47. Use uniform units appropriately to quantify mass, assigning number and unit to the measure	3. Quantifying mass accurately, using units and attending to measurement principles *Uses uniform units appropriately, assigning number and unit to the measure.*	59
51. Use formal units for estimating and measuring mass, with accuracy	4. Choosing and using standard units for estimating and measuring mass, with accuracy	60

	Uses standard units for estimating and measuring mass, with accuracy.	
54. Solve a range of problems involving key concepts of mass	5. Applying knowledge, skills and concepts of mass *Can solve a range of problems involving key concepts of mass.*	Start at Section H, Q63

SECTION H: PROPERTIES OF SHAPE

POINTS OF GROWTH	GROWTH POINTS	START AT QUESTION
	0. Not apparent *Not yet able to recognise and match simple shapes.*	63
56. Sort simple shapes 57. Recognise resemblances and match some simple shapes, using standard 'prototypes' 58. Sort and compare circles, triangles and rectangles (including squares) using everyday language to describe their features	1. Holistic recognition of shape *Can recognise resemblances and match some simple shapes, using standard "prototypes".*	
60. Sort and compare shapes using some geometrical language to describe their features	2. Classification of shapes, attending to visual features *Can sort and compare shapes, using some geometrical language to describe features.*	64
63. Use properties of shapes to classify shapes into classes, using appropriate language	3. Identification of "classes of shapes" by some properties *Uses properties of shapes to classify shapes into classes, using appropriate language.*	
65. Can state and understand conditions for defining key shapes	4. Definition of shapes using properties *States and understands conditions for defining key shapes.*	Start at Section I, Q65

SECTION I: VISUALISATION

POINTS OF GROWTH	GROWTH POINTS	START AT QUESTION
	0. Not apparent *Not yet able to visualise simple shapes.*	65

61. Recognise static images in embedded situations 62. Can show the effect of simple flipping, sliding and turning of shapes	1. Static, pictorial images formed in conjunction with models or manipulatives *Able to recognise static images in embedded situations..*	
64. Can visualise the effect of simple flipping, sliding and turning of shapes	2. Re-orientation of shapes mentally *Can visualise the effect of simple flipping, sliding and turning of shapes.*	67
66. Use dynamic imagery to visualise manipulation of shapes by transforming and rearranging	3. Dynamic imagery *Uses dynamic imagery to visualise manipulation of shapes by transforming and rearranging.*	71
67. Can combine a range of visualisation strategies in increasingly complex situations	4. Extending and applying visualisation and orientation *Can combine a range of visualisation strategies in increasingly complex situations.*	End of interview