

Reception (Foundation Year)		Western Adelaide Region - Maths Assessment Tasks Map (Draft –November 2013)								Proficiency Strands	
Aims	<p>The Australian Curriculum Mathematics aims to ensure that students.....are confident, creative users and communicators of mathematics, able to investigate, represent and interpret situations in their personal and work lives and as active citizens; develop an increasingly sophisticated understanding of mathematical concepts and fluency with processes, and are able to pose and solve problems and reason in <i>Number and Algebra, Measurement and Geometry, and Statistics and Probability</i>; recognise connections between the areas of mathematics and other disciplines and appreciate mathematics as an accessible and enjoyable discipline to study.</p>								<ul style="list-style-type: none"> • Understanding • Fluency • Problem Solving • Reasoning 		
Content Strands	Number & Algebra				Measurement & Geometry				Statistics & Probability		
Sub Strands	Number & Place Value			Patterns & Algebra	Using units of Measurement			Shape	Location & Transformation	Data Representation & Interpretation	
Big Idea / Concept/ Key Understanding	Trusting the count			<p>-A pattern requires an element of repetition that can be described with a pattern rule</p> <p>-Patterns can be represented in many ways, including using numbers, objects and symbols</p> <p>-Patterns are all around us</p>	<p>-Measurement is a comparison of the size of an object with the size of another</p> <p>-The same object can be described by using different methods of measurements</p>	<p>-Duration of time tells us how much time has elapsed</p> <p>-The language of time tells us how to read and interpret time</p>	<p>-Events can be ordered in different ways (i.e. according to the sequence of time and/or significance of the event)</p>	<p>-Shapes and objects have characteristics on which they can be grouped and sorted</p>	<p>-Language describes position and movement</p>	<p>-Data can be sorted into meaningful categories</p> <p>-Useful data collection is deliberately planned</p> <p>-Data displays reveal information that can be analysed and discussed</p>	
	<p>-Counting is done in a particular order (numbers are said once and always in the conventional order)</p> <p>-There are patterns in the way we count</p> <p>-Where the count starts (and the order) does not affect the count</p>	<p>-The last number counted tells us how many or how much</p> <p>-A collection tells us how many no matter what it looks like or how it is rearranged (i.e. 5 apples, 5 pencils, 5 counters)</p> <p>-We can recognise small collections without counting (subitising)</p>	<p>-Collections can be measured, compared and classified (i.e. as more of, less than, equal to... or how are 5 and 10 similar, different?)</p> <p>-There are many ways to represent numbers</p>								
Australian Curriculum Content Descriptor	<p>Establish understanding of the language and processes of counting by naming numbers in sequences, initially to & from 20, moving from any starting point</p>	<p>Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond</p> <p>Subitise small collections of objects</p>	<p>Compare, order and make correspondences between collections, initially to 20, and explain reasoning</p>	<p>Represent practical situations to model addition and sharing</p>	<p>Sort & classify familiar objects & explain the basis for these classifications.</p> <p>Copy, continue & create patterns with objects & drawings</p>	<p>Use direct & indirect comparisons to decide which is longer, heavier or holds more, & explain reasoning in everyday language</p>	<p>Compare & order the duration of events using the everyday language of time</p>	<p>Connect days of the week to familiar events & actions</p>	<p>Sort, describe & name familiar 2D shapes & 3D objects in the environment</p>	<p>Describe position & movement</p>	<p>Answer yes/no questions to collect information</p>
Achievement Standard	<p>Students count to and from 20 and order small collections.</p>	<p>Make connections between number names, numerals & quantities up to 10.</p>				<p>Students compare objects using mass, length and capacity.</p>	<p>Students explain the order and duration of events.</p>	<p>Students connect events and the days of the week.</p>	<p>Students group objects based on common characteristics & sort shapes and objects.</p>	<p>Students use appropriate language to describe location.</p>	<p>Students answer simple questions to collect information.</p>
Summative Assessment Task	R1 Can you count 10 more?	R2 Jewellery Boxes R3 Paper Plates Task		R4 Ten New Receptions Ice Cream Specials		R5 Long and Short Snakes			R6 What's on Your Plate?	Developed by Karly Hefferan, Chris Miethke, Susan Glaister, Karen Knox, Lauren Fletcher-Rees & Dawn Dyer	

<p>Big Idea(s)</p> <p>-Numbers are said in a particular order and there are patterns in the way we say them.</p>	<p>Australian Curriculum Content Descriptor</p> <p>Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.</p>	<p>Achievement Standard</p> <p>By the end of Foundation year, students make connections between number names, numerals and quantities up to 10. Students count to and from 20 and order small collections.</p>	<p>Related Mathematical Proficiencies</p> <ul style="list-style-type: none"> Fluency includes counting numbers in sequences
<p>Prior Learning Experiences</p> <p>Do I use ongoing Formative Assessment to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?</p>	<p>Feedback</p> <p>How will I provide feedback to students?</p>	<p>Summative Assessment</p> <p>Does the assessment task indicate how well students understand and can apply their learning? (how well = extent, depth and sophistication of thinking – informs A-E grading)</p>	<p>Evidence</p> <p>What evidence am I looking for that demonstrates the student has got it?</p>
<p><u>It is important that students have had experiences with the learning opportunities below before administering the assessment task.</u></p> <p>Developing: Understanding Fluency Problem Solving Reasoning</p> <p>Through experiences with:</p> <ul style="list-style-type: none"> Subitising one collection or dots on 6-sided dice (Professor Dianne Siemon) 10 frames Number lines- as a class ordering numbers; with a small group or partner, ordering a set of numbers; and individually on paper, frieze tape Counting stories Counting numbers in sequences Interactive whiteboard counting videos Naming, recording numbers in sequence Circle/group/individual counting from any starting point first to 10, then 20 and 30 Dice games to 20 1-10, 1-20 number chart activities including closed, open and flip questions Mental routines / problematised situations (Ann & Johnny Baker – Natural Maths) 	<p>Teacher observations</p> <p>Conferences 1:1 with peers & teacher</p> <p>Learning log: Student identifies areas for focus</p> <p>SNW (S- strengths, N – needing improvement, W- where to next)</p> <p>Stars/ smiley faces/ traffic lights ...</p>	<p>Can you count 10 more? (see attachment R1) (Adapted from Doug Clarke’s ‘Count for Ten’ – Mathematics Assessment for Learning: Rich Tasks & Work Samples)</p> <p>Entry Level</p> <p>Students pull a mystery number out of a bag/container containing numbers to 20. Students record their number (or paste it) on their page and continue counting by ones for the next ten numbers in the sequence, recording each number. Once completed students pull out another mystery number and repeat the process. Students complete 3 mystery numbers. Once completed ask students where they have seen these types of numbers before. Record their response on the bottom of their page.</p> <p>Challenge Level</p> <p>Students take 2 numbers out of a bag containing the numbers 10-30. What numbers come in between?</p> <p>Students take one number out of the bag and count backwards.</p> <p>Questioning- “How did you know which number came next?” “What strategies did you use?” “How did you know which numbers came in between?” “Where have you seen numbers written like this before?”</p> <p>Organisation</p> <p>Teacher – Attachment R1: Numbers 1 to 20 (cut and place in bag/ container); Numbers 11-30 (for challenge level)</p> <p>Students – A3 or A4 piece of paper; pencils; glue (if pasting numbers)</p>	<p>Students will:</p> <ul style="list-style-type: none"> Demonstrate counting on from any starting point for a sequence of ten more numbers. Show understanding by applying their knowledge of counting to complete the sequence of ten more numbers. <p>Advanced –Students confidently and accurately continue the number sequence, involving bridging of tens. They confidently and accurately record the numbers that fall in between 2 random numbers. They count forwards and backwards from any given starting point with fluency and accuracy. They are able to identify where they have seen sequences of numbers before (e.g. counting down for blast off, ordinal numbers).</p> <p>Competent – Students are able to record a sequence of numbers including teen numbers and bridging through 20 (i.e. 16 – 17, 18, 19, 20, 21, 22, 23, 24, 25, 26). They are able to suggest where they have seen similar numbers before.</p> <p>Developing–Students record some sequences correctly, however are unable to bridge through the tens. They have little or no knowledge of counting on or back from a non-zero starting point.</p>

Number & Place Value – R2

Comparing, ordering and making connections between collections

Western Adelaide Region

Mathematics Performance Assessment Tasks (Updated: November 2013)

Reception (Foundation Year)

Big Idea(s) -The last number counted tells us how many or how much. -A collection tells us how many no matter what it looks like.	Australian Curriculum Content Descriptor Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond. Subitise small collections of objects.	Achievement Standard By the end of the Foundation year, students make connections between number names, numerals and quantities up to 10.	Related Mathematical Proficiencies <ul style="list-style-type: none"> • <i>Understanding</i> includes connecting names, numerals and quantities • <i>Reasoning</i> includes explaining comparisons of quantities
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Prior Learning Experiences Do I use ongoing Formative Assessment to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?	Feedback How will I provide feedback to students?	Summative Assessment Does the assessment task indicate how well students understand and can apply their learning? (how well = extent, depth and sophistication of thinking – informs A-E grading)	Evidence What evidence am I looking for that demonstrates the student has got it?
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<p><u>It is important that students have had experiences with the learning opportunities below before administering the assessment task.</u></p> <p><i>Developing:</i> Understanding Fluency Problem Solving Reasoning</p> <p>Through experiences with:</p> <ul style="list-style-type: none"> • Subitising cards, 1 and 2 collections (<i>Professor Dianne Siemon</i>) • 10 frames, 20 frames • Interactive subitising activities (e.g. <i>subitising/10 frame PowerPoint's, Scootle resources</i>) • Dice activities and games (e.g. <i>first to 20..., cover up, number bingo, snap</i>) • Counting all, counting on, doubling, rainbow facts/make to 10 facts • Make, name, recording activities with a range of materials, including flip tiles, counters, unifix, popsticks, etc. • Make, name, record collections and compare groups of objects – Which is the largest/ smallest group? How many objects in each group? How do we know? • Sorting activities (e.g. <i>matching numbers on a sticky dot in patty pans</i>) • Number stories, counting stories • Class number/counting/subitising book • Mental routines/problematised situations (<i>Ann & Johnny Baker – Natural Maths</i>) 	<p>Teacher observations</p> <p>Conferences 1:1 with peers & teacher</p> <p>Learning log: Student identifies areas for focus</p> <p>SNW (S- strengths, N – needing improvement, W- where to next)</p> <p>Stars/smiley faces</p>	<p>Jewellery Boxes (see attachment R2- optional)</p> <p>Entry Level – <i>The teacher narrates and records key information on the board</i> A jeweller was sorting his coloured jewels into boxes. He saw that the jewels were 6 different colours. He decided to put each colour in a different box. When he counted the jewels he found that each box had a different number of jewels. What might his 6 boxes have looked like? <i>(Please note the purpose of this task is to determine whether students can correctly connect names, numbers and quantities of small collections when a predetermined number of objects is not given. This task can easily be adapted to suit any context, e.g. sorting shells collected on the beach, sorting items for a party bag, etc.)</i></p> <p>Challenge Level Could you order your boxes from least to most jewels? (<i>possibly ask students to do this verbally, then annotate, or draw on a blank page</i>) Could you draw a necklace using some of your jewels? How many jewels did you use? Why? How many of the ...coloured jewels do you have left?</p> <p>Questioning- <i>“How many jewels do you have?” “How do you know?” “Why did you draw ... many jewels?” “What was your thinking with...?” “If you had 2 more jewels of each colour how many of the ... coloured jewels would you have?” “If you made a necklace using the (red) and (yellow) jewels how many jewels would be on the necklace altogether?”</i></p> <p>Organisation Teacher – Attachment R2: Jewellery Boxes; record key information on the whiteboard when unpacking the task (6 colours, 6 jewellery boxes) Students – Attachment R2: Jewellery boxes; coloured pencils</p>	<p>Students will:</p> <ul style="list-style-type: none"> • Demonstrate they can count and accurately record mixed collections of objects and identify a small collection by instantly subitising. • Show understanding by comparing their boxes to show different amounts of 'jewels'. Students explain how many in each of the jewellery boxes and can make, name and record different amounts. <p>Advanced –Students are able to complete the task confidently and accurately and are able to order collections from smallest to largest. Students are able to successfully complete the challenge level, drawing a necklace using some of the jewels. They are able to determine how many used altogether and how many left.</p> <p>Competent –Students confidently complete the task giving 6 different combinations of jewel boxes. They represent a range of numbers possibly up to 20. They connect number names and numerals to each quantity.</p> <p>Developing –Students are unable to draw 6 different collections of 'jewels' independently. They require scaffolding and support to complete or participate in the task.</p>
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Number & Place Value – R3

Make connections between number names, numerals and quantities to 10

Western Adelaide Region

Mathematics Performance Assessment Tasks (Updated: November 2013)

Reception (Foundation Year)

<p>Big Idea(s) -A collection tells us how many no matter what it looks like. -We can recognise small collections without counting.</p>	<p>Australian Curriculum Content Descriptor Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond Subitise small collections of objects.</p>	<p>Achievement Standard By the end of the Foundation year, students make connections between number names, numerals and quantities up to 10.</p>	<p>Related Mathematical Proficiencies</p> <ul style="list-style-type: none"> • <i>Understanding</i> includes connecting names, numerals and quantities • <i>Reasoning</i> includes explaining comparisons of quantities
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<p>Prior Learning Experiences Do I use ongoing Formative Assessment to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?</p>	<p>Feedback How will I provide feedback to students?</p>	<p>Summative Assessment Does the assessment task indicate how well students understand and can apply their learning? (how well = extent, depth and sophistication of thinking – informs A-E grading)</p>	<p>Evidence What evidence am I looking for that demonstrates the student has got it?</p>
<p><u>It is important that students have had experiences with the learning opportunities below before administering the assessment task.</u></p> <p><i>Developing:</i> Understanding Fluency Problem Solving Reasoning</p> <p><u>Through experiences with:</u></p> <ul style="list-style-type: none"> • Subitising cards, 1 and 2 collections (<i>Professor Dianne Siemon</i>) • Ten frames, make to 10 • Thinkboards • Make, name, record collections beginning with 5, then moving on to 10 • Counting all, counting on • Bingo games • Card games – ordering numbers, snap, make to 10 • Matching activities • Making collections activities – such as using numbers on the dice, patty pan numbers, number cards, playing cards, subitising cards, etc. • Part-part whole understanding (e.g. 4 and 2 is 6, 5 and 1 is 6, 3 and 3 is 6, etc.) • Mental routines/problematised situations (<i>Ann & Johnny Baker – Natural Maths</i>) • Michael Ymer number games (e.g. <i>Get Outta my House</i>) 	<p>Teacher observations</p> <p>Conferences 1:1 with peers & teacher</p> <p>Learning log: Student identifies areas for focus</p> <p>SNW (S- strengths, N – needing improvement, W- where to next)</p> <p>Stars/smiley faces</p>	<p>Paper Plate Task</p> <p>Entry Level Students are given 10 flip tiles or two-coloured counters. Students are asked to flip their counters onto their plate. They are asked to draw what they see and write a number sentence to match their plate.</p> <p>Challenge Level Students are asked to find some objects in the room that could be used to match the number of counters on their plate. Students should have access to a range of materials, including dice, subitising cards, playing cards, mixed counters, animal counters, popsticks, etc.</p> <p>Questioning- “How many do you have?” “How do you know?” “Could you make 10 in another way?” “If someone was having trouble with their subitising/counting what could you tell them that might help?” “Where have you seen collections of objects before?”</p> <p>Organisation Teacher – paper plates; flip tiles or 2 coloured counters; camera or iPad to photograph students work Students – paper; pencils/textas</p>	<p>Students will:</p> <ul style="list-style-type: none"> • Demonstrate they can identify a count of 10 by accurately representing what is on their plate and recording matching numerals or a number sentence. • Show understanding by explaining what is on their plate and how they know. <p>Advanced –Students are able to confidently complete the task and respond to questioning with mathematical reasoning. They are able to find materials from the class to match their number sentence.</p> <p>Competent –Students are able to subitise instantly when asked how many. They explain how to subitise (e.g. <i>I could see 6 and 4 and I know that 6 and 4 is 10</i>). They accurately draw what is on their plate and writes a correct number sentence.</p> <p>Developing –Students count using 1:1 correspondence when asked how many and are unable to represent a drawing of their plate accurately.</p>

Big Idea(s)

- Numbers can be named in terms of their parts.
- There are many different ways to represent, add, subtract, divide and multiply numbers.

Australian Curriculum Content Descriptor

Represent practical situations to model addition and sharing.

Achievement Standard

By the end of the Foundation year, students **make connections between number names, numerals and quantities up to 10**. Students count to and from 20 and order small collections.

Related Mathematical Proficiencies

- *Understanding* includes connecting names, numerals and quantities
- *Problem Solving* includes using materials to model authentic problems

Prior Learning Experiences

Do I use ongoing **Formative Assessment** to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?

Feedback

How will I provide feedback to students?

Summative Assessment

Does the assessment task indicate **how well** students understand and can apply their learning? (**how well** = extent, depth and sophistication of thinking – informs A-E grading)

Evidence

What evidence am I looking for that demonstrates the student has got it?

It is important that students have had experiences with the learning opportunities below before administering the assessment task.

Developing:

Understanding Fluency Problem Solving Reasoning

Through experiences with:

- Subitising, 10 frames, 20 frames
- Dice activities and games
- Counting all, counting on, doubling, rainbow facts/make to 10 facts
- Make, name, recording activities with a range of materials including flip tiles, counters, unifix, popsticks, etc.
- Make, name, record collections and compare groups of objects
- Number stories, counting stories
- Part-part whole understanding (e.g. 4 and 2 is 6, 5 and 1 is 6, 3 and 3 is 6, etc.)
- Thinkboards (e.g. *The answer is 8; or worded problem – Ben had 3 stickers, his friend Toy gave him 4 more. How many stickers did he now have?*)
- Whiteboards (e.g. ___ and ___ is ___)
- Mental routines/problematised situations (*Ann & Johnny Baker – Natural Maths*)
- Michael Ymer number games (e.g. *Get Outta my House*)

Teacher observations

Conferences 1:1 with peers & teacher

Learning log: Student identifies areas for focus

SNW (S-strengths, N – needing improvement, W- where to next)

Stars/smiley faces

Option 1: Ten New Receptions (Adapted from Doug Clarke’s – Mathematics Assessment for Learning: Rich Tasks & Work Samples)

Entry Level

“Guess what boys and girls I have some exciting news. Mr (Smith) our school principal tells us that we have new receptions starting at our school. We are getting 10 new receptions, but we don’t know how many boys or girls there will be. I told Mr (Smith) not to worry and that we were really good at drawing pictures so we would help him. Mr (Smith) asked if we would be able to draw him some pictures to show how many boys and girls might be coming. Do you think we could help?”

Challenge Level

What if more boys or girls came on the day but we didn’t know they were coming?

Option 2: Ice Cream Specials (see attachment R4- optional)

Entry Level

The canteen was selling two ice cream specials, one vanilla and one chocolate. Ten children bought an ice cream. What might they have bought?

Challenge Level

The canteen had 3 ice cream specials and ten children bought an ice cream. What might the new flavour have been? How many of each flavour might have been sold?

Questioning – “Tell me why you chose 6 and 4?” “Are there other possible combinations?” “How do you know?” “How could you check your answers?”

Organisation

Teacher – copies of attachment R4 (option 2 only); paper for recording; record key information on board (e.g. 10, boys ?, girls ?; materials available if students need them (e.g. counters, 10-frame)

Students – paper; pencils/textas; Attachment R4 (option 2 only)

Students will:

- Demonstrate knowledge by drawing their own representation of the 10 new receptions (or 10 ice creams), including using distinguishing features and numerals to record how many.
- Show understanding by explaining their choice and providing reasons.

Advanced –Students demonstrate more than one combination to make to 10. They explain their combinations using mathematical reasoning (i.e. of even numbers, makes 10 using 5 and 5, recognises rainbow facts, relates to class combinations “I think there will be more girls because in our class there are more girls “I think there will be 5 boys and 5 girls so they each have a pair”). They identify possible combinations for 3 different ice creams to make number sentences to 10 (e.g. 2 vanilla, 3 chocolate and 5 strawberry is 10 ice-creams).

Competent –Students demonstrate an understanding of 10 and explain their choices (e.g. “I think there will be more boys because I am a boy” “I think there will be more chocolate because that’s my favourite flavour”).

Developing –Students demonstrate some/little understanding (i.e. no gender or flavour distinctions) and an incorrect number of items are drawn. They require scaffolding and support.

Big Idea(s)

-Measurement is the comparison of objects and it can be described.

Australian Curriculum Content Descriptor

Use direct and indirect comparisons to decide which is longer, heavier or holds more, and explain reasoning in everyday language.

Achievement Standard

By the end of the Foundation year, students **compare objects using mass, length and capacity.**

Related Mathematical Proficiencies

- *Fluency* includes comparing the lengths of objects
- *Reasoning* includes explaining indirect comparisons of length
- *Problem Solving* includes sorting objects

Prior Learning Experiences

Do I use ongoing Formative Assessment to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?

Feedback

How will I provide feedback to students?

Summative Assessment

*Does the assessment task indicate **how well** students understand and can apply their learning? (**how well** = extent, depth and sophistication of thinking – informs A-E grading)*

Evidence

What evidence am I looking for that demonstrates the student has got it?

It is important that students have had experiences with the learning opportunities below before administering the assessment task.

Developing:

Understanding Fluency Problem Solving Reasoning

Through experiences with:

- Comparing objects directly by placing one object against another to determine which is longer, shorter, equal in length
- Unifix towers to explore the language of measurement, such as 'tall' and 'taller', 'more than', 'less than' ("my blue tower is 2 more than my green tower") *this could also be adapted as an assessment task for number &/or measurement
- Using real/relevant objects when measuring and comparing lengths – i.e. popsticks, toothpicks, pipe cleaners – all at the same length
- Using body parts to describe length (e.g. my page is 4 fingers long, the line is 6 feet long)
- Using a range of items to measure the same object (e.g. my table is 10 popsticks long, my table is 24 matchsticks long, my table is 32 unifix long)
- Problem solving tasks and mental routines (Ann & Johnny Baker, Natural Maths)
- '3 Snakes' app – Natural Maths
- Measurement thinkboard – longer, shorter, same

Teacher observations

Conferences 1:1 with peers & teacher

Learning log: Student identifies areas for focus

SNW (S- strengths, N – needing improvement, W- where to next)

Stars/smiley faces

Long and Short Snakes (see attachment R5.1 & R5.2)

(Adapted from the ACARA Foundation year work samples)

Entry Level

Students are asked to make a long and short snake using plasticine or playdough. They are asked to place this on their thinkboard, in the correct place, then find items in the room that are longer and shorter than their snake. Students describe why an item is longer or shorter and how they know.

Challenge Level

What if there were three snakes? (short, long, same)
Students are asked to modify their existing snakes to make them even longer or shorter and then make a third snake that is in between their 2 snakes. Students find new items in the room to match or draw items that they know. When conferencing, ask students to name items outside the classroom for each snake.

Questioning – "Tell me why the (counter)... is shorter/longer than your (blue)...snake?" "How do you know?" "What makes something the same size?"

Organisation

Teacher – Plasticine; copies of attachment R5.1 and R5.2; display attachment R5.1 on the board; check for understanding of key terms and of the task; ask students what materials they think they might use (**do not provide the materials for them as this will not give you an indication of their ability to source what is needed**)

Students – attachment R5.1; paper; pencils/textas; plasticine to make different snakes

Students will:

- Demonstrate knowledge by correctly identifying items in the classroom that are longer, shorter, the same as their snakes.
- Show understanding by explaining their choices using mathematical language.

Advanced –Students identify multiple examples of items that are longer, shorter, the same as their snakes. They compare items from outside the classroom to match their snakes. They use mathematical terms when explaining their choices.

Competent –Students demonstrate an understanding of longer and shorter by identifying items in the classroom to match. They explain their choices when questioned.

Developing –Students demonstrate some/little understanding of the terms longer, shorter, however are unable to identify items correctly. They are unable to explain their choices.

Shape – R6

Grouping and sorting shapes & objects

Western Adelaide Region

Mathematics Performance Assessment Tasks (Updated: November 2013)

Reception (Foundation Year)

Big Idea(s)

-Shapes and objects have characteristics on which they can be grouped and sorted.

Australian Curriculum Content Descriptor

Sort, describe and name familiar 2D shapes and 3D objects in the environment.

Achievement Standard

By the end of the Foundation year, students **group objects based on characteristics and sort shapes and objects.**

Related Mathematical Proficiencies

- Reasoning includes creating patterns
- Problem Solving includes sorting objects

Prior Learning Experiences

Do I use ongoing **Formative Assessment** to inform the teaching & learning cycle? Do I provide learning experiences that enable students to build on their knowledge?

Feedback

How will I provide feedback to students?

Summative Assessment

Does the assessment task indicate **how well** students understand and can apply their learning? (**how well** = extent, depth and sophistication of thinking – informs A-E grading)

Evidence

What evidence am I looking for that demonstrates the student has got it?

[It is important that students have had experiences with the learning opportunities below before administering the assessment task.](#)

Developing:

Understanding Fluency Problem Solving Reasoning

Through experiences with:

- Feely bags of 2D shapes- describe attributes
- Comparing objects (Venn circles)
- Sort and describe – circles, squares, triangles, rectangles
- What shapes can we see in our classroom? In our playground?
- Draw 2D shapes freehand, by tracing, using ICTs
- Continue shape patterns
- What am I questions
- Create shape picture from oral clues
- Shape thinkboard (draw it, find it, describe it, name it)
- Combine shapes to make a new 2D shape- give it a name
- Barrier games – Ask students to draw on their paper a shape they can see in the classroom. Ask them to find a buddy and without showing them the shape they describe what they have drawn. Their buddy tries to guess the shape

Teacher observations

Conferences 1:1 with peers & teacher

Learning log: Student identifies areas for focus

SNW (S- strengths, N – needing improvement, W- where to next)

Stars/smiley faces

What's on your plate? (see attachment R6- optional)

Entry Level

Each student is given a paper plate and is asked to collect different items from a container or multiple containers. Students are asked to explain how they sorted their items.

Include items such as beads, popsticks, 2D/3D shapes, photos of anything with clearly visible shapes (e.g. ice cream cone, ball, road sign, etc.)

Attachment R6 could be used for recording or you could take photos of what is on their plate and paste this on after the lesson.

Challenge Level

-How else might you sort the items? or
-What other items would you include in the bag? Could you find/draw them?

Questioning – “Tell me why you chose those objects for ... to sort?” “Tell me why you sorted your objects in that way?” “Why didn't you put the (popstick) with the (circle)?” “Would there be another group to put the bead?”

Organisation

Teacher – Organise a container or containers of items; paper plates for each student; attachment R6 for recording (optional); check for understanding of the task and term 'different'; iPad or camera for taking photos of students plates (these can be pasted onto the attachment after the lesson)

Students – Attachment R6 or paper/whiteboard for recording; paper plate

Students will:

- Demonstrate knowledge by sorting items based on their characteristics and explain their choices.
- Show understanding by collecting a range of items appropriate for sorting and suggesting why those items were chosen.

Advanced –Students demonstrate an understanding of sorting shapes and objects using their features and characteristics. They explain their reasons for sorting objects using mathematical language (e.g. I know that a square has 4 sides). They collect a good range of mixed items for sorting and use logic when explaining their choices. They make connections to objects in the real world (e.g. I chose the stop sign because I have seen it when we are driving).

Competent –Students demonstrate an understanding of sorting shapes and objects using observable characteristics. They choose a range of objects with different characteristics. They explain their choices using some mathematical language and logical thinking.

Developing –Students demonstrate some/little understanding of sorting objects based on characteristics. They require scaffolding and support.

R1 – Can you count 10 more?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30

R2 - Jewellery Boxes

Name:

Date:

How many jewels in each box? Remember each box had a **different** amount of jewels.



How many
jewels?



How many
jewels?



How many
jewels?



How many
jewels?



How many
jewels?



How many
jewels?

The canteen was selling two ice cream specials, one vanilla special and one chocolate special. Ten children bought an ice-cream. What might they have bought?



R5.1 – Long and Short Snakes

Name:

Date:

Shorter than my Snake	Longer than my Snake

Annotations:

R5.2 – Long and Short Snakes

Name:

Date:

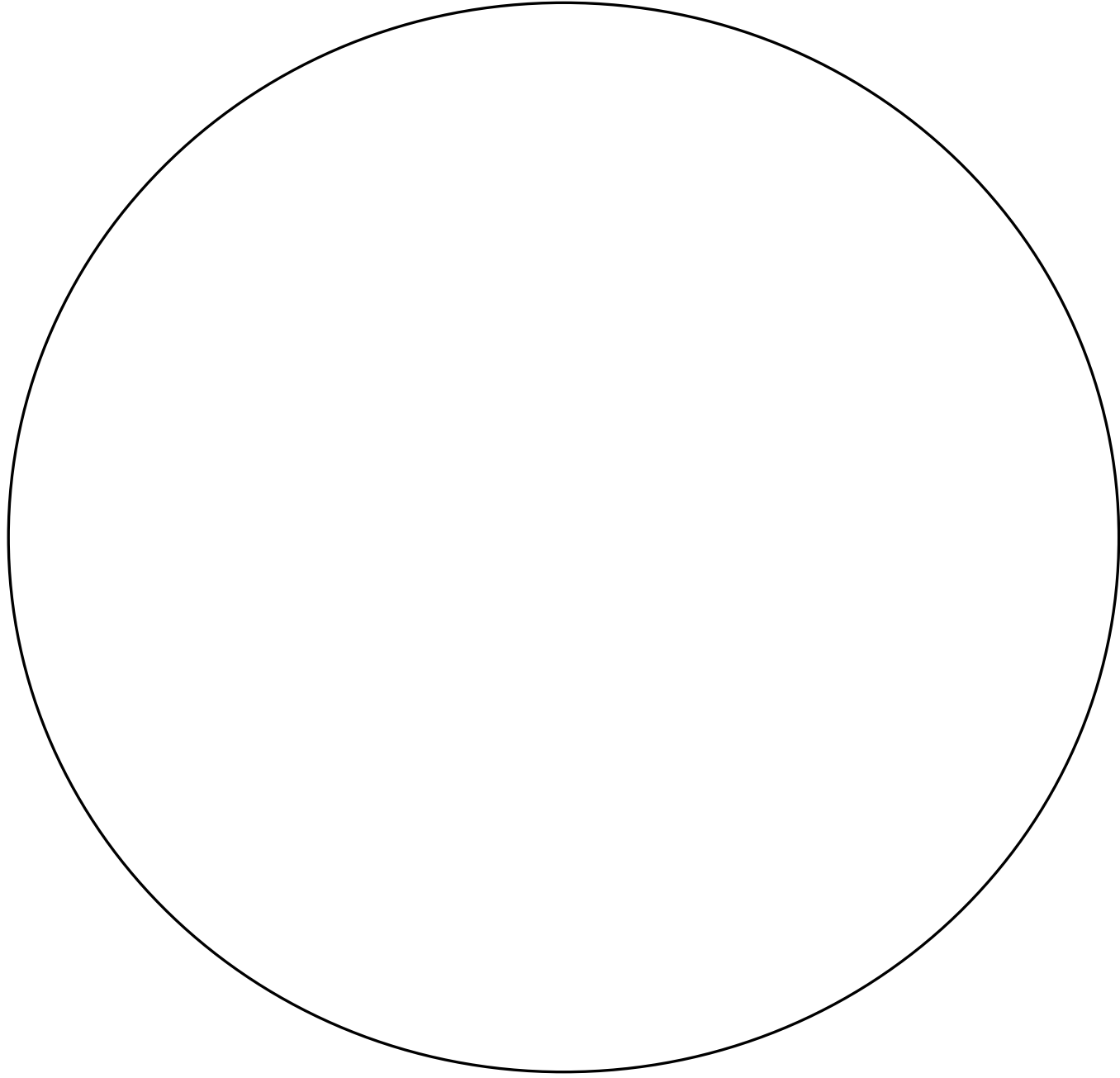
Shorter than my Snake	Longer than my Snake	Same as my Snake

Annotations:

R6 – What's on your plate? - How will you sort the items on your plate?

Name _____

Date _____



I sorted my objects in this way because...