Home Learning TV: Junior Maths

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| **Segment lesson planning details** |  | | | |
| Title for segment: | What next? | | | |
| Year levels *(e.g. Yrs1 – 3)*: | 1-3 | | | |
| NZC learning areas: | Mathematics and Statistics | | | |
| Purpose of lesson:  (What learners will learn) | Patterns and relationships  * Create and continue sequential patterns that repeat (Level One) | | | |
| Success Criteria – students will be able to:  (how they will know when they have learnt it) | Predict the next element in a repeating sequential pattern.  Create a sequential pattern with familiar objects.  Identify the element of repeat in a sequential pattern. | | | |
| **Segment content/context details *(as appropriate)*** | | | | |
| Māori specific content i.e. the learning draws on Mātauranga Māori: | Greeting and farewell. Use of Māori language (instructions). Mt Hikurangi. | Pacific specific content i.e. the learning is focused on Pacific knowledge: | | Greeting and farewell. Tapa cloth to create repeating patterns. |
| **Segment production details** | | | | |
| Equipment requirements: | Cardboard packet, paper (largess sheet), scissors, pens or crayons or colouring pens, ruler (optional). Objects from around the house that have repeating pattern, e.g. tapa cloth, quilted bedspread, table cloth, mosaic design. | | | |
| Copyright requirements: |  | | | |
| **Segment links and attachments *(list all links to recordings or attachments, the source and confirm that copyright permissions are granted)*** | | | | |
| Links to recordings /resources |  | | | |
| Attachments | PowerPoint of sequential tapa designs.  Image of tapa cloth | | | |
| **Segment plan content** | | | | |
|  | Orientate learners to patterns as predictable.  Link predictability to everyday life through contexts such as the sun rising or a ball falling. | | Kia ora, Talofa, Hello  How are you today?  I think morning is my favourite part of the day.  Have you ever got up early to watch the Sun come up.?  Did you know that the first place in the world to see the sun each day is in Aotearoa? It is a sacred maunga or mountain called Hikurangi.  The sun comes up every morning, rain, hail or shine!  It’s predictable. Sunrise happens everyday.  That got me thinking. What other things are predictable?  If I toss this ball in the air it will float off into space. Right?  Let’s try. [Toss ball and catch it when it comes down]  Of course! A ball always falls down when you throw it up. It’s predictable!  There’s lots of things around my house that are predictable.  [Maybe use Suzy Cam and show things like turning the light switch on and light glowing, hot water in the shower, bottle opener is in the drawer, turning the knob to open the door, etc.]  We feel much better when things are predictable.  I predict the sun will go down tonight. Am I right? | |
| **Activate**: Activating prior learning, knowledge of contexts and relationships | Provide familiar examples of sequential patterns, such as tapa cloth, tablecloths, tiling patterns, etc.  Demonstrate creating a sequential pattern that has an element of repeat. | | Today we are learning about patterns. If things are arranged in a pattern then they are predictable. You can work out what happens next.  Here’s an example.  [Use image of tapa cloth or some other artifact at home such as a quilt, picture frame, wallpaper, fence pails, paving, etc.]  Look closely. Can you see a pattern?  [Depending on the object]  In this beautiful tapa cloth the artist made a pattern of shapes. She went [pointing] blah, blur, blip, blah, blur, blip, and so on. The design is predictable.  [Maybe provide another example within the tapa or another object]  I thought today we could make our own repeating pattern.  I will show you how to make your own tapa cloth.  You need a piece of paper , scissors, cardboard, and something to draw with, crayons or felts are good. [Show the items]  First I need to make some stencils. It’s a nice word, ‘stencil’.  [Cut four same sized square shapes from a cardboard packet]  What shape are my pieces of card? That’s right they are squares or tapa whā rite All four sides are equal length, the same [pointing].  Fold each square in half like this. Now it is easy to cut holes in my stencils.  I’d like a crescent. Hmmm...If I cut out half a banana like this…[Open up the stencil to reveal the whole crescent]. Yes!  [Cut out shapes to create stencils that can be named, e.g. flower, star, leaf, turtle]  A picture containing pair, table, wearing, room  Description automatically generated  Now I am ready to make the border around my cloth. Let’s keep things simple and use two stencils. In Tonga, Samoa and Fiji they use ink to colour in their stencils. That’s a bit messy so we’ll just use pencils, crayons or felt pens.  The tapa paper is actually made from Mulberry bark from the mulberry tree.    [Work around the border, placing the stencils A, B, A, B, A, .. and shading inside with crayon or felt.]  I’ve lost track. Which shape do I make next?  Let’s read the pattern like a song, “A, B, A, B, A, …” Did you say B? you’re right. The design goes A, B, A, B, A, B,... It repeats. It’s predictable!  [Show finishing the border of the tapa cloth] | |
| **Learn**: Introducing learning  Reinforce routines, provide multiple exposure to concepts, and strategies. Scaffolding learning | Support concentration and transfer using body movement to create sequential patterns.  Provide examples of sequential patterns, and predict further members.  Identify the element of repeat in sequential patterns.  Invite participation with other members of whanau. | | You have been sitting for a while now. Before we make more tapa let’s make some dance patterns. E tu, stand up.  [Give three examples of viewer copying your repeating pattern, e.g.  Knee slap, clap, Knee slap, clap, Knee slap, clap, … (2 repeating pattern)  Chest, thigh, clap, Chest, thigh, clap, … (3 repeating pattern)  We could sing the song:  Head, shoulders, knees and toes (4 repeating pattern)  Ūpoko, pakihiwi,puku, hope ,waewae (5 repeating pattern)  Now watch me. What do you notice?  Make the third sequence **random**  Shoulder, clap, knee, chest, clap, shoulder …  You seem to be having trouble with that one. Let’s try again…  Create a different random set.  You look confused. What’s wrong? It’s not predictable, is it? It’s not a repeating pattern. It is impossible to copy.  Okay. E noho, sit down please.  Actually I had some practice in making tapa. Here are some of my designs.  I wonder if you can figure out which stencil I should use to make the next shape.  [PowerPoint shows examples that you might use or create some yourself. Note that the second slide shows a non-example. There is no predictable sequence. For each sequence ...]  What stencil should I use next? Have a think. Would it help to say the pattern out loud?  A, B, C, A, B, C, … [Pointing to shapes]  I think A comes next. Is that what you got too?  Can you find the part of the pattern that repeats? [bound the element of repeat with your hands then translate across to the next element of repeat]  For the non-example, let students think for a while.  Let’s try saying the pattern like a song. A B C D C …  That doesn’t seem to help much. Is there a repeating part? [Try different hand bounding]  No that doesn’t seem to work. I think this isn’t a pattern. It is not predictable.  Do you agree? | |
| **Respond**: Providing opportunities to use and practice | Invite students to apply pattern making by creating tapa cloth at home. | | You might like to create your own tapa cloth designs at home.  How will you know that you created a pattern?  Give the design to somebody else in your whanau bubble. They should know what comes next.  Your pattern should be predictable. | |
| **Share**: Learner and parent reflection on learning and engagement and what they can do next | Invite learners to continue their learning about sequential patterns. | | That’s the end of our first programme on patterns.  Watch tomorrow when we create more complicated patterns.  Can you predict what I am going to do now?  That’s right.  Kia koe, Tofa, Goodbye  [Sing “see you later”] | |