Home Learning TV – Junior Science 3 – Day 11

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| **Segment submission** | | | |
| Programming slot (segment type):  *e.g. Middle Science & Maths* | Junior science 3 | Intended screening date:  *e.g. 15/04/2020* |  |
| **Segment lesson planning details** |  | | |
| Title for segment: | Cooking rocks! | | |
| Year levels *(e.g. Yrs1 – 3)*: | 1-3 | | |
| NZC learning areas: | Physical world - heat, Material world - changes that occur when materials are heated | | |
| Purpose of lesson:  (What learners will learn) | Heat energy is all around us.  Heat changes water to steam.  When we cook, heat energy is transferred to our food.  Māori specific content and Pacific specific content | | |
| Success Criteria – students will be able to:  (how they will know when they have learnt it) | * talk about how heat moves - for example, heat from an oven or hot rocks is transferred to food * talk about heat can turn water into steam * talk about changes to food when it is cooked | | |

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| **Segment content/context details *(as appropriate)*** | | | |
| Māori specific content i.e. the learning draws on Mātauranga Māori: | Traditional cooking with hāngi | Pacific specific content i.e. the learning is focused on Pacific knowledge: | Traditional cooking using umu or lovo |

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| **Segment production details** | | |
| Equipment requirements: | Suzy’s home studio and kitchen | |
| Copyright requirements:  Please be specific: Source(*Seven Sizzling Sausages* by Sam Smith –url link to the source), intended use (to demonstrate alliteration), and length (timings for video clips) | The image used in this episode has been cleared for use and watermarked with the appropriate credits. | |
| Attachments |  | |
| **Segment plan content** | | |
|  | Teaching and learning activities linked to purpose | High level script (key points/questions) |
| **Activate**: Activating prior learning, knowledge of contexts and relationships | Connecting with the learners and their experiences;  Recognising that food is important for more than sustenance. | Kia ora - [greeting in multiple languages]  [Touch base with audience if they’ve sent in texts or emails.]   While I’m showing you the cool messages I’ve received, check that you’ve got your science journal, or some paper and something to write with.  In the last couple of days we have talked about the insects and worms that belong in Aotearoa. Today we are going to switch to thinking about the people who live in Aotearoa and how cooking gives them a sense of belonging. Kai, and the way we cook it, are really important to lots of people. It helps us think about who we are and who we belong to. All cultures have traditions associated with kai and cooking.  [Please begin with an anecdote about how your own children are doing some cooking while they are at home.] In my whanau……  What about you? Have you been helping your whānau do some of the cooking? What sort of food do you like to cook? If you are watching this episode with your whānau, have a quick kōrero about the best thing you’ve eaten in the last week or so.  Remember, at the end if you want to share your ideas or learning with me, text 5811 or email info@hltv.co.nz. The keyword for this episode is cooking or hapī.  [on screen: text 5811 or email info@hltv.co.nz  keyword: cooking or hapī. ]  [Please check maoridictionary.co.nz for pronunciation support.] |
| **Learn**: Introducing learning  Reinforce routines, provide multiple exposure to concepts, and strategies. Scaffolding learning | Teacher introduces learning and the context for the learning.  Introducing and explaining hāngi as a way of cooking.  Introducing the science concepts of heat energy and heat transfer using a context that is familiar to young learners - cooking.  An introduction to heat as energy - using an everyday example, then talking about this using hāngi as the example  Materials change when they are heated or cooled (e.g., when food is cooked). | Today we are going to find out about a traditional way of cooking with hot stones. Māori cook using a hāngi. Samoans and Cook Island Māori cook using an umu, while Fijians use a lovo. For us to understand how the food is actually cooked using hot stones we will be learning about how heat energy and how it transfers.  Let’s find out how this type of cooking works.  **Filename: SVx Suzy's world Hangi.mov** [9 minutes, including 2.15 minutes of credits]  **VimeoLink:** [**https://vimeo.com/415333985**](https://vimeo.com/415333985)  [video]  <https://www.youtube.com/watch?v=JZjkUjkvAws&feature=youtu.be>  [Suzy - we’ve edited a bit out of this.]  There’s lots of pūtaiao - science - when it comes to cooking - whether we use hot rocks or a hot oven.  First of all, heat is a type of energy - pūngao pōkākā [Pronunciation - <https://paekupu.co.nz/word/pungao-pokaka>  Write the words across the screen]  And heat energy is all around us.  Some really hot things are obvious - like fires and heaters, but did you know there is also heat in the pencil you are holding, and it’s in our bodies? Sometimes in winter it doesn’t feel like it does it?  When you picked up your pencil this morning, did it feel cold? As you held it in your hand, heat from your body was transferred, or moved, to the pencil. The opposite can happen, too. If you pick up a hot cup or a pot from the stove, heat from the object is transferred to your hand and can burn your skin. That’s why the men who took the baskets of food from the hāngi used cloths to protect their hands. The heat energy transferred to the cloths before it reached their hands.  Does your Mum wear oven mitts or use a tea towel or towel to get hot things out of the oven? That’s for the same reason-to protect her hands from the heat.  A hāngi uses more than hot rocks to cook the food. It also uses steam. Remember how the men covered the food with the wet sheets? The heat energy from the hot rocks is transferred to the wet sheets. The water in the sheets gets hot and changes to steam. The steam then transfers the heat to the food. This is how the veggies at the top of the hāngi are cooked.  That’s a lot of heat moving around! The heat first came from the burning wood, then it was transferred to the rocks, then to the food.  **Filenames: Umu\_Samoa\_PolynesianXplorer\_CC BY 2.0.jpg**    An umu works in a similar way. Hot rocks are used as a heat source. The food is wrapped in coconut or banana leaves - this keeps the steam inside the parcels and heats up the food.  Hey - have you noticed how the food changes when it’s cooked? Some foods go from tough and chewy to softer and easier to eat? Think about a dumpling before and after it goes into a steamer. I know which one I’d rather eat!  [Multiple opportunities for some demos here - frying eggs, boiling fruit, toasting bread …] |
| **Respond**: Providing opportunities to use and practice | Invite students to talk with whānau about ways of cooking and eating kai that are special to their family and culture | This is making me hungry. How about you? Perhaps when you help make tea tonight, you can talk with your whānau about ways of cooking and eating kai that are special to your family and culture. And then you can tell them how heat moves round and round to cook that kai!  Take a photo, too - I’d love to see pictures of you with your kai cooked in a special way!  Text 5811 or email info@hltv.co.nz. The keyword for this episode is cooking or hapī.  [on screen: text 5811 or email info@hltv.co.nz  keyword: cooking or hapī.  Suzy - we wonder if you’re using your FB page, too?]  A shout out to the Science Learning for support with planning this lesson would also (always) be appreciated :) |
| **Share**: Learner and parent reflection on learning and engagement and what they can do next |