**School Kit at Home online learning ideas: Science**

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Thanks for joining us. Here's a wee summary of what to expect on this page:

We'll post four times every day: Expect to see an activity focussed post on here every day at 8.45am, 10.30am, 1.00pm and 3.00pm for as long as the shutdown lasts.

Mix and match to fit your family: Not everything on here will suit you or your kids. We'll take care of making sure every activity has an educational purpose. You take care of what fits with your whanau.

Invite anyone you know in the same boat. Share this group with anyone you know suddenly faced with caring for primary school age children at home. Everyone is welcome from anywhere.

We're not that into colouring-in or word-finds: We're famous for never giving our teachers worksheets, colouring in or word finds. Unless they're exceptional, you probably won't see those in this group either.

We'll share beautiful educational content: There are a million things going on right now. We'll focus on sharing beautiful, innovative, make-your-heart-sing content. We won't talk too much about COVID-19.

We have printed at-home learning kits for sale too: If you'd prefer a largely off-line, zero screen time solution we are currently selling our normal printed kits at [schoolkit.co.nz/athome](http://schoolkit.co.nz/athome?fbclid=IwAR2r3vIzzWYeAJHOXTzre27qJ6PKNXZGBjNSLqmP8ZbE6RmopkiEiN66Z5k) - delivered to your door.

This isn't a scheduled learning programme: It's just a bunch of us supporting parents at home with beautiful ideas that your kids will love and that have educational purpose.

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**1 Pitfall Trap**

WATCH: Why are there so many insects? <https://youtu.be/2ivZ6GSaK1M>

TALK: Do you think there are any insects or invertebrates in your backyard? Where in your backyard would be the best place to dig a hole for your pitfall trap. What type of thing could you use for your pitfall trap - a jar, a cup? How will you camouflage the bit over the top? What type of things do you think you will catch?

DO: Make that pitfall trap. <https://www.youtube.com/watch?v=SNo_7qZwrgk&feature=youtu.be&fbclid=IwAR0k8cddlJArv9SrzIP4YGZg3-4_E1lOnm7GhaQkobTxwgK0MRKNR6uBtTs>

Dig your hole and leave it overnight for inspection the next day. Then download the [iNaturalist.org](https://www.facebook.com/inaturalist/?__tn__=K-R&eid=ARCWLyrnCI5BR_Ch4Chkse9yfoXlF-2qTLwIK3Blbea-IaMqO6nvU77iA03aIm3boF4zDIiKy1AGWU9V&__xts__%5B0%5D=68.ARCimnVHr4T-mmAOvin_qAI8cB4E0WwsccUCctZWcs5o7zPoE8wE6zCevYD_KGyC6DyRQ7fMmSHNKqZzzkkA13sjcRjOxpyxWWlKSNlnWdGxioEnYrTYjE6g7Ok9ENsktmPklK33OrLBdqyPNueLjD8z32HUZ1r9vfHNxD7t19_g1sQnq7YiSaz_4dSuEFv3PRDAujQQfna78n3oGxPaWEJdwTHwXSPJnGykaHT2_dKin_SouMhmslMMKqNJAPBDvcjWYt_vYUFoLwypygAhN4Po-w00JKA31CEk2MyFzFip-4L1NCuv29noslSgD5FcFfQ) app - document your findings and see of you can identify what you've found. Find the app at [https://www.inaturalist.org/](https://www.inaturalist.org/?fbclid=IwAR26NF28NyVbxt2wEnz60BUygErG38lImYL8tU1sphkK7t8RMzWpKAivurE)

**2 Penguins huddling**

WATCH: How does huddling help penguins stay warm? [https://www.youtube.com/watch?v=UA43xr2zR-A&feature=emb\_logo](https://www.youtube.com/watch?v=UA43xr2zR-A&feature=emb_logo&fbclid=IwAR0rGM31n9llyL0l2QjGdoK7jed1gcnR06KqjrliNPxwBndLGejc3wM90GE)

TALK: Explain the experiment with the mugs. What did it show us? How do we know it is true? How did it link to penguins? Why do penguins huddle together? Why does it work?

DO: Write an instructional guide on how to huddle.

You are writing your guide for a penguin who has just arrived in Antartica. Explain the steps to huddling and include information how huddling works to keep penguins warm. Write this in your own words but use evidence from the video to help explain the scientific aspects of it.

**3 Design a zoo enclosure**

WATCH: The live webcams set up in Victoria Zoo. Can you spot any of the animals inside their enclosures? [https://www.zoo.org.au/animal-house/](https://www.zoo.org.au/animal-house/?fbclid=IwAR2eHbJ91wkFa3TjErlkdz2ITlw8Bp7LahSBMRUxVG6CHBe7h-56t2vCx7Q)

TALK: About the animal enclosures, what is different about them? What is the same? Why would there need to be differences in each one? What do animals need? Is it the same as humans?

DO: Design the perfect enclosure for an animal.

Become a zookeeper and choose a new animal to join your zoo. Research their natural habitat - what does it look like? What do they need to survive? What do they eat? What will make them happy? Use your research to create the perfect enclosure to meet their needs.

**4 High Diving Giraffes**

WATCH: 5 Metres 80: High Diving Giraffes [https://www.youtube.com/watch?v=nPrWo5pEvyk](https://www.youtube.com/watch?v=nPrWo5pEvyk&fbclid=IwAR3BJC2Al9Q8ntkeesye-as3n9t4Chd0dec6fAhFi3BGug5PY3DysMZql7Y)

TALK: Is the video real? How do you know? Are giraffes able to perform high dives? What would you do if you were there watching? What words would you use to describe the way the giraffes move? Would you jump off a diving board that high?

DO: Write a newspaper article.

Become a journalist who is writing a newspaper article about the diving giraffes. Explain in detail what happened. Remember recounts should be in chronological order of what happened.

**5 Growing Veges**

WATCH: 14 Store Bought Vegetables & Herbs You Can Regrow. [https://www.youtube.com/watch?v=ZJuXpiEjdcc&feature=youtu.be&fbclid=IwAR1m0716s-NOjJ9NrYksEl7iy-WCufIO0yAlcmgJCEXG-WWiDNdfo2kAJE8](https://www.youtube.com/watch?v=ZJuXpiEjdcc&feature=youtu.be&fbclid=IwAR3jUW1h1Iq_4PQEYA_wz-wVR1UwEpMNpEdF4x7lUKqSkZqir1LJRz6rmDY)

TALK: About what's for dinner tonight. Are there any of the following vegetables or herbs in your fridge? 1. Ginger, 2. Green onion, 3. Garlic, 4. Potatoes, 5. Carrot tops, 6. Lettuce, 7. Leeks 8. Celery 9. Basil, 10. Mint, 11. Rosemary, 12. Oregano, 13. Sage, and 14. Thyme. (because these are the best to grow).

DO: Grow and observe a vegetable.

Because we are all here for four weeks we've got time to really watch, care for and observe something up close as it grows. Start early, make caring for your vegetable a part of your everyday. We recommend something your kids can see a change in on a daily basis - perhaps carrots or spring onions.

**6 Bird nests**

WATCH: The video of a hummingbird building a tiny nest [https://www.youtube.com/watch?time\_continue=157&v=MVOZ8tXl5Nc&feature=emb\_logo](https://www.youtube.com/watch?time_continue=157&v=MVOZ8tXl5Nc&feature=emb_logo&fbclid=IwAR2WN9EVBEDWcWlMhSLZvRbnIlHKxQ5hsfZJ2J16kjHfab9Z3gQnXn5vfUQ)

TALK: What is a nest? Why do birds need them? What other animals have them? Do humans have nests? Why don't we have them? Do we have something similar? What are the features of the nest? Do they serve a purpose?

DO: Create your own human nest.

Use things you have at home. Remember the purpose of a nest and the different features. What could you use to build your nest? How will you assemble it?

**7 Leaning Towers**

WATCH: Why doesn’t the Leaning Tower of Pisa fall over? [https://www.youtube.com/watch?v=HFqf6aKdOC0](https://www.youtube.com/watch?v=HFqf6aKdOC0&fbclid=IwAR1LsxM4SuRwWHJ9rvt8w3RRy8bGeY1B6IT5imvAJ6b5EIZYz69KL0xr40U)

TALK: When was the tower built? How old does that make it? Have you ever seen a building on a lean before? Where? Would you climb to the top of the tower? Would you stand under it? Why or why not? Is it possible to straighten a building? Should we straighten it? Explain your answer.

DO: Build your own Leaning Tower. Use different items in your home and build a tower on a lean. How high can you get it before it collapses? Rebuild it a different way and see if you get a better result. What differences can you make to the support of your tower to keep it standing?

**8 Made Up Animals**

WATCH: Kids describe made up animals. [https://www.youtube.com/watch?v=fD-ddQyaCHk](https://www.youtube.com/watch?v=fD-ddQyaCHk&fbclid=IwAR1DbSgYcl3l1JCHabGlzJLYtfBHriRWk25DaTO2BTksKyPtcRCiXWGw1Ms)

TALK: What were the steps the artist took before he got his finished product? Did he go straight into using ink? Why or why not? What are your favourite animals? What are some animals you don't like? If you could take the features from different animals and mix them up, which ones would you choose? What would you call it?

DO: Draw your own made up animal. It can be made up of parts of real animals or it can be completely made up. Follow the steps the artist made: make your plan, get an idea of what you want your animal to look like and start sketching. Once you've made all the changes you want, go around the outline and colour in.

**9 Sharks**

WATCH: Why are sharks so awesome? <https://www.youtube.com/watch?v=svlEfxTyJQE&feature=youtu.be&fbclid=IwAR2Vfas5F0rFsZtIAZs-lZc00k68Evftk9w4sNcDocy87bc0F9jYdfliI9E>

TALK: Has anyone in your bubble ever seen a real live shark? Make a list of all the excellent shark special advantage bits that this video talks about - the teeth, the blood, the skin etc.

DO: You are a shark scientist who needs to observe sharks in their habitat. Find a whole heap of shark videos online. Create a shark video library. Now pause your best shark video on an excellent moment and take a screen shot ( if you know how). Make a scientist like diagram where you draw arrows to all the shark bits from your list. Explain them on your diagram so other people in your bubble can learn a bit more about sharks.

**10 Hari Huritau**

This activity works best for non-reo speaking bubbles but Pipi Ma is still awesome for kids in any reo-based bubble.

WATCH: Pipi Mā - Hari Huritau <https://www.youtube.com/watch?v=7A_geLHRTg0&feature=youtu.be&fbclid=IwAR05FCrdnefvVZbGDpUloC_E1AJx1Ren1dBDaPsc8JcOoATORJPpjlIa7tM>

TALK: Have you ever been somewhere where you didn't understand the language around you? What do the people in your bubble think is happening in this video? How much Te Reo Māori does your family speak? Do the kids in your bubble know more reo than the adults? Why do you think that might be?

DO: Download the amazing app <https://kupu.co.nz/?fbclid=IwAR0wuX7SrrhP_8d0fdiF6uw0ua3YhLMn_4wDoUeq1kbGAJ9aNyUk7AIodxI> and use the camera on your phone to instantly translate objects around the home into Te Reo Māori. Make reo signs and put them next to basic objects - use this time to try and use as many Māori words everyday as possible for everyday things.

*Precise of Pipi Mā episode: Hura is turning 4 years old today. Pipi Mā sing happy birthday to him and he is gifted a taonga tuku iho from his father, his pounamu. Hura loves his pounamu but things quickly turn for the worst when Pītau realises it has fallen from Hura’s neck. Help Pipi Mā find Hura’s pounamu!*

**11 Floating cube**

WATCH: How to draw a floating cube - 3D Art Trick on Paper. <https://www.youtube.com/watch?v=3_3uQYTg9GQ&feature=youtu.be&fbclid=IwAR3ms7xptxJraEv9o1Cjx3syHvfKlZaB_JsLeRXnYZfsy3xsfg7qXLFkqNw>

TALK: Who is the best drawer in your bubble? Is anyone really good at drawing just one thing? Is there any grown up in your family that can remember how to draw bubble lettering? Ask your grown ups if they remember a thing called The Lettering Book and get them to tell you why they loved it ... ([https://bit.ly/2WRiasW](https://bit.ly/2WRiasW?fbclid=IwAR1G_4fzGH1idcKX6j-3U4Om_V6CKh9R33RU_twTOEwJDOF75lDz9XMl8fM))

DO: See if you can follow the instructions on the video to draw this amazing floating 3D cube. The best bit has to be tilting the paper at the end to turn the whole thing into an actual cube. Post your efforts below.

**12 Naturally Dyed Easter Eggs.**

WATCH: Naturally dyed Easter Eggs. <https://www.youtube.com/watch?v=qPatW3mIpyg&feature=youtu.be&fbclid=IwAR376P-X_Omrt6Pt51aOR81RYAd3MH2LEjqxCbfL3xtDouOfN4YjG9iV-eE>

TALK: About your favourite colours. Look in your fridge and in your cupboards. Is there anything in there that you think might make a good natural dye for an Easter Egg.

DO: Make some coloured Easter Eggs.

• 1 cup chopped purple cabbage = blue on white eggs, green on brown eggs  
• 1 cup red onion skins = lavender or red eggs...

• 1 cup yellow onion skins = orange on white eggs, rusty red on brown eggs  
• 1 cup shredded beets = pink on white eggs, maroon on brown eggs  
• 2 tablespoons ground turmeric = yellow eggs  
• 1 bag Red Zinger tea = lavender eggs

**13 Milk and Colours**

WATCH: The colour changing milk experiment. [https://www.youtube.com/watch?v=hPFwDaR1g70&feature=emb\_title](https://www.youtube.com/watch?v=hPFwDaR1g70&feature=emb_title&fbclid=IwAR3fhG6uKmro6kyjON8D_2izKxnqr2acWZpVPAFYgrnwhUuieMFsZekujPw)

TALK: Do you believe that really happens when you add those ingredients to milk? Why or why not? Could it work with any other ingredients? Should we believe everything we see in videos? How do we prove whether someone is real or not? How could we prove whether this experiment is true?

DO: Test out the milk experiment to see whether it really works or not. You are going to become a scientist and prove whether or not the video is accurate. Follow the instructions in the video and test it out. Was the video telling the truth? Did you get the same results?

**14 Red/Green Spinning Disc**

**WATCH:** [*Does this look white to you?*](https://youtu.be/uNOKWoDtbSk) <https://www.youtube.com/watch?v=uNOKWoDtbSk&feature=youtu.be>

**TALK:** Check if the test at the start work on everyone in your family? Is anyone in your family colour blind or do. you know anyone that is colour blind?

**DO:** Make a version of the red/green spinning disc.

Use a pencil to spin the disk super fast. Does the experiment work? Do you see yellow? Re-watch the video again to make sure you understand the concept.

## 15 Keeping Calm Under Pressure

**WATCH:** This [video](https://youtu.be/R8srJcF65Mc) about keeping calm under pressure. <https://www.youtube.com/watch?v=R8srJcF65Mc&feature=youtu.be>

**TALK:** About a situation when you've felt under pressure or anxious. What was the situation? Why did you feel that way? What did you do to help get through it? Do you have any techniques you use when you feel that way? How successful are they?

**DO:** Create an instructional video to help someone keep calm under pressure.

Use the information from the video to create your own strategy - come up with a breathing technique, a specific song to hum and something specific to focus on. Once you have decided your personal strategy - create your video to help others.

**16 Dog IQ Test**

**WATCH:** [*How Smart is Chica?*](https://youtu.be/mTUHen2_tLI) <https://www.youtube.com/watch?v=mTUHen2_tLI&feature=youtu.be> Then follow up with [*How smart is your dog?*](https://youtu.be/HyVLqH_VA28) <https://www.youtube.com/watch?v=HyVLqH_VA28&feature=youtu.be>

**TALK:** How many dogs do you know? How smart do you think they are? Rank all of the dogs you know from 'definitely the smartest' to 'maybe not so smart'. What are the things a dog needs to be considered smart? How would you invent an IQ Test for a dog? What things could you put in your test?

**DO:** Create your Dog IQ Test.

It must have 3 parts to it. Each part has 10 points. Contact the humans of the dogs you know and ask them to do your test and report back with a score. Which human has the smartest dog?

Do we even dare suggest you extend this to a cat v dog championship? 🐩 🐈 🐕 🐈

## 17 A Slow Write

**WATCH:** [The 360 degree visualisation of the Orion Nebula.](https://artsandculture.google.com/exhibit/a-360-degree-journey-through-the-orion-nebula/AwKSJ3vQWuSIJg?fbclid=IwAR30X1uvM_0fA8N2D9Bsk70UOALegeFBcOceaB_vPUA0wzJkK3MnNtlOz08)

<https://artsandculture.google.com/exhibit/a-360-degree-journey-through-the-orion-nebula/AwKSJ3vQWuSIJg?fbclid=IwAR30X1uvM_0fA8N2D9Bsk70UOALegeFBcOceaB_vPUA0wzJkK3MnNtlOz08>

**TALK:** What words would you use to describe the video? What colours can you see? Can we see the nebula from earth? How did they get that video? Why might someone be in space exploring? Would you like to visit space? Why or why not?

**DO:** Complete a Slow Write.

A Slow Write is a short piece of writing with only 6 sentences. You must follow the instructions for each sentence and only write one sentence for each. Work through the sentences one by one and really think about how you can make them effective.

1. Must be three words only.

2. Must use a question mark.

3. Must begin with a verb (doing word e.g. walking, floating, swimming).

4. Must include a simile (like or as e.g. he was brave like a lion; he was as brave as a lion).

5. Must be one word only.

6. Must contain an ellipses (...)

**TIP:** Scroll around the video as it plays to change your view and explore

**18 Invisible Ink Message**

**WATCH:** [*Invisible Ink Messages*](https://youtu.be/cWjikNbdRiA) <https://www.youtube.com/watch?v=cWjikNbdRiA&feature=youtu.be>

**TALK:** Why would anyone need to write with invisible ink? What would they be writing? Who would need invisible ink? What sort of message would you write? Who would it be to?

**DO:** Make your own invisible ink message.

You are a Secret Agent with a very important message. Write a letter with your own invisible ink. Use a lemon and a paintbrush or cotton bud etc. Get someone at home to help reveal your secret message. Don't have a lemon? Try some other liquids at home and see if you get the same result.

## 19 Facial Expressions

**WATCH:** This [animation](https://ed.ted.com/lessons/are-there-universal-expressions-of-emotion-sophie-zadeh) about expressions of emotion being universally understood <https://ed.ted.com/lessons/are-there-universal-expressions-of-emotion-sophie-zadeh>

**TALK:** How do you know when someone else is happy? Sad? Excited? Angry? How would you be able to tell if they didn't use their words How would you be able to tell if you couldn't see their face? What do you do if you feel sad?

**DO:** Sketch and compare facial expressions.

Stand in front of the mirror and role play different emotions. Change your facial expressions to show anger, sadness, hurt, joy, excitement, fear, pride. Sketch your expressions and compare them with someone else in your house.

**20 Bouncy Egg**

WATCH: How to make a bouncy egg. [https://www.youtube.com/watch?v=JbwPul86jjU](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DJbwPul86jjU%26fbclid%3DIwAR1YMsF6e78P1RzfREg7gF34rfxyDWUfuZ7AimBZg0uuP6S3toNDb_8wCzs&h=AT1XM9qS-Z8U2WZa_4UQ8MKJfVJOvDlFRFVy7ets-MRxDNjPVxKUWArTlB9AT25rXE9cM0z-swSyE7l8wDY6mcIKO9kr0YNFg7zNzQaBTI3XPMXo-cIFvLGQrZ5I7C3YZXvO_MDQjsOPiRlLu_0nF7gXrQ)

TALK: Is it real? Why do you think so or think not? What do you think is inside the egg? What has the vinegar done to the egg? Is it cooked?

DO: Make a bouncy egg.

Test whether or not the bouncy egg experiment is true by making your own. Follow the steps in the video. How many days did it take? Was 24 hours enough or did it need longer? Did it work? What happens if you cut it open?

TIP: Add a drop or two of food colouring - does that change the experiment?

**21 Making Butter**

WATCH: How to make homemade butter in a mason jar [https://www.youtube.com/watch?v=3a75ObmDsYM&t=8s](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D3a75ObmDsYM%26t%3D8s%26fbclid%3DIwAR2O2ZXKj29A25_iFPjAbE_gkFB6BfzRzLeH7K78aG36cKrGefSG71uOl_I&h=AT3eFSKYX_ys7K1XK7rhUre-cm1yJenaSWG4IMf7hwIs7Fj6Cx2o7Nhf-ZkFYX4zOe91uTQ_qTsGTTE_u5kALL3-vUtLchgjKiHMALbFpdRYAszzvNMZDCpBIHwoCm7k_OTeLBJsXJRWNhvOOiq93FLDxg)

TALK: What was the equipment used to make the butter? What were the steps? Can you remember the name of the two different parts the cream turns into? Would it be difficult to make butter that way? Could you do it at home?

DO: Make homemade butter.

Write an instructional text explaining the steps of how to make butter. Remember to include all the details needed including equipment, ingredients, numbered steps in chronological order. Test how accurate your instructions are by following them and making your own homemade butter.

**22 Origami Butterfly**

WATCH: Make a 3 minute origami butterfly [https://www.youtube.com/watch?time\_continue=30&v=cZdO2e8K29o&feature=emb\_logo](https://www.youtube.com/watch?time_continue=30&v=cZdO2e8K29o&feature=emb_logo&fbclid=IwAR2-YMQBXD-87CBOuI6W-phZYKbCjgO7DQW6-lXLJKtYeQ8eZxz_d7g5Z-A)

TALK: What skills are needed to do origami? What do you think origami means? Do you think origami is hard to do or easy? Why do you think people came up with origami? What is the purpose?

DO: Make an origami butterfly.

Follow the instructions on the video to create an origami butterfly, think about the different skills you will need to do it well. Was it easy or difficult? Go even further and find another origami animal to fold.

**23 Butterfly metamorphosis**

WATCH: The weird and wonderful metamorphosis of the butterfly. [https://www.youtube.com/watch?v=rcAN4rkTmNU](https://www.youtube.com/watch?v=rcAN4rkTmNU&fbclid=IwAR3C-lF6blyBCti1_WpHUXWl03Hqtnf5VnSmVW2ICdz1xeT-17fRb9BD5uQ)

TALK: What are the different stages in the life cycle of the butterfly? Do all animals go through the same life cycle? How about humans? What are our different stages in life? Do you know the life cycles of any other animals?

DO: Research the life cycle of an animal.

Choose an animal that you don't know much about. Make a prediction about what different stages you think it has in it's life cycle. Does it start as an egg? Is it born from its mother? How does it grow? Use Google to look up the different stages of its life cycle. Find out the correct names for each stage of its cycle. Compare it to your predictions, how close were you?

**24 What’s Inside?**

WATCH: What's Inside? by Dina Amin <https://www.youtube.com/watch?v=MPBTxc3HaxE&feature=youtu.be&fbclid=IwAR2em6bwzivnMJjcglkDVvJg86wJTYgPNcazfkiP_fFv5uvPYahEAU5ZuW4>

TALK: Is there something in your bubble that is broken and cannot be repaired? Can you find something like an old mobile phone or a broken electronic gadget that NO ONE will mind if it is taken apart in a way that means it can never be put back together?

DO: Try to take your gadget apart without breaking or snapping anything. Can you take it apart and take it apart and take it apart until every single little bit cannot be taken apart anymore? Lay each part out in a very very tidy, straight line kind of fashion just like the artist did and take a photograph.

**25 Regrowing veges**

WATCH: 14 Store Bought Vegetables & Herbs You Can Regrow. <https://www.youtube.com/watch?v=ZJuXpiEjdcc&feature=youtu.be&fbclid=IwAR1m0716s-NOjJ9NrYksEl7iy-WCufIO0yAlcmgJCEXG-WWiDNdfo2kAJE8>

TALK: About what's for dinner tonight. Are there any of the following vegetables or herbs in your fridge? 1. Ginger, 2. Green onion, 3. Garlic, 4. Potatoes, 5. Carrot tops, 6. Lettuce, 7. Leeks 8. Celery 9. Basil, 10. Mint, 11. Rosemary, 12. Oregano, 13. Sage, and 14. Thyme. (because these are the best to grow).

DO: Grow and observe a vegetable.

Because we are all here for four weeks we've got time to really watch, care for and observe something up close as it grows. Start early, make caring for your vegetable a part of your everyday. We recommend something your kids can see a change in on a daily basis - perhaps carrots or spring onions.

**26 Insect sculptures**

WATCH: How to turn stuff from your yard into stunning insect sculptures. [https://www.youtube.com/watch?time\_continue=2&v=oW804tc\_wm4&feature=emb\_title](https://www.youtube.com/watch?time_continue=2&v=oW804tc_wm4&feature=emb_title&fbclid=IwAR1b-tmK0_RXba-8rZoANpIlfNQ9arItY2qmd8-rk6eSf0Y-FGxUDDwY_i4)

TALK: What are the steps Raku takes to create his sculptures? Do you think they look realistic? Are they easy to make? How do you think he chooses which animals to make? What do you have in your backyard? What could you use to make a sculpture? What insect would you choose?

DO: Create an insect out of stuff in your backyard.

Go into your backyard/garden or anywhere you can access outside (with your parents). Collect a range of natural items like leaves, twigs, flowers etc. Bring them back home and lay them out. Think of an insect you would like to try to create and use your items to rearrange into the shape of it. What can you create?

**27 Lava Lamp**

WATCH: How to make a simple lava lamp at home [https://www.youtube.com/watch?v=SxAvnKutz2Y](https://www.youtube.com/watch?v=SxAvnKutz2Y&fbclid=IwAR3wHl39IxKl617SNVItBrQwXPeDh6CGo6ap9YUJFhM9Odb6POmkCE7FbO8)

TALK: What were the steps to make the lava lamp? What were the ingredients needed? Do you have those ingredients at home? Does the homemade lava lamp look like a real lava lamp? What are the differences? Do you think this experiment will work? What causes the experiment to work?

DO: Create your own at DIY lava lamp.

You will need oil, water, food colouring, vinegar and baking soda. Was your prediction correct? Can you find out the science behind the experiment?

**28 Sea Turtle**

WATCH: The Survival of the Sea Turtle [https://www.youtube.com/watch?v=t-KmQ6pGxg4](https://www.youtube.com/watch?v=t-KmQ6pGxg4&fbclid=IwAR3G8BI-hL2vKCVeSaMi8mfvXkVZ9mvrGjbcNmQw653QPt3S4FROfsnQPFE)

TALK: How long have sea turtles been around? What are some of the dangers they face when they hatch? What are the predators that hunt them on land? How about the ocean? How do human activities effect sea turtles? Do human activities have an impact on any other animals? Which ones? Why? Do you know any other endangered species?

DO: Create a brochure about an endangered animal. This is an information text, remember to include titles, headings, bullet points, paragraphs and pictures, Use WWF's Species Directory ([https://www.worldwildlife.org/species/directory?direction=desc&sort=extinction\_status](https://www.worldwildlife.org/species/directory?direction=desc&sort=extinction_status&fbclid=IwAR04B3e0p25wanMyB7Ta-5h2PHxZ-R5WEsv_afl9aLvUwInTt7tWGgyGe_A)) to find an endangered species you are interested in. Click on the animal's profile and find out the animal's endangered status, how many are left, the animal's height, weight, scientific name, habitat, threats to life. Once you have all of your information, use an A4 piece of paper folded in 3 parts to create your brochure.

**29 Chocolate**

WATCH: The History of Chocolate. [https://www.youtube.com/watch?v=ibjUpk9Iagk](https://www.youtube.com/watch?v=ibjUpk9Iagk&fbclid=IwAR0HJokV0RgTG_9fcSXlIEMwiiCQ5SnNMNDpgxeoJ69kxgFtxTX_PBdSkk8)

TALK: Did you know that chocolate had such a long history? Where was chocolate originally found? When? How long ago was that? What was the first European country to travel the seas and discover chocolate? What are some of the issues around chocolate's production? Is it fair for children to have to work? How about slaves? Are there any ways we can make sure that the chocolate or other products we buy come from somewhere fair?

DO: Create a timeline on the history of chocolate.

Use the information in the video to create a timeline about the history of chocolate. Be sure to include key details and dates. When you are finished, do some of your own chocolate research - can you find any other key dates in the history of chocolate?

TIP: Need help creating a timeline? Check out this short video on what they are and how to make them: [https://www.youtube.com/watch?v=xc64qurhFng](https://www.youtube.com/watch?v=xc64qurhFng&fbclid=IwAR39Ny8KcAGp-p9sj8QcttTKGAv8IWuUn0I4UkS_lcuC95qJU05TQqvDbWI)

**30 Ants eating Banana**

WATCH: This Ants v Banana Timelapse. How long does the experiment last? You can see by watching the timer in the bottom left hand corner. <https://www.youtube.com/watch?v=y0HbnYPydnc&feature=youtu.be&fbclid=IwAR2VhmqsaCwQv6MypEJWosRJ3z5Oi_COi11IcCeV93bwpZorti735zBdus4>

TALK: Look outside. Do you think there are any insects out there? Has anyone ever seen insects outside? Ask the grownups in your bubble - when was the last time there were lots of ants in the house? Did you find the ant nest?

Before you do the next bit you need to definitely decide a good place to do this experiment. It needs to be a discussion with grownups not a surprise for them.

DO: Recreate the experiment. Find a small piece of fruit (the example only uses one small slice of banana🍌) and a place you can put it that isn't going to make the bubble grownups grumpy (just a hint - this is probably not an inside experiment).

Make a prediction: What do you think your piece of fruit is going to look like in 57 hours?

This experiment lasts for 57 hours so you need to set an alarm so you can take regular photos (perhaps every 30 minutes?). How will you take photos when you are asleep? How will you make it so you don't disturb the insects that come to visit?

If you know how to make a time-lapse then you should definitely do so at the end of your experiment

**31 Cloak Makers**

LOOK: Rangimārie Hetet and the women in her family have used their talents to create the most beautiful cloaks. They are national treasures. Search on [DigitalNZ](https://www.facebook.com/digitalnz/?__tn__=K-R&eid=ARC_NahV0lVc8CGy5Zu3WquCYi-jQou54Fde4XbJCOmHXSCl8QauOoXH9pBMJQHsohN1wKpIoMJRwWe_&__xts__%5B0%5D=68.ARCtZp6QC_PJBpvmwEHT3q0X_Uimts7RN9KpK6Ymj5BwPemfDnD8HTKqLt1xbB-qIwK__SzeQBPP6lpzVWuyqVWIl84_GFR0ZDnC8s8YQVXr46G8j1FZon0XhzNg-wl-fU_zCm1ZX4Sjz2C_DpxCRSK9zXJLIIUBblxFymxiGQGp8PoR0Gqnxm5GDj9USaRPNckDiFNnbHWC4th5O2Qg2J1aFk_6o5vniWLdYx22AS1o-Z6JQJVR7y7rlwtTAKZK4PxHr3u1JziGt3m7gOhr96uZiFReas9bUsh1j-hB5HKGcSTWpqL6qoNs6FNGh2WQIvUtiLXDNXH_KYW6Ef7YZIrYNVKUcGTPoYyfbeUhClJDnVcj7ttrLqk) - first for the name Dame Rangimārie Hetet and then for the name Diggeress Te Kanawa. Your search results should show you a whole range of beautiful weaving You can find the search page for Digital NZ here [https://digitalnz.org/explore](https://l.facebook.com/l.php?u=https%3A%2F%2Fdigitalnz.org%2Fexplore%3Ffbclid%3DIwAR3h1DoOVHgW02_ZvKH8q49bhNffKMTowTcIhFPNcXFJ7L_WUDmO96k-hy8&h=AT2VBYuPXwCiRIDIF9LAEVrYJmbJDwbhd0rxB9SYAwbumB3Lib-jvOzjJ4oF7BoOXPHI-Hlwbn8ZB6GBEP6J3213oT9_EvxxGelq9Z3EO4PxSJkTelKtWTPdbkjFdSXw8-cPkr4ifIQMvJVL4mHjzctqU-OmkdP6fICYeUZf5Han4YhzgScHF9i8j1R3Ps4c1ZaQK7lsvhGoSxDZTJqL-r0PMzWuUDqqqOxlDjlHMWQBzTHuCOfjOuauSamf2vXFUIQObuSZw8XlK2RHk_zl7s1Q1QTveolWDuZsHz0kJQZsKD6yVp_6qcdCnkxGL0gZXe9X2rJBlCCmwHRuANTr2NSugmfiqgJYoEIV3e3m8YUdZjEs2MCuyUWHmJgNuinsttcKZDkVqdlKbuSqlsUq7-czqEBf6Bvs_X2MKP_8v-Xgvkq_V-_UV-M9xkZNABM4xsBWHJIhCnUE00Z8wY2o8tTNaFP1NL7WJ1nOcLs99P8RkJC_iwP6fArbQYOrM-waiAQrMGuhjZAMcbu7_5dLh9SABOcJ-uTMndrC5Mo2a7DrBrSyQ5CWzS6Kt6PTlwCUgcRxKDeHOr8ZqMYm6XlTVH3-0BX6AfEwyolzTw6g8ygVcGkeT75-0XxZzykIuVmU2ih2JgVHbEWfpn-63VfiJ_C21qA7L6Bbokk)

TALK: Does anyone in the history of your family have a special skill, did a special thing, or had a unique talent? Does anyone have anything named after them? What about a sign or a street name or a plaque? Has anyone ever been on TV or in the newspaper?

DO: Register for one of the free online weaving courses at [The Hetet School of Māori Art](https://www.facebook.com/learnmaoriart/?__tn__=K-R&eid=ARBhrt4XORO96I5Rzh04omSgYpVBaZU1rjaa8EV9sGiGY_ygCvGeRkIZw9AeAfiNzvFEMJgfXrSyPnYa&__xts__%5B0%5D=68.ARCtZp6QC_PJBpvmwEHT3q0X_Uimts7RN9KpK6Ymj5BwPemfDnD8HTKqLt1xbB-qIwK__SzeQBPP6lpzVWuyqVWIl84_GFR0ZDnC8s8YQVXr46G8j1FZon0XhzNg-wl-fU_zCm1ZX4Sjz2C_DpxCRSK9zXJLIIUBblxFymxiGQGp8PoR0Gqnxm5GDj9USaRPNckDiFNnbHWC4th5O2Qg2J1aFk_6o5vniWLdYx22AS1o-Z6JQJVR7y7rlwtTAKZK4PxHr3u1JziGt3m7gOhr96uZiFReas9bUsh1j-hB5HKGcSTWpqL6qoNs6FNGh2WQIvUtiLXDNXH_KYW6Ef7YZIrYNVKUcGTPoYyfbeUhClJDnVcj7ttrLqk) that women of the Hetet Family lead. Find the course here: [https://www.hetetschoolofmaoriart.com/](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.hetetschoolofmaoriart.com%2F%3Ffbclid%3DIwAR17fUtAeoHVBN0-zeNriHO90pii6EuQENhTOwBs91VBAhm3hkOA-qe77cI&h=AT2CsxV2omo6WYi9Y9kLS1s2G6JfcPgYbiaNa70Zey1zTSsX9venZI0qspxoJPAiR0eFvOHS58FEHax8qse_4ASEK1r4S245IZpoucVpWSrQeAFknfkGhpcXCDXeagiLKRffMfFHEjbYBK9_NW3WF4O2HSydGt4ka4RRbAHWj7BLe1z9ygE2Fi44tzDvGMopkkVvn-taHDZWRUB8C_U13fJBByjsm1p3RfX2Zj-yvZbbcSTAfCoP_lf5IhNNqeFO4l06m8A-Zdng10WuqB0nBqAxVEYET__I_XlCWQWohtMv4JnVDA4UCFkFKPpdqch6AqxnryyxJiBU6IBbKwGoMdu-OOmekSI-olLQTM3zikqxJ0Hreg_bItU-dOpWiacDXrSPQTAFU-F3TqtbgRX2VhMXgxut5ah0t4UXZcK63D9-4RKPJ9j4xOszUAvtssSuHgArg2OolP0qzs9CPwnduQqMng-UkNoK1sddL38N9AMLKG6zoTbvM-4Nun0sd1su4hq6_Sra0FQozeWey6U5Y6uia4P8xXv4wUVRVBvireXbDKAscDBz5hKc2vHt_DuauxQldV9TW5D3bHOF0HieUE_UvVvWZIaMN2iB-kkw3h56AAzRFvtzlmaRYsQ5VvmTDdsD9fDX6kz6CWWGIEiL-eCHNbhy6AuF_Jo)

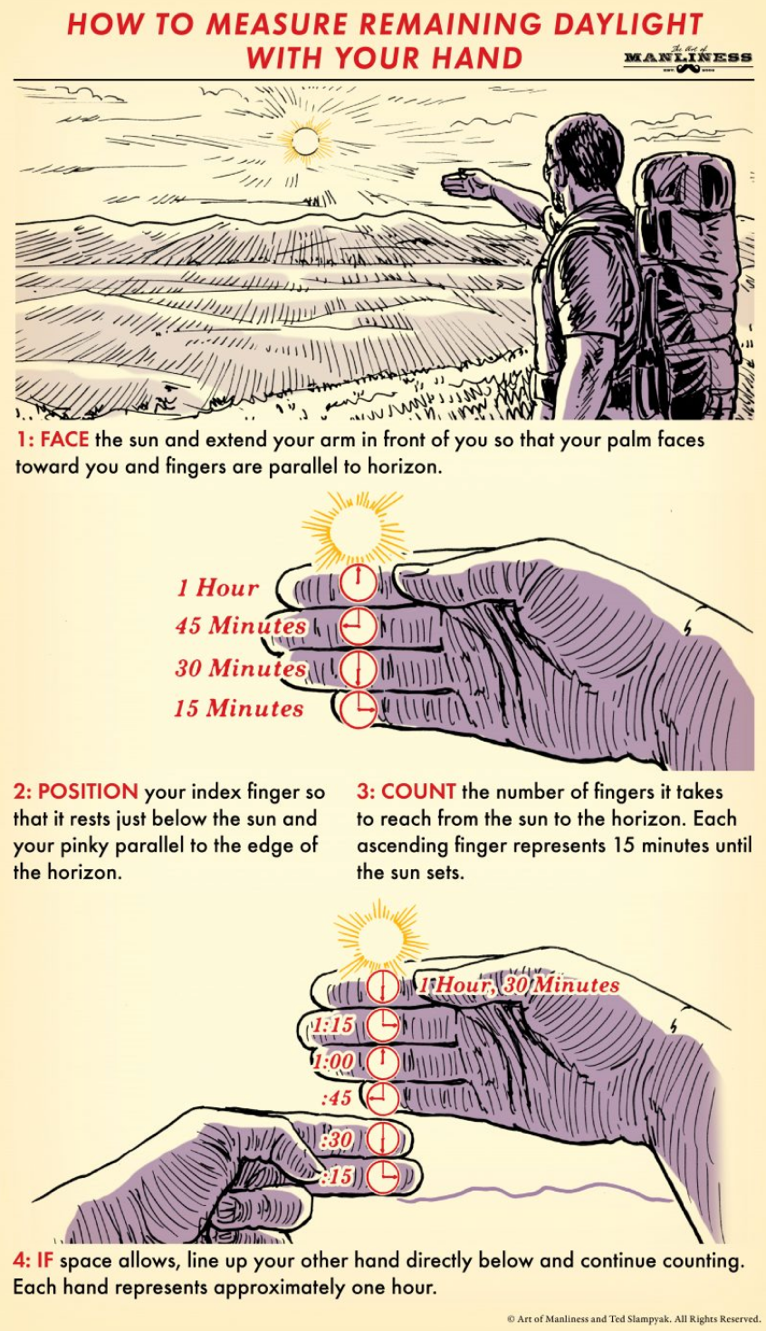
Experiment with whatever you have at home - firm paper strips, florist ribbon, stiff fabric, plastic baling strips, other plant leaves.

“I let it be known I was prepared to teach anybody who wanted to learn” - Dame Rangimārie Hetet

**32 Measuring Time**

WATCH: Read the instructions for "How to measure remaining daylight with your hand"

TALK: You’re in the woods near the end of the day and you ask yourself: should I set up camp now, or do I have enough daylight to keep going? But you’re not sure what time sunset is, and therefore how much light you have left. There’s a simple method you can employ to find out how many daylight hours there are before the sun sets. The cool part is that the only equipment you need is your hands.

DO: Test out this method. Does your location make a difference? Would this be the same if you were in a forest? On a mountain? 

**33 Slow motion**

WATCH: 360 Slow Motion

[https://www.youtube.com/watch?v=bVx-PFkDf\_E](https://www.youtube.com/watch?v=bVx-PFkDf_E&fbclid=IwAR0x0hjsBK6MCqOPdHeaZqQuY43CkZCzB_3NatrPWX6treH0F9q-RhlafFQ)

TALK: What did he use to create his videos? Do we have any of that at home? If you were going to recreate this activity what would you use? How would you set it up - would you be able to film 360 or just from one spot?

DO: Make your own Slow Motion video.

Talk with the adults in your bubble and decide on what objects you want to drop into what liquid - think about the mess! A lot of devices now have the ability to film in slow motion... you may have ask an adult in your bubble very politely to use their phone. Find out if one in your house has it and get going.

**34 Scent**

WATCH: AHA!: Capture a scent. [https://www.youtube.com/watch?time\_continue=69&v=uaSMmMhu7mE&feature=emb\_logo](https://www.youtube.com/watch?time_continue=69&v=uaSMmMhu7mE&feature=emb_logo&fbclid=IwAR3X9Lk-vv-yzguP54Z8mX8sZe-qoCSpC15F3r90DQZOTMBgNLK5PguBP2I)

TALK: What smells do you like? Are they at home or outside? What would be your favourite smell? Why would someone try to capture a scent? What would they use it for? What scent would you try to capture?

DO: Capture a scent

Go on a mission - either a walk around your house or neighbourhood and collect some different smelling things. Bring them back home and trial the experiment! Did you manage to capture your scent? Was it as strong as the original scent?

**35 Paper planes**

WATCH: How to fold 5 incredible paper planes. This video is a bit longer than usual but it is well worth it for the activity it inspires! [https://www.youtube.com/watch?v=JhYZy1ugI3Q](https://www.youtube.com/watch?v=JhYZy1ugI3Q&fbclid=IwAR1gC-ve3E7SGUknmgpeyAirny-Yk5ua_pspLH4ijLc9KImt6xlQtvbNZmI)

TALK: What plane do you think is the most exciting or interesting? What one do you think does the best tricks? What happens in a competition? What about a competition for stunt planes? How could you judge them?

DO: Create your own stunt plane competition. Follow the instructions in the video to create the 5 different paper planes. Allocate a panel of judges (try and include family members if they are free), choosing a scoring system and categories to judge them off - these could be height, flips, distance etc Hold your competition and find out the winner.

**36 Water expts**

WATCH: 5 Amazing Water Experiments [https://www.youtube.com/watch?v=kEHdyiBMgAg](https://www.youtube.com/watch?v=kEHdyiBMgAg&fbclid=IwAR3bto90raRR3ckj7-dfW17nQge7WeWjDPwsvxXVUtC--uNzvSLbfAu1B9c)

TALK: What did you think about the experiments? Which one was the most surprising? Did you already know about any of these? Are the experiments real? How do you know?

DO: Test the experiments. Choose one (or all of the experiments) and put them to the test. The video has shown the steps, and the result but how do we know if it's real? Make a prediction for your own outcome and follow the instructions on the video and see if they really work. Don't forget to report back and let us know the verdict.

**37 Aurora Borealis**

WATCH: A lunar eclipse & aurora boraelis over Alaska [https://www.youtube.com/watch?time\_continue=54&v=HfadNyZgl2s&feature=emb\_logo](https://www.youtube.com/watch?time_continue=54&v=HfadNyZgl2s&feature=emb_logo&fbclid=IwAR0mMVMu5GCIDOm4-g416baf99Aa7AwiigW-pNX34ETTZ0C5w9BDQJghR8s)

TALK: What is an eclipse? What is aurora boraelis? Where abouts can you see them? Can you see them in NZ? Describe the colours you can see. How would you describe the movement it makes? Some countries have different names for it like 'The Nimble Men', 'The Merry Dancers', 'The Green Lady', what do you think of these names? They also have legends around what causes it. What might these legends be?

DO: Create your own legend of what causes the Aurora Boraelis. Think about other legends or stories you know - do they have a main character? Is there a big event or a problem that needs to be solved? What happened to end up with the lights? What do they mean? Is it a message?

**38 Te reo Māori cards**

LOOK: Check out the 140 words on the cards in this [Tinycards](https://www.facebook.com/tinycards/?ref=gs&__tn__=%2CdK-R-R&eid=ARA54rDRFErWrq72jMgXAReJSE-ZVZoVQWOHqaUr5ygWNQOcKmloIS_h_63tvXPR6xzXc6QquMu6Huxk&fref=gs&dti=261599868174534&hc_location=group) stack. They are the first nine weeks of words from the amazing Māori Made Easy textbook. If you are a bubble who has fluency in the Reo you can obviously take your vocabulary list up a notch.

TALK: There are 140 words in the Tinycard stack. How much Reo have you heard in your bubble? Interview each of your bubble members - how many of the 140 words do they think they know the Reo Pakeha (English) version of? What do you think about practice? Can you learn anything if you practice it enough?

DO: Use the Tinycards website (or download the app) to work through the lessons. Each lesson is especially designed to help you remember the thing you are learning. Can you practice enough to get all 140 words right? Do you think Tinycards is. a good way to learn or would you rather learn these words a different way?

This could take a whole day so if you want your kids to learn on separate devices then we recommend downloading the free app [https://apps.apple.com/us/app/tinycards-fun-flashcards/id1109425556](https://apps.apple.com/us/app/tinycards-fun-flashcards/id1109425556?fbclid=IwAR2hX9crTO1zcFL7-Dmvm4YCWCxeWjgQwU0af5mcWJw-GI-6cwr7Q_hwgUg)

**39 Octopus**

WATCH: [O](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DoSyEZAm8nb8%26fbclid%3DIwAR2-PEYJ5sOdOIN8_ZmvCk8Azh08tAibXEaz11tNG8pAMgw3hADdN_5OgqY&h=AT3Q0pFyxima4r8w27tgf4fJufXRDt9XVQTFoYkC5Ji5BE8L9erFiUY-8_sSL43QYRHt3-KFobIwngIgH6kVQYTXxdAkzJ2NvvRQyE-h43jvN_mFCyNxhX8ejXXWS-8QYNsOVQtdqAeXY0mJ4ToOkVkg9g)ctopus 101 <https://www.youtube.com/watch?v=oSyEZAm8nb8&fbclid=IwAR109B8Txe2Hcz0emkJh9ZVwExgNO5aa9f9xazIhwxLB4XYVj0lUgJEgxS8>

TALK: Blue blood... 3 hearts and 8 arms. Who wouldn't be fascinated by these amazing creatures?

DO: Learn what you can about the octopus, share your findings with others in your bubble.Face time, zoom or Skype a relative to tell them what you've learnt.

**40 Bash Boom Best debating**

DO: Download the official Bash Boom Best scorecard and get ready to listen to the Piranha vs Venus Flytrap podcast. You can download the scorecard here: [https://bit.ly/2VDvqPx](https://l.facebook.com/l.php?u=https%3A%2F%2Fbit.ly%2F2VDvqPx%3Ffbclid%3DIwAR2zQVaGYlREyEbttFRl_1tO-VzmNL0z6EX1U34cFxMNxYu_taqaTwC5Gf8&h=AT11Oa9RrxrBcykKmKiqvuRnqmuoKYJ60p-Xbke0CoSyQ1zreJMmqacn0WEsD5hIYCi7Fnk9Z5dNPh9WpQjhnyD4550N4_NRit_qHhi_ScgI1yPzaGpnHDPgTSApp_lSct6jBhVzVint8JynlTyuWs89WA)

LISTEN: To Smash Boom Best - Piranha vs Venus Fly Trap podcast by [Brains On](https://www.facebook.com/BrainsOnShow/?ref=gs&__tn__=%2CdK-R-R&eid=ARAD_cmpullL84uSv44cJ1Av4xK1pfUcuvfRHeQtDx2TsgxMvc6xdRE_Dc0wsMwiBU9253FQdPhQ331g&fref=gs&dti=261599868174534&hc_location=group). As you move through each of the 4 stages - Declaration of Greatness, Micro Round, Sneak Attack & the Final 6 - complete your score sheet.

TALK: Who do you think the winner (victor) was? Who had the best argument? Why? Who is the best arguer/debater in your bubble? Does anyone get their own way more often because they are very good at convincing other people they are right?

**41 Design a Fair Test**

WATCH :[W](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DHHuTrcXNxOk%26t%3D159s%26fbclid%3DIwAR1C3FJpx5YwkYZjw2px7lT0dRInZkxEnkF_QEZP-LFLRuasoNYHOslpS-M&h=AT1FVtSoA_Nc4h5ZiRLRIO6Lkd8XpJtbTBgaragMEpzyOyWqqxM-315EExguBdkDzMc6_bLy5w8h27sTEO4NA2v6_BQRzALJMKO9lJ6P62WRJiFNbga_LQXZ4fCUhwswVx1sCV-37zeY7KrbzS54fXB4cA)hich is stronger: Glue or Tape? <https://www.youtube.com/watch?v=HHuTrcXNxOk&t=159s&fbclid=IwAR0oc8SOuSBealgPq_JYc1iEwPi6P4p2HUR_vR2iPfRRd7Q1XmO0VJv0COY>   
TALK :The oldest glue in the world is over 8,000 years old and comes from a cave near the Dead Sea. Today, we have enough types of tape and glue to build and fix almost anything.  
DO : In your daily life, which do you use more often: glue or tape? Make a prediction of which is stronger...design a fair test to answer the question.

**42 Northern Lights**

WATCH: The Northern Lights in real time <https://thekidshouldseethis.com/post/aurora-borealis-real-time-yellowknife?fbclid=IwAR3g5l6jBn53Ze1JZp1nFtxwnzOHBYvU0ooiIOrTrQGbVvA-03nzRNhp4-g>

TALK: What would you think was happening if you saw the Northern Lights over your house? Does anyone in your bubble think the stars have looked different in the sky during lockdown? Has anyone in your bubble ever seen a shooting star? What about a satellite?

[D](https://l.facebook.com/l.php?u=https%3A%2F%2Fthekidshouldseethis.com%2Fpost%2Faurora-borealis-real-time-yellowknife%3Ffbclid%3DIwAR0ThvrwcMz4SOb5lW2LnZJLxGhdjOTmUpKDcb9CIqX8P91WqoOiScnXgg0&h=AT04R_08UE7w-4cNBxXsJ3sXenflvi_9QiQFhojbI7SR201s-JrB-arrXmoT-epZawzALg6mq0u5T7PDnaFgt2AwMyPJr69lXB0IG5zQ9spYuAXvMUlc8kfpnL8g_wMi5aa8XJbPiKAbK-rsc_vXcthF9OuKfYBi3q-AoQ-f)O: Work out what time is it in Churchill, Manitoba, Canada. Go to [https://explore.org/livecams/aurora-borealis-northern-lights/northern-lights-cam](https://explore.org/livecams/aurora-borealis-northern-lights/northern-lights-cam?fbclid=IwAR3wZhqqBWITmkNV4rlZOGstWiowSArlcxx5zS7QjuMcaZ_Sk98Pd8PloL8) to view the Northern Lights for real. Use this link [https://www.timeanddate.com/astronomy/night/](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.timeanddate.com%2Fastronomy%2Fnight%2F%3Ffbclid%3DIwAR1gfkVbQRX1nXdBaYcISQxnNum6qjk_5yiCU-BwoIWr6khzRcgIKWYVkFg&h=AT2okXL16A28rl7HOHoSw4FHI6EarHUGk7lj4wyPtB2-1yGaYD31XcDOa_FyLLxtkDSF6aUZHBSmvb7f7yYCVLpoqjErgVwbxmd51Amu-L5B7dpceV_Wz5XguhYUo9tblSSUEAl1Fd4Fq8lzgYQJ8xRHY4A) to see what stars will be in the sky tonight directly above where you live. When it gets dark see if you can match the stars on your map to the ones in the sky.

**43 Metric System**

WATCH: Why the metric system matters [https://www.youtube.com/watch?v=7bUVjJWA6Vw](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3D7bUVjJWA6Vw%26fbclid%3DIwAR30IlRBI5ez0zHcrL8QRjz_AaANajWmMv-O3PbDu-R5PeYx7oG2Ixi1O04&h=AT12QR_TYAJMB-eGzkjLVs8tikHC1kvljS2GgtPhSGWJNE936vv52V4w8YltCFuluf4bgzQejXDq87Kjby91_QmGFT_VQf6tdqbT25dl7lJ0yqp8ALU6xEdi-BWq6EiIbUJPYb6k4XCE7toQUCuaOTX7yUs)

TALK: How do we measure things? What things do we use to measure? How do we measure length? Does everyone in the world measure things the same way? How can you measure if you don't have a ruler? What else could you use to measure something?

DO: Create your own units of measure. Find 5 items around the house to use - it could be your hands, a pencil, a book, a cushion, a cereal box - anything! Use these items to measure different things in your house. Find out how many Weetbix boxes tall is your TV? How many pencils long is your height?

**44 Plant Movement**

WATCH: Time-lapse: three days straight of plants. <https://www.facebook.com/groups/MisteriosDeNuestroPlaneta/permalink/2386055735018834/>   
TALK: For people, movement is all about nerves, muscles and bones. Plants may not have the ability to move like we do, but that doesn't mean they can't move at all. A seedling can make a right hand turn within hours, a tendril can curl around a stick in minutes, and a Venus fly trap can catch its lunch in under a second.  
DO: Photograph your plants from exactly the same spot every 30 minutes and see if they move. Stitch the photos together and see if you can create a short video of what you see.

**45 making Colourful Flowers**

WATCH: How to make colorful flowers - science experiment [https://www.youtube.com/watch?v=GXyLfjE-wnU](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DGXyLfjE-wnU%26fbclid%3DIwAR1Sh-MrO4NHy965kJIc6eAg_vWQJEXPhQl9_bTUaQ4Yp2gpqHutI0LjDSE&h=AT0qq0qrDQEkPDoW1SbYgnSucpCvnAG3CdX6vmKaJXGZFX7xVpEhCVUzJ2lQS2PChLhGZQdSvCODUECHB9uBqVg4rlfOTEee4Jr0z-6nqvY0CuYLsFaoXU67_v0bGCQj2rHP4pfIo8-HDawD_nGcQosOBmQ)

TALK: Do you think this experiement is real? Why or why not? What might make the flowers change colour? Would humans change colour if we drank different coloured liquids? How do you know? What do you need to complete this experiment? What are the steps? What do you predict will happen? Are there any different ways you could do it? Could you do multiple colours with one flower? Does it only work with white flowers?

DO: Change the colour of a flower. Go on a hunt for flowers - if you're lucky you may already have some at home, otherwise go for a hunt around your property or for a walk with someone in your bubble to collect some flowers. Try and get a few different types of flowers, different sizes and different colours. Bring them home and try out the experiment. What were your results? Were your predictions correct?

**46 Tour ISS**

LOOK: And tour around the inside of the International Space Station on Google Maps ([https://bit.ly/2SOyIig](https://l.facebook.com/l.php?u=https%3A%2F%2Fbit.ly%2F2SOyIig%3Ffbclid%3DIwAR0tCFNek1e-l9h-3ySXYsW85gg4uU5skYLIdGb1o0W7GQmJj5lH_1VS79U&h=AT2ZoO3IPC8tu3BtEF99OcQ1nKU3QqSFpHyHaYVCDJPwvbbH2CtTjWm76oPcSfFYA1aD7mpxLxPhfoCM_PJtWToEDIHf-bvQ3uqYo3l1XF6CBePlLFlU0kQVu5tfalb21tezcXe8R-E-HrE7n_13Cc4THMKppPHZ6JqIr2XDxQt3vKSL4ePnZ5X-uRnBcWpAEXS4i2tX0g1sw3-avxujIIUEbZ5VnCWpdSuUyPAAAiNOQ73cxY8M8PX4IvOvbPmuKa4-JTiXIGAptn6o8cxqLCtsIVg8RDn7uGW9SRSE4ipC0bMIzAlyoFwl-htZOWy4E1w49s_IYtoA-F1l5SkH-TkWl2VIT8ssv5LP6lzX2sPSULL72ghHv-BFd4Q4mgK7U3aMSM31he0k2xUhSWKpWn_lj35d3T8Prq1SkXF3pQRv47-qC51VuOjhuxg4YiHyQlG3V2SFS2VaX2onYt2tFnhoN3_j01T2CNkJnzpUHs72IDS8KjGq90HsF5eFWqGPvxt_d2_gcMSfLze9GRQQ-f79OC62gh1e0hOwOjtmez-wkeCBcL_Wp-ujRVliwwcMmcUY4KzfpKs3UCMZbfHo0pr32nJJnSlghuh0PqGBRbdXagGO1HOtb3Q4zPiHoQnPqV5kOlSyL09qnJhO71GGUpKEXGXW8UQO42s))

TALK: Could you live in a space station? What would be the best bit? How long would you like to be away from your family? What do you think would be the hardest bit about being weightless)

DO: Listen to Ada Twist, Scientist read aloud by an Astronaut while they are actually in space. (It's Sunday - sit back and enjoy this wonderful book).

**47 Zoom**

WATCH: Whats the Zoom? <https://www.youtube.com/watch?v=Ac0Tp2-7rU8&feature=youtu.be&fbclid=IwAR26Z-1lOvDluRqx2uKsA3W-4VblT4ZP0ddk-QLXJePSvSM1D6mtS1IOqfU>

TALK: Zoom or team video calls have become the norm for teachers, kids, parents - pretty much everyone. In this video you learn how to play a game that shows extreme close ups of different things, and you get points for guessing. If you need more of a clue, the camera zooms out...but you loose points.

DO: Design your own game. Select a theme - animals, toys, things in the kitchen, what you'd find in your desk at school. Make your own version and share.

**48 Plant Fossils**

WATCH: DIY Plant Fossils [https://www.youtube.com/watch?v=rj\_W6k6Y7-4](https://www.youtube.com/watch?v=rj_W6k6Y7-4&fbclid=IwAR0-3bnHX7K6eV3RbgxFFUO6CnT2ce7FGH6jehSileyKoR38rI3mZm8F6BU)

TALK: What flowers/leaves would look best in the clay? What might someone use one of these for? Would it look good painted? Mothers' Day is coming up this weekend ... could this be a nice gift idea?

DO: Create your own DIY Fossil.

Don't have clay? We've got you sorted, check out this video to see how to make an easy salt dough with ingredients in the cupboard - [https://www.youtube.com/watch?v=L7sH9bj-fl0](https://www.youtube.com/watch?v=L7sH9bj-fl0&fbclid=IwAR3n6bYvQTd7LhYeR7e6PpwfKSasbETqZo1LVavm_nwYgQCZiWoRk3ChWv8). Collect the flowers/leaves you would like to use in your fossil and get creating.

**49 Pūrākau**

WATCH: The Fishhook of Māui by Peter Gossage. [https://www.youtube.com/watch?v=Nb9Y99KQG1k](https://www.youtube.com/watch?v=Nb9Y99KQG1k&fbclid=IwAR0BPy3wmsLScNLVr07V8GLweuHHNeWlsB1WMzWUfVCbDyNZwEOIKeQfCqk)

TALK: Pūrākau are an important part of Māori culture. They play a big role in the history and identity of different places in NZ. What are some pūrākau you know? Do you know any from your local area?

DO: Research pūrākau from your local area. Use Google to search for Māori legends around where you are from. See if you can find any links to names of any geographical point like mountains or rivers. Share your favourite with the other members of your bubble.

**50 Star Projector**

WATCH: Hack This - Star Projector. [https://www.youtube.com/watch?v=rlp6aGcZvBo](https://www.youtube.com/watch?v=rlp6aGcZvBo&fbclid=IwAR2_TrgNO9-03pXymOrqsP7OhnOE443Yw-CDu4CK0FOd98luluG_1FTsJ1I)

TALK: Why are stars important? How has the night sky been used by different people over time? What is a constellation? Do you know the names of any of them? Have you seen them in the night sky before? What were the tools and steps to make the star projector? Could you use any alternative materials?

DO: Make your own Star Projector.

Look up some of the different constellations, choose one, or many that you would like to create. Follow the steps on the video to create your own star projector. If you don't have all the different materials he used, try out others that may work like paper instead of tinfoil, cardboard instead of craft paper, torch on a smart phone rather than a torch etc. Use what you have at home and try it out!

**51 Koala Forest**

WATCH: [T](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DEYzKasnphEs%26feature%3Demb_logo%26fbclid%3DIwAR2GoiZ-q0Bxf3GN3CLJL9olJOyU9pOFZqwTKtGYkMeI1GrzPnnQYyswaQE&h=AT3ICfRS-GfZy-zUA3MrhczyOQl80bzMymeeD5RT9Zipb8jF2YvZTT9bX1-8F7Fawk7vR5aVfeSQRVGOU5awzFTWvZdTGTjkqrwFhTv1kry-vvo5o8zpTj7U53ZXc1T6L1lMpp-I5oYfr8HA4gAut1LHbp0lET0g9SNmzsWf)he Koala Forest <https://www.youtube.com/watch?v=EYzKasnphEs&feature=emb_logo&fbclid=IwAR3Ma1cVR8Kuh5z5AEDVuoSnSE2znXaMczfigLNtyiJtOxkLVTdWibkSfIc>

TALK: Female koalas are smaller than males and have beautiful, unmarked white chests. They have a pouch where their young develop for the first six months. The pouch faces downwards, just like the pouch of their closest relative, the wombat.

DO: Keep an eye on the live cam in the [Lone Pine Koala Sanctuary](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fchannel%2FUCGL4W-Vvt7ndk-XrPQ1im_A%3Ffbclid%3DIwAR1xM4TGWBUIMqhR7Znr1Y59FCXGvIjH5QJSTyR7TJcBH8JM5a-h689-IPY&h=AT2JU62IbpAuEiGuvC67ymnodaGSfqebR-CMIU_2YhF-j43UMlbbkLW0g8TftCxSzTVMWxitYB7zsmomB4ng4bnvFSTZRH1ysRUONQuhc1ess4UKOQDytUexsSAFQTsTxXoWDJrSCXcB78cwATL2HvcOo5rEguh9ziY9YDav). Make a note of what you see...is it just koala? What other creatures can you spot? Create charts that show how much food "your" koala eats, the other creatures you see, how many times the koala move and any other interesting things that happen in the enclosure.

**52 Rock Structures**

WATCH: How does Michael Grab make impossible rock structures?

[https://www.youtube.com/watch?time\_continue=252&v=puv\_cHwT22Y&feature=emb\_logo](https://www.youtube.com/watch?time_continue=252&v=puv_cHwT22Y&feature=emb_logo&fbclid=IwAR34tbMH-IpDbJ8miCpP3S3NPd3RXgAOqJ80dDW03UTGVsTxkD9rZxSqcZE)

TALK: How difficult would it be to create the rock structures? Could he create them using other materials? What is his method for creating them? What is the purpose of the structures?

DO: Create your own impossible structure. Find the materials you want to create it with. Have a hunt both inside and out and source everything you need to make it. Think about the steps Michael Grab follows, choose the most interesting piece that you want to be at the top of your structure. Remember to try and balance the weight. Good luck!

**53 Bee Highway**

WATCH: [T](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DvchyKDuNk24%26fbclid%3DIwAR0gkSk0VsmMhq0pQGJZGq_p1C5LPx5YAkAVN-7uHYwOUp4zOT_7dd-a6MI&h=AT1OW6PMxEbm3cZMmwV9KHvFPVPuyyJ6DiDBzGPzO7lnuUsA5qlwCcI6lsJM9F4ZCkYll9ZSFbq8NViYy23nxLeGg5MNNLAlBOL4hkWNpUt4BBphE4b-SlsxaKId95Cd54gLzogfa3jiE9RowxCQh_sSU4U)he Bee Highway https://www.youtube.com/watch?v=vchyKDuNk24&fbclid=IwAR1C0xjy7h5bvgt6ZH9EE0R7cfynIqlcYZRcAvheebf3t5wLYP2AUMhn8cQ  
TALK:The bee highway is the first system of its kind designed to provide an environment where bees can travel through a city.   
DO: Plan a bee highway for your town or city. Who do you need to speak to? Write a letter to the people in charge. What plants should be used?

**54 Make a flip book**

WATCH: [H](https://l.facebook.com/l.php?u=https%3A%2F%2Fwww.youtube.com%2Fwatch%3Fv%3DUn-BdBSOGKY%26fbclid%3DIwAR315mXUQLpVPo1t7PxAuP1AuqxGPHjjzD3NPDPQNHA4JaFhEMFv4YjMReM&h=AT1AUQbq1ZksBXeIRMRao9bipFkRqujZThsLr8YQcZKpDndJC_1Rj-o3sDOJWNeuHIt-8Mq7ZF0MNUaQ3MUSPzEdQ22fz3RYtA-mm5smnnfzzGX7pGc0uNXb2qLayzrbBT5vsBfqrAMXODPISp79SmfnmQ)ow to make a Flipbook <https://www.youtube.com/watch?v=Un-BdBSOGKY&fbclid=IwAR38RdiNE6mRjgDqG3Jor65ik6z3BPqECWrtYdcsvCMpMh4q24liLfxfvOs>

TALK: How can you make a story with no words? What would the message(s) be?

DO: Get the paper and pencils out - decide on a theme, plan a story and then make your own flipbook.

Take it next level and make a chapter book

**55 Make an Optical illusion**

**WATCH:** [The Writing's on the Wall](https://youtu.be/m86ae_e_ptU) by OK Go

**TALK:** In your bubble do people see everything the same way or is there sometimes disagreement? Has there been anything that has happened where everyone was there but people haven't agreed on how things went down?

**DO:** OK Go are very good at looking at the same thing two ways. The first time you look at it you think one thing and then when they change how you are looking at it you see something completely different.

Can you make just one coloured shape using this method - a blue triangle for example? Watch the video again to get ideas or [check out the how it was made video here](https://youtu.be/U3RSoSnStNw).

**56 Make a balancing structure**

WATCH: How to Make Balancing Sculptures.

[https://thekidshouldseethis.com/post/experimental-balancing-sculptures](https://thekidshouldseethis.com/post/experimental-balancing-sculptures?fbclid=IwAR36nJZp1R_s7V6HDIRS0H7AgDOvm8i3rphGHyCc7H0K0w00OiUAzDX8Rqg)

TALK: How do the sculptures manage to stay up? What it the 'centre of gravity'? How can it be used to make a balancing sculpture? What objects could you use to try make your own balancing sculpture? How many items do you think you could add to it?  
DO: Make a balancing sculpture.

Collect different items from around your house and put them together to make your own sculpture. Try adding more or less items. Did it work? Why or why not?

**57 Vinegar +Baking Soda Expt**

**WATCH:** [Vinegar + Baking Soda + Balloons = FIZZY Fun](https://youtu.be/_CYgsqji_0k)

**TALK:** What happens when you mix baking soda and vinegar? Why? What is a chemical reaction? What is it that filled up the balloon? How did it happen? What would happen if you changed the amounts of vinegar and baking soda?

**DO:** Complete your own vinegar + baking soda experiment.

Remember, the video we watched was a demonstration but we want to create our own scientific experiment so we need to change some of the **variables** (the parts of the experiment we can control and change). You need to come up with your **hypothesis** - what you think will happen when you make certain changes (I predict that adding ... will make the balloon ...). Complete your experiment and record your results. Was your hypothesis correct?

**58 Make a weather making device**

**WATCH:** [A Cloudy Lesson](https://youtu.be/-45TbOGadro)

**WALK:** How were the clouds made in the video? What was the device they used? Did it work well? Is that really how clouds are made? Imagine you were in charge of making a device for other types of weather: rain, thunder, lightening, wind - what sort of device might you use to make those? What would it look like? How would it work?

**DO:** Design your own weather making device. Plan, draw, and label a device that would allow you to create a type of weather. Choose between rain, thunder, lightening or wind. Make sure you label the different parts and what they do.

**59 Collect spore samples from a monarch butterfly**

**WATCH:** [The Sound of a Million Migrating Monarchs.](https://youtu.be/u7SSt0hqu6Y)

**TALK:** Have you seen any monarch butterflies during lockdown? We know there were lots and lots seen in Newtown in Wellington recently... Take a moment to listen toVictoria University entomologist Phil Lester- he (and the monarch butterflies)needs your help this week. [Listen to him on RNZ here](https://www.rnz.co.nz/national/programmes/ninetonoon/audio/2018746121/citizen-scientists-enlisted-to-help-monarch-butterflies).

**DO:** Go in search of Monarch butterflies this week (before you have to be back in the classroom on Monday). Take some sticky tape with you. Phil tells you how to get the sticky tape sample he needs from the monarch's abdomen in the interview but there is also a really great video there too. Send your sticky tape sample to: Phil Lester, Monarch Disease Survey, School of Biological Sciences, Victoria University of Wellington, PO Box 600, Wellington 6140

**60 Plan a Scary petting zoo**

**WATCH:** [HiHo Petting Zoo: Kids Pet Snakes](https://youtu.be/RQcWSBwTu0I)

**TALK:** Do you like snakes? Would you want to take part in a snake petting zoo? Why or why not? Were the kids in the video scared? What does venomous mean? How can you tell if snakes are venomous or not? Would you hold one? How do you think you would have felt if you were there? What are your favourite animals? Would you like to meet them? What about the animals you are most scared of? Are they dangerous? What would you do if you met them?

**DO:** Plan your own scary petting zoo. Think of the scariest animals you know of and write a list of the top 5. Use the [National Geographic Animal Pictures and Facts site](https://www.nationalgeographic.com/animals/facts-pictures/) to look up information on your animals. Make sure you record the exact type of animal you need for your petting zoo and record any facts you could tell the people visiting it.