

Year: 1- Brookman Primary School Macey Olsen

Project challenge: To protect your Fuzz (Pom Pom) from the elements on earth.

Challenge 1: Design and create a shelter to protect your fuzz character from the elements: water, snow, wind and heat.

Challenge 2: Code dash to deliver your fuzz character to your shelter safely by avoiding the elements: water, fire/heat, ice and wind.

Challenge 3: Design a trailer that will allow Dash to carry your Fuzz safely past the elements on the grid.

Social: We combined two year one classes for all three challenges and they worked with a partner they were not used to working with. We also had a boy to girl ratio. This was a great decision as it really challenged our student's communication and team work skills.

1. Kodable and Bee Bots exposure

- Using Kodable and Bee-Bots on the iPads allow students to explore code at their individualised level. I link this into your maths rotations over two weeks and offer as an early finisher's task.



- iPads- one per student or on the computers using Kodable online
- Kodable app/ Bee Bots app
- Headphones



2. Introducing Dash

- Allow students to code as a whole class to move Dash along the masking tape track on the floor.
- Students use their mini white boards to make a visual code using arrows to solve the track and allow them to share their ideas until as a whole class you code Dash successfully around the track.
- Make sure the iPad is connected to the white board so the students can see the app and the code blocks. Add in a few other requirements to complete the level including change light colours, make a funny sound and increase the speed.

- Dash robot
- Masking tape track
- Ipad- Blockly app for Dash and Dot or Tickle
- Interactive board for sharing (cord)
- White board 1 per student



- White board markers 1 per student

3. Robot visual coding

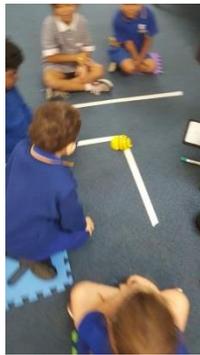
Station rotations:

1. Kodable on iPads
2. Bee-Bots track using masking tape
3. Bee-Bots grid on floor with obstacles
4. Dash coding grid on floor with obstacles and extra commands.

In groups rotate students through the four stations.

EA with the Bee-Bots to offer support and guidance and appoint team leaders to each group for troubleshooting.

Teacher work with Dash, connect to the whiteboard so all students can see the code easily.
(We did the rotations twice over the week and I adjusted the tracks/grids to increase difficulty)

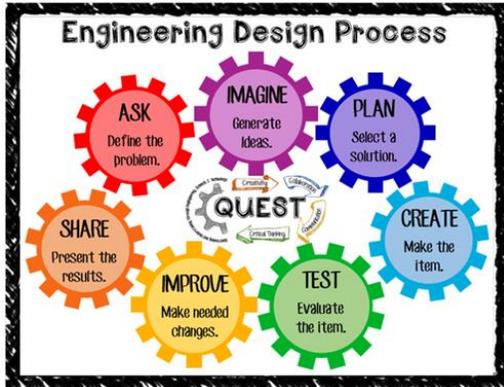


- iPads for independent group
- Bee Bots x 2 :one at a grid and one at a track
- Dash robot and track with one ipad-connect to white board

4/5. Project

Challenge 1: Design and create a shelter to protect your Fuzz Character from the elements on Earth.

- Students create Pom poms, stick googly eyes on them. This is based on the Fuzz characters on Kodable the app.
- Students work in partners to create a shelter following the Engineering process.



- they have access to a variety of materials including bubble wrap, tin foil, cardboard and pop sticks.
- Once the shelters have been created students test their shelters water, wind, heat, ice
- Reflect and discuss future adjustments



- Variety of resources: paper, cardboard, bubble wrap, tin foil, pop sticks, pipe cleaners, tape and glue
- Yarn for pom poms
- Googly eyes



We combined both year one classes for this project.



6. Project extension

Ask:

Challenge2: Code dash to deliver your fuzz character to your shelter safely by avoiding the elements: water, fire/heat, ice and wind.

- Create a large grid on the floor using masking tape. Add in obstacles (pictures or 3d effects) of water, fire, snow and wind.
- Provide students with an identical paper version so they can create their code.
- Blocks should be 30cm x 30cm to make it easier when coding Dash.

Imagine/Plan:

- Put students into pairs and get them to discuss their code plan and where they will place their shelter. X marks the spot.
- Use arrows to create the visual code on the grid paper.
- Students then can step out their code on the graph to make sure they are happy with their visual code.

Create:

- Students transfer their visual code to the app Blockly or Tickle.
- iPad to be connected to the interactive Whiteboard for sharing.
- Offer support for the code on Blockly

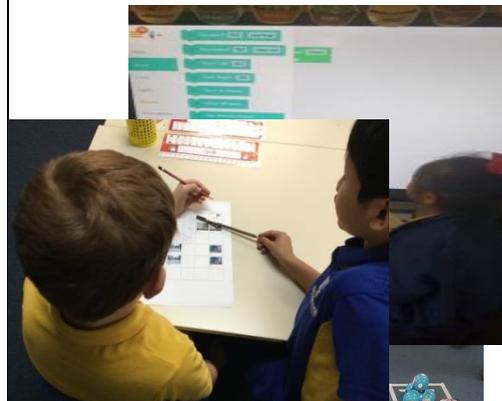
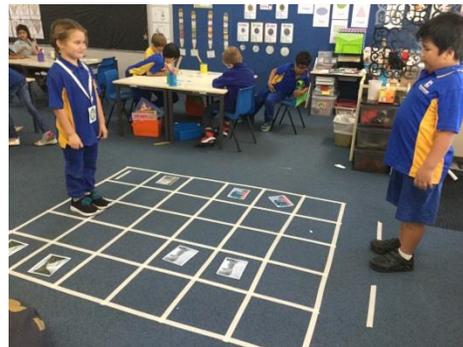
Test:

- Place Dash on the grid and allow students to test their code. Two lessons may be needed for sharing time

Improve:

- Students discuss what worked well and what didn't and make any adjustments needed to their visual code plan.

- Grid on floor
- Paper grid one per pair (see template)
- Elements pictures (see attached)





7. Project extension

Challenge 3: Design and create a trailer that will allow Dash to deliver your Fuzz character to your shelter safely avoiding the elements.

Ask:

- Discuss what a trailer is and how it works, student driven questions in a sharing circle.

Imagine:

- Show pictures of trailers on interactive board
- Students are given a plastic bowl, paper and two pipe cleaners and sticky tape to design a trailer.

Plan:

- Students work together with their partner to design their trailer on a design brief.

Create:

- Students create their trailer using the materials provided

Test:

- Test the trailers by connecting to Dash using tape.
- Students then transfer their adjusted code onto Blockly on the iPad and see if they have been successful in delivering their Fuzz Character to their shelter safely.

Reflect:

- Discuss with their partner if they have been successful and complete a reflection sheet.



Curriculum links:

Maths:

- Measure and compare the lengths and capacities of pairs of objects using uniform informal units ([ACMMG019](#))
- Give and follow directions to familiar locations ([ACMMG023](#))

English:

- Use interaction skills including turn-taking, recognising the contributions of others, speaking clearly and using appropriate volume and pace ([ACELY1788](#))
- Engage in conversations and discussions, using active listening behaviours, showing interest, and contributing ideas, information and questions ([ACELY1656](#))

Technology

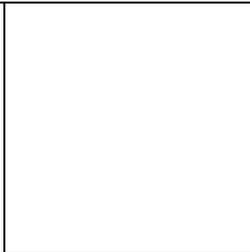
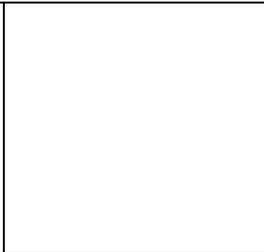
- Develop and communicate design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps
- Ways objects can be moved using technology ([ACTDEK002](#))
- Works independently, or with others when required, to safely create and share sequenced steps for solutions
- Use personal preferences to [evaluate](#) the success of [design processes](#)

Science

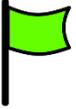
- Participate in guided investigations to explore and answer questions ([AC SIS025](#))
- Represent and communicate observations and ideas in a variety of ways ([AC SIS029](#))
- Observable changes occur in the sky and landscape ([AC SSU019](#))



Water



START



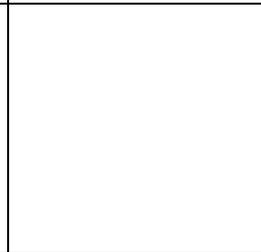
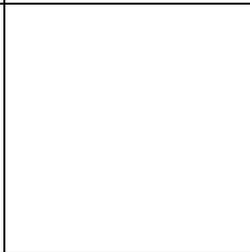

Water



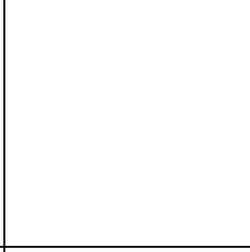
Wind



Wind



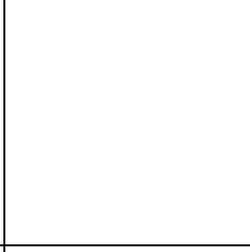
Snow



Fire



Snow



Fire

