

5E Open Day 2020

STEM Challenges: Stacking Cups challenge
+ Term 2: Science and Technology STEM Unit



Welcome to 5E Open Day

With the COVID situation, this year our Melrose Park Public School Open Day is virtual.

We welcome you into our classrooms to view a showcase of our 'Level 1' STEM (Science, Technology, Engineering and Mathematics) projects. We were looking forward to completing these tasks with parents, carers and our community, focusing on exploration and collaboration skills.

The second section of these slides shows our Term 2 science unit which had a STEM focus.



Education



Melrose Park Public School

Learning and Growing together



S3 STEM Challenge: Collaborative Tower Building

Challenge

Can you work with others to make a tall tower from cups without touching the cups with your hands?

Materials

21 cups (per group) + a rubber bands with strings attached (provided).

Challenge Instructions

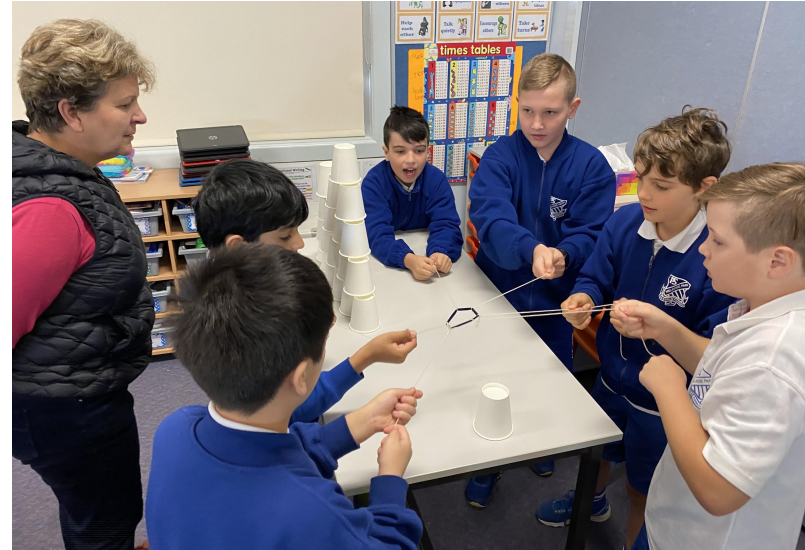
1. Work with your group to transfer the 6 cup pyramid structure from one place to another.
2. Build a tall tower using the rubber band to lift and place all 21 cups onto your tower.



Groups must start again if anyone touches a cup with their hands.



We began with a demonstration team so that all students understood the challenge. Once the 6 cup challenge was complete teams moved on to 21 cup challenge.





S3 STEM Challenge: Collaborative Tower Building

This challenge involved collaborative group work and practical problem solving as well as an understanding of the strengths and limitations of the materials provided. These are all aspects of Level 1 (beginner) STEM skills.

We were impressed by the way students demonstrated problem solving skills and learnt from their mistakes. They talked with each other, devising strategies and eventually came up with a reliable sequence of steps that worked.

On the next slides, watch the videos of some groups to see and hear their problem solving and teamwork in action.

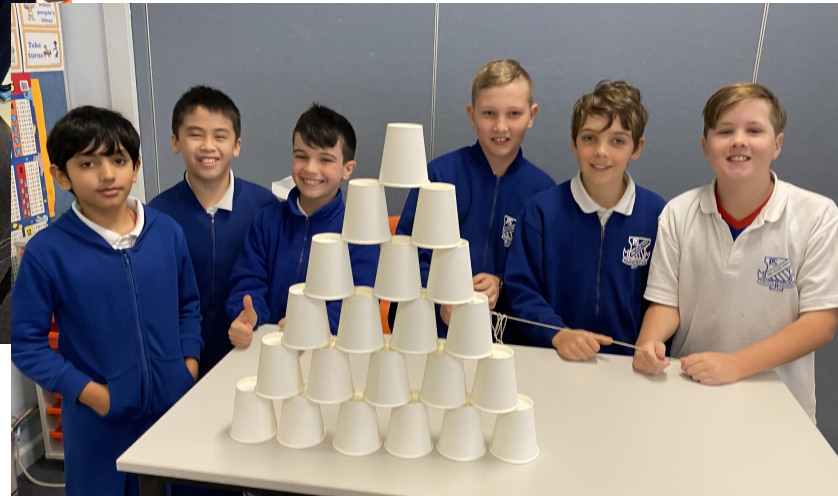












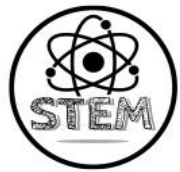
After lots of practice, and amazing teamwork, all groups were successful!



5E Open Day 2020

Term 2 Science
and Technology
STEM Unit:

Electricity
and circuits



Group STEM task

Design brief:

Your task is to create and light up a small model house or design a 2D card with at least two lights.

Design Criteria:

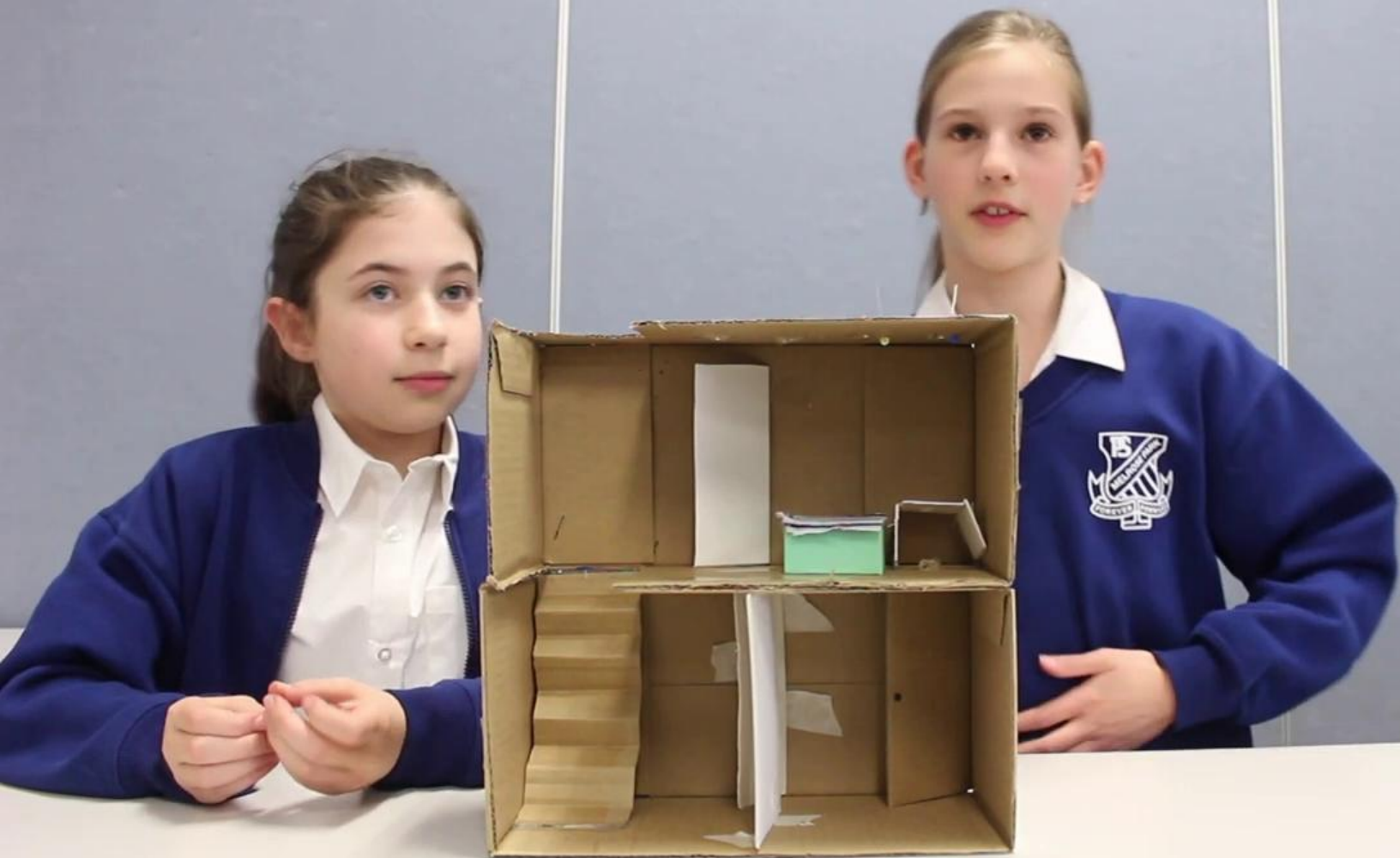
- Must use a minimum of two light bulbs or LEDs
- Each light must be able to switch on and off independently of the other(s)
- Use switches to turn your lights on and off.

Our design choice: _____

You could also try
adding extra lights,
or even a fan or
another appliance!

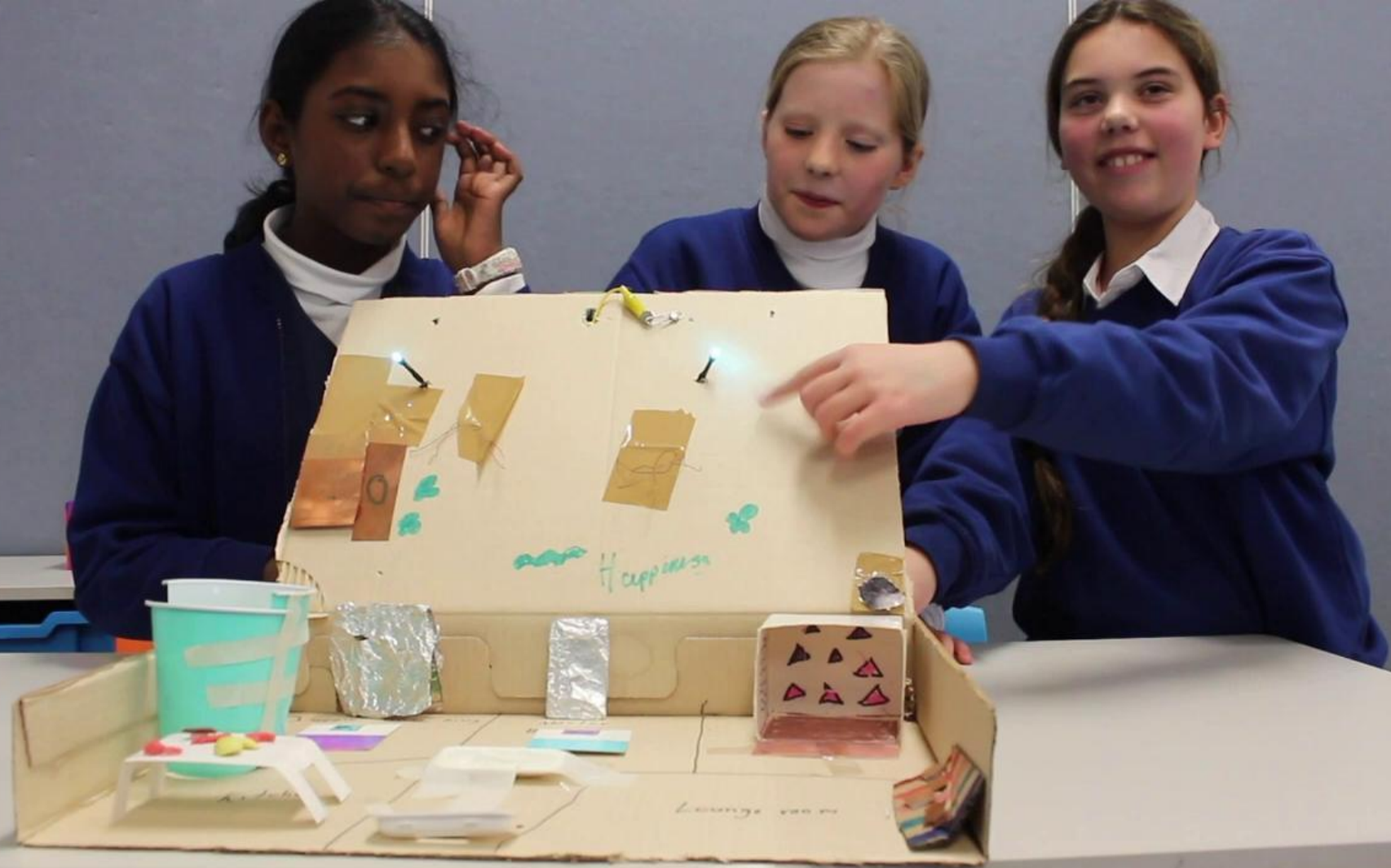


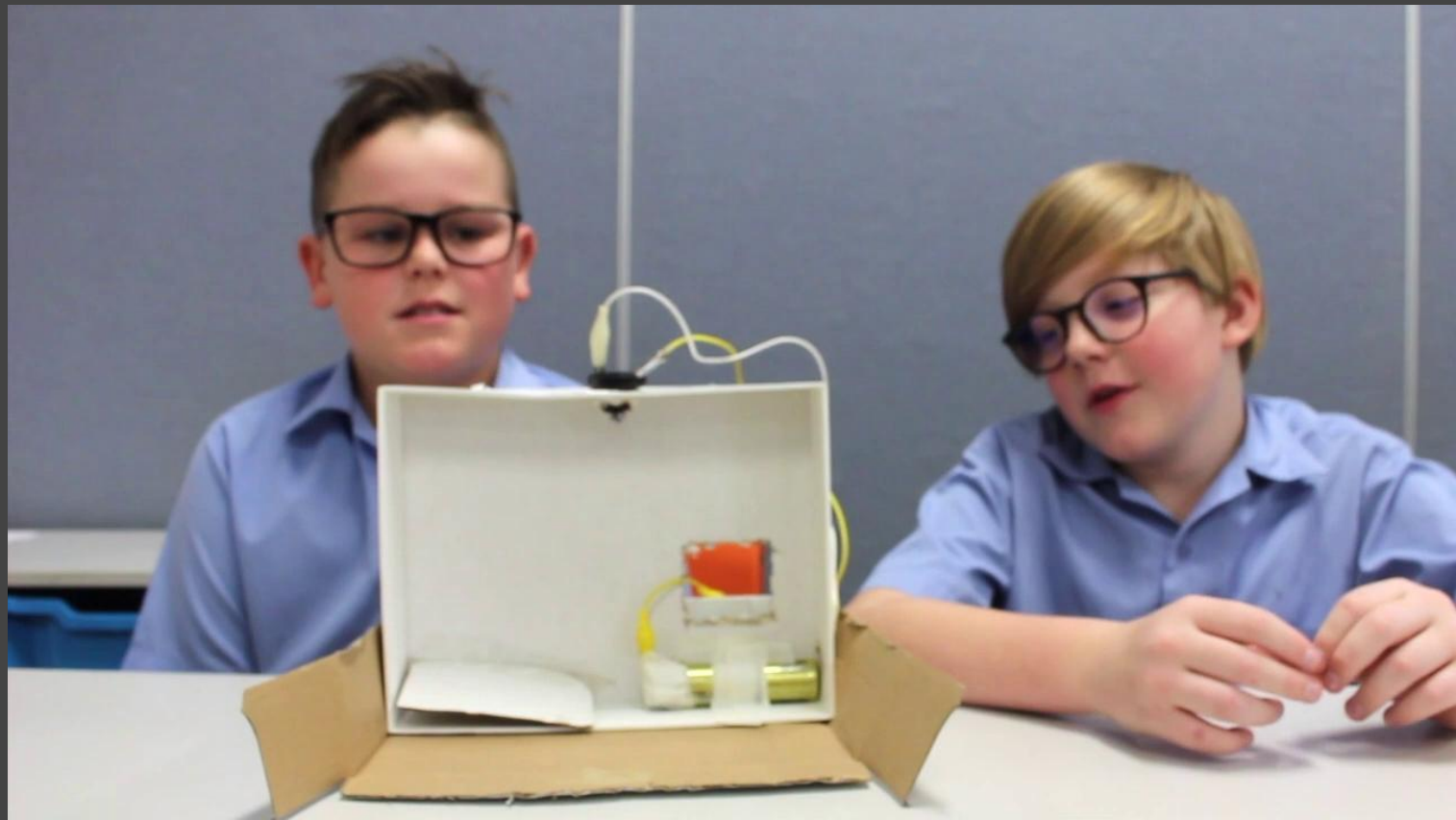


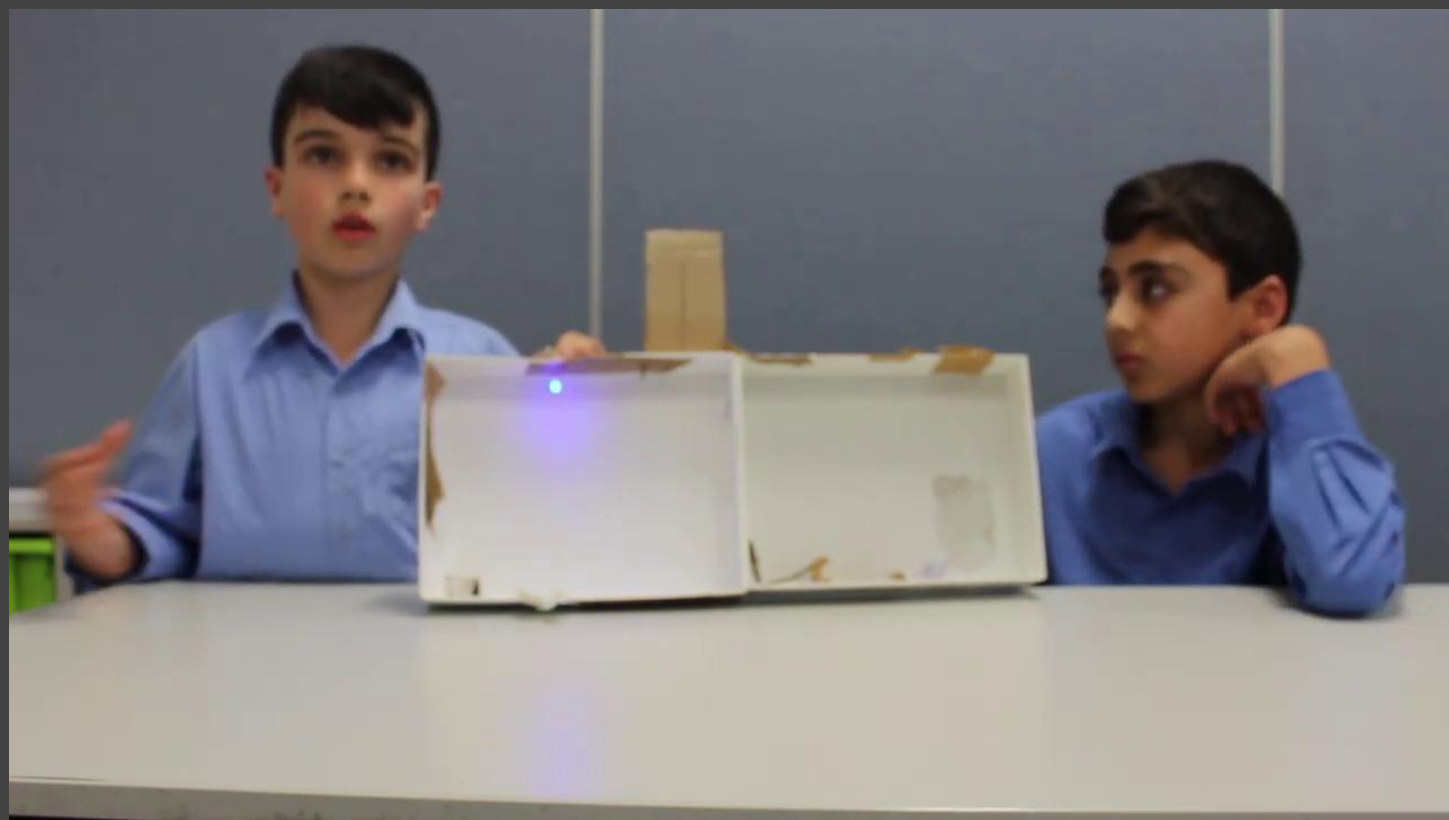








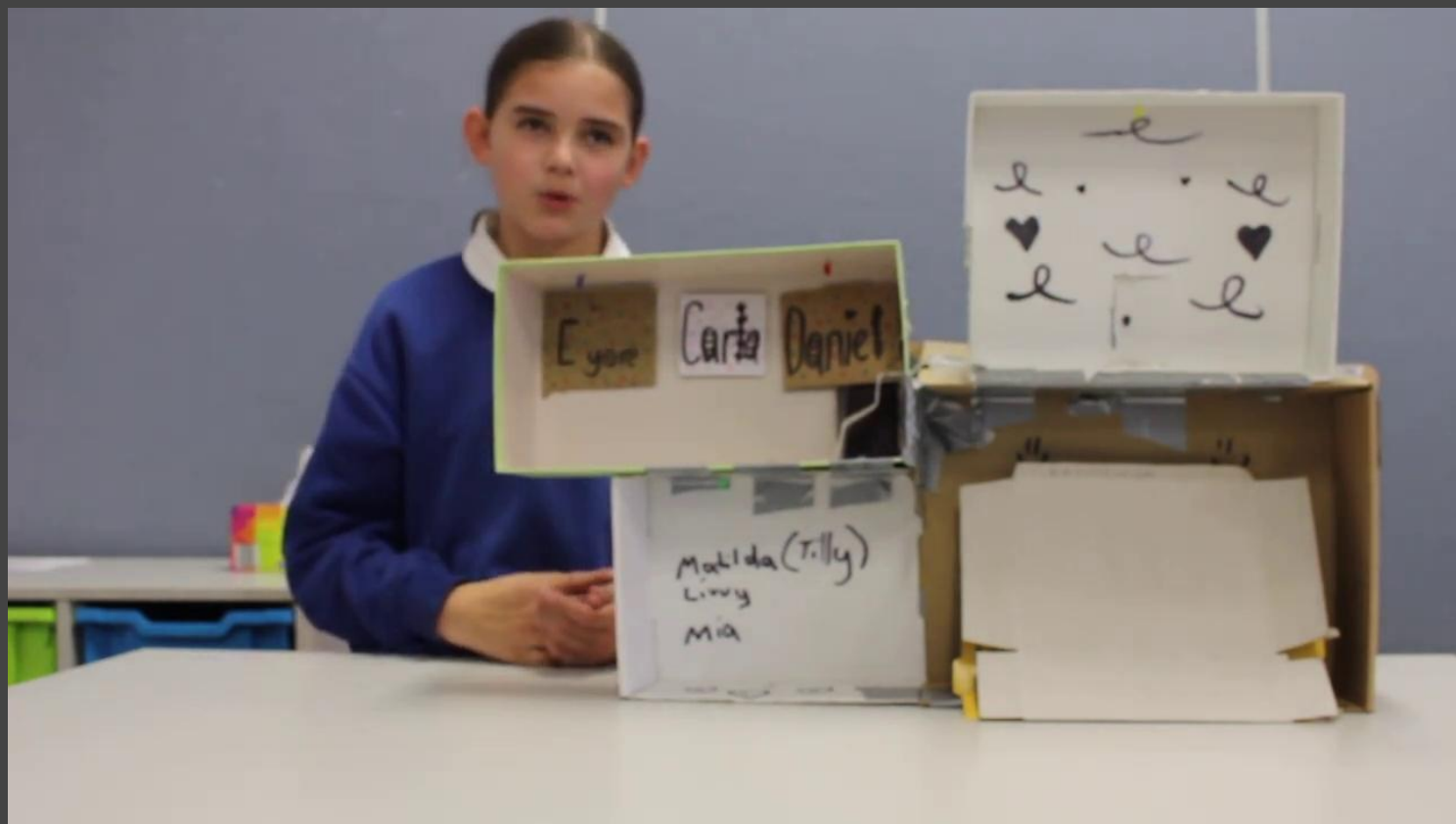












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Carla

Daniel

Martida (Tilly)
Livvy
Mia

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Electricity and Circuits: We asked 5E to tell us what they learnt about electricity and what they enjoyed most about this unit of work?

- I enjoyed making the circuits for lights.
- I learnt water can conduct electricity.
- I learnt how to make circuits and I enjoyed making the houses .
- I mostly enjoyed learning and doing the project.
- I learnt that Hydro energy is better than using coal and gas. I enjoyed this lesson because it really made me think about different types of energy.
- I enjoyed making the lights work with electrical circuits.
- Learning about energy sources.
- I learnt that solar panels are better than using energy that makes greenhouse gasses.
- I learnt about different type of circuits and the different type of energy sources.
- I liked when we did the circuit because I enjoyed it and I really want to do it again.
- I enjoyed making the electricity house.
- I have learnt that you can use pencil lead to conduct electricity.
- I enjoyed learning how to make electric circuits and how much using solar energy is better for our environment.
- I enjoyed the house wiring and learnt how to wire a circuit.
- I learnt about kilowatts
- I learnt what a conductor and an insulator was.
- I enjoyed building and wiring the house.
- Getting to build and wire our houses.
- Learning about kilowatts
- That you can make it from different types of electricity. i enjoyed connecting a house up to lights.
- Making LIGHT!!! and making the houses
- I enjoyed getting to learn how to wire circuits.
- i enjoyed it and i learnt how to make a circuit.
- I learnt how to wire circuits. I enjoyed when we got to wire up the house.
- I enjoyed making the houses and trying to get the lights to work.
- Learning how to make a complete circuit.