# DISCOVER SCIENCE AND MATHS AWARD 2022

## Log of Evidence
## Plaque of STEM

Scoil Ghormáin Naofa

Castletown, Co. Wexford

# Step 1: Science

# Science activities completed

- **Forestry field trip:** 1st/2nd class visited a local forestry; None So Hardy Forestry. Environmental awareness and care was discussed in relation to how the forestry is run and its environmental impact. The children also observed the growth of a tree from seed to tree at 6 month intervals.
- **River trip:** 5th/6th class explored a local river under the guidance of an Inland Fisheries Expert. They focused on biodiversity.
- **Science speaker:** Dale Treadwell, conducted a mini beast workshop with each class and explored the school grounds for tiny creatures.
- **Science speaker:** Tina Keating conducted workshops on Geology in Schools.

**Climate and Nature Summit**

- **Junior Infants** learned about how animals can be saved by keeping beaches clean.
- **Senior Infants/1st class** discussed *Ways I Can Help Our Earth.*
- **1st/2nd class** completed an illustrative workshop based on the theme.
- **5th/6th class** presented findings on climate change to 3rd/4th class.

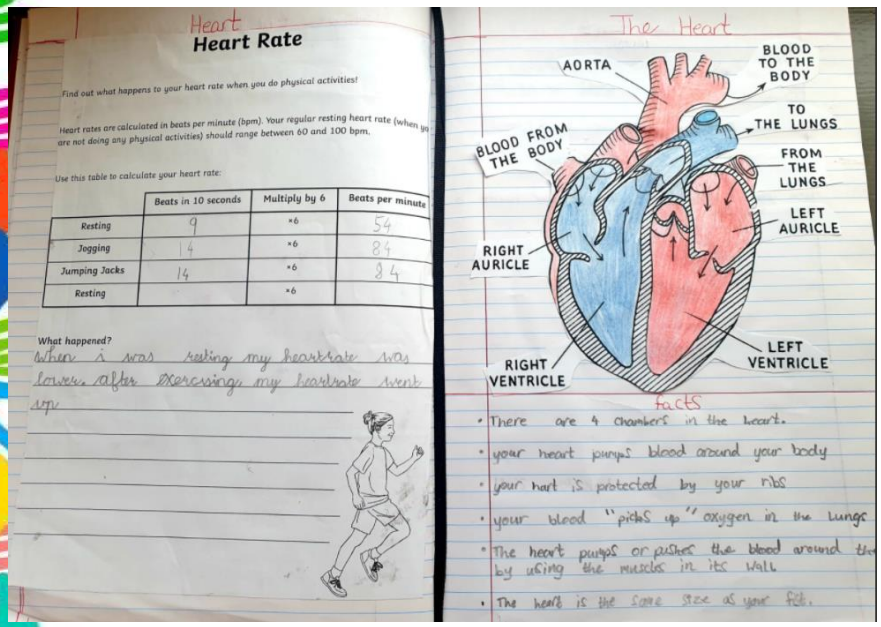
# Science activities completed

**Science Week**

- **Junior Infants** explored the doctor's in Aistear. They created x-rays of their hands.
- **Senior Infants/1st class & 1st/2nd class** took part in a Nutty Professor webinar.
- **3rd/4th class** engaged in an online workshop through WIT: *Wild About Wildlife-Fish.*
- **5th/6th class** took part in an online workshop: *Human Variation and DNA Finger Printing*.

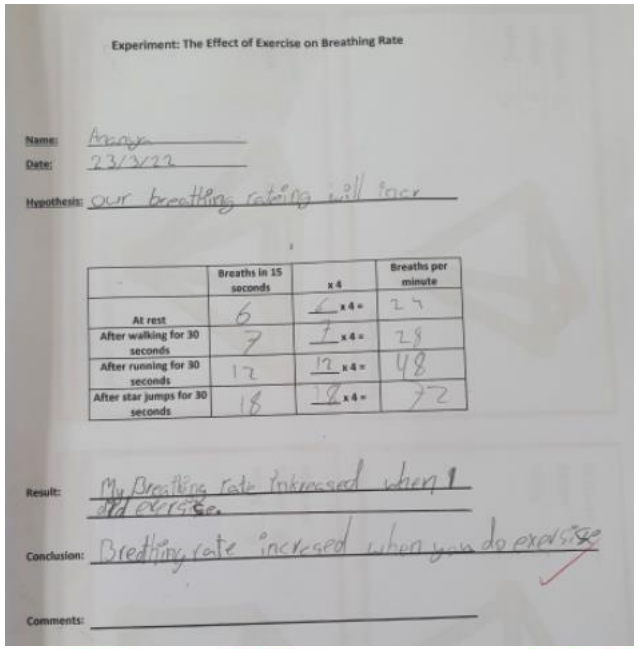
# Living Things experiment

- **3rd/4th class** learned all about the heart.
- They explored the effects of physical exercise on their heart rate.




# Living Things experiment

- **5th/6th class** learned all about their lungs and how they worked.
- They explored the effects of physical exercise on their breathing rate.



Experiment: The Effect of Exercise on Breathing Rate

Name: Anaya

Date: 23/3/22

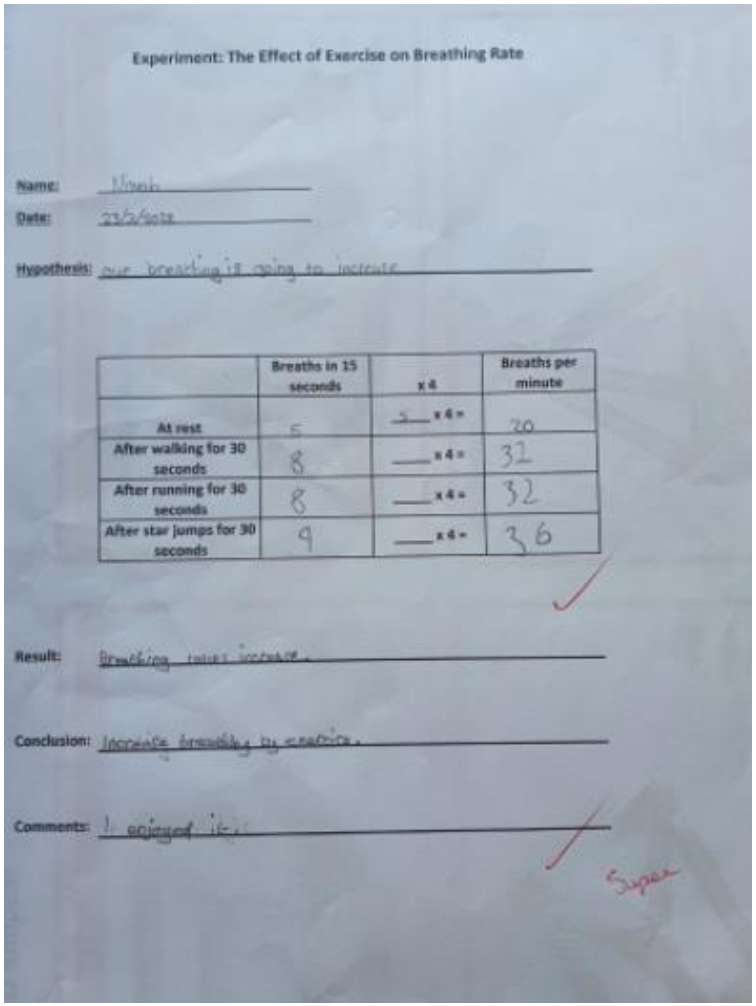
Hypothesis: our breathing rating will incr

| | Breaths in 15 seconds | x 4 | Breaths per minute |
|---|---|---|---|
| At rest | 6 | 4 x 4 = | 24 |
| After walking for 30 seconds | 7 | 7 x 4 = | 28 |
| After running for 30 seconds | 12 | 12 x 4 = | 48 |
| After star jumps for 30 seconds | 18 | 18 x 4 = | 72 |

Result: My Breathing rate increased when I did exercise.

Conclusion: Breathing rate increased when you do exercise

Comments:



Experiment: The Effect of Exercise on Breathing Rate

Name: Noah

Date: 23/3/2022

Hypothesis: our breathing is going to increase

| | Breaths in 15 seconds | x 4 | Breaths per minute |
|---|---|---|---|
| At rest | 5 | 2 x 4 = | 20 |
| After walking for 30 seconds | 8 | ___ x 4 = | 32 |
| After running for 30 seconds | 8 | ___ x 4 = | 32 |
| After star jumps for 30 seconds | 9 | ___ x 4 = | 36 |

Result: Breathing rates increase.

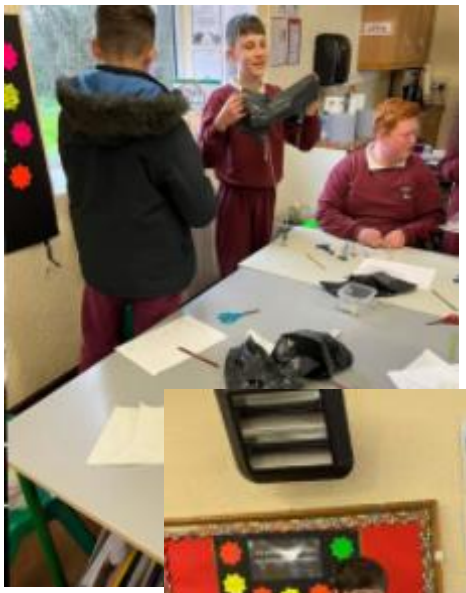
Conclusion: Increase breathing by exercise.

Comments: I enjoyed it.

Super

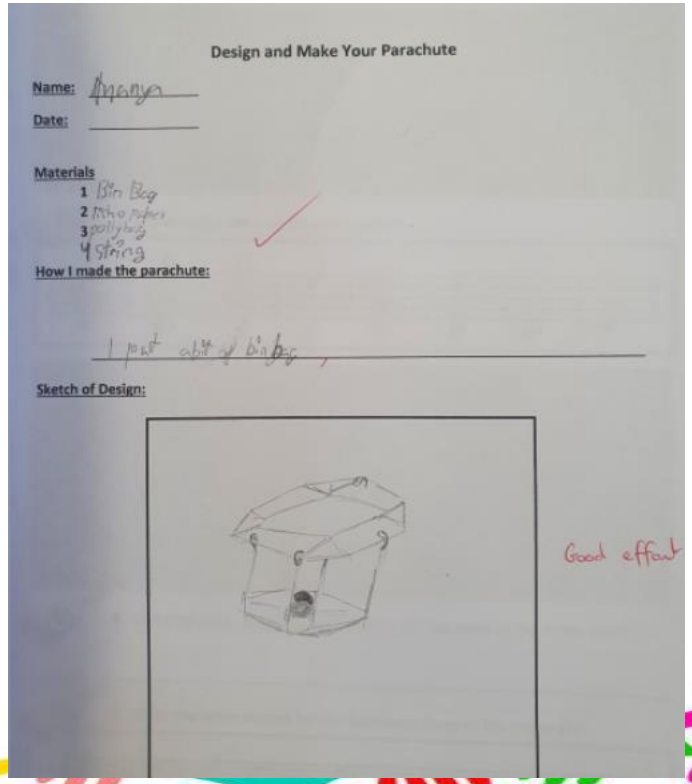
# Energy and Forces experiment

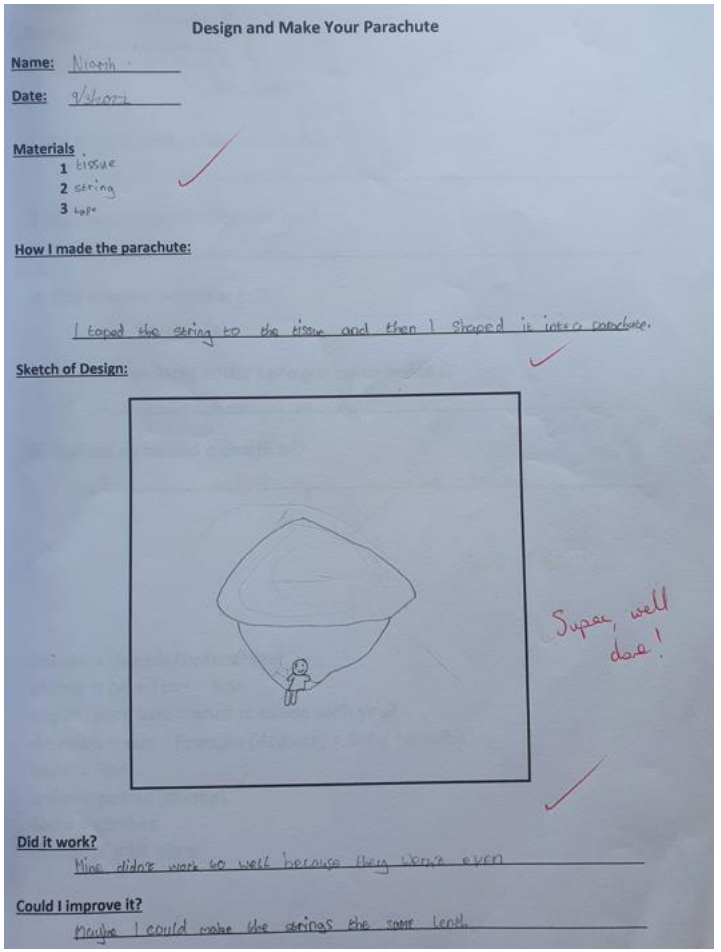
- **5th/6th class** explored the effects of friction on movement by creating parachutes to slow down an object's fall.



# Energy and Forces experiment

- The children then analysed the experiment to see if changes could have been made to improve their parachute or increase the friction for a slower fall.



# Materials experiment

- **Junior Infants** explored materials to determine if they were waterproof.

- They then decided the best material to use for an umbrella.

# Environmental Awareness & Care

- As our Green School Committee is working towards their Biodiversity flag, the school took a whole school approach to the teaching and learning in the areas of biodiversity and environmental awareness and care.
- Each class has been **monitoring their rubbish bins** weekly and the amount has been compared to that of other classes.
- The school installed a **water butt** to collect rain water to use around the school garden.
- Each child has supported Carmel in the **planting and maintenance of our school garden**. We have grown potatoes, carrots and peas, beans, salad and pollinator friendly flowers!
- Each child has also **planted a sunflower** that will decorate the perimeter of our yard.
- The children have ensured our **bird feeders** are well stocked with food.
- Some classes took part in a **clean up of the school grounds** and surrounding hedgerows.

# Environmental Awareness and Care

- A child from 4th class built a water butt with his dad for the school.
- The school is monitoring rainfall across the different months of the school year.
- The water collected is used to fill the bird feeder and will be used to water our garden during the warmer months.

# Environmental Awareness and Care

- 3rd/4th class children replenishing the bird feeders.

# Environmental Awareness & Care

- Senior Infants taking part in the planting process for our school garden.

# Environmental Awareness & Care

- 3rd/4th class getting a masterclass from Carmel before they begin planting in the garden!

# Environmental Awareness & Care

- Our new Ukranian students getting to work in the garden upon their arrival to the school.

# Environmental Awareness & Care

- As you can see, everyone had fun while maintaining the garden and doing their bit for the environment!

# Environmental Awareness and Care

- 1st, 3rd/4th & 5th/6th classes took part in a clean up of the school grounds, hedgerow, path and road outside the school. They were shocked at the amount of rubbish they collected but everyone was proud of the positive impact they had made.

# Environmental Awareness and Care

# Environmental Awareness and Care

- We planted native whitethorn and blackthorn interspersed with native crab apple and rowan/mountain ash. We are aiming to make a natural hedgerow as a valuable food source and habitat for our birds and bees!

# Forestry Field Trip

- 1st/2nd class on their trip to the forestry. This tied in with their learning on Living Things and Environmental Awareness and Care.

# River Trip-Inland Fisheries


# Visit from Dale Treadwell

- Dale Treadwell (who has worked on RTE) came to the school and treated all the children to a mini beast workshop. He loved exploring the school grounds with the classes and was impressed by the diversity he saw here.

- Junior Infants

# Visit from Dale Treadwell

- 5th/6th class

- 1st/2nd class

# Visit from Tina Keating


- Heritage in Schools expert, Tina Keating visited the school to teach the children about geology.
- Younger students learned about magma and older students learned about minerals and rocks in our environment and in products.
- All classes conducted an experiment to grow their own crystals.

# Visit from Tina Keating

# Climate Action Week

- Junior Infants learned about how animals can be saved by keeping beaches clean. Here they are drawing a dirty beach and a clean beach.

- Climate Action work completed by Senior Infants/1st Class.

# Climate Action Week

- Climate Action Week workshop with 1st/2nd class.

- 5th/6th class took part in a lesson around sustainable goals and climate change. They did some personal research and enjoyed learning from the ultimate conservationist, David Attenborough!

# Climate Action Week

- 5th/6th class researching sustainable farming, climate change and deforestation.

# Climate Action Week

- 5th/ 6th class presenting their findings on sustainable farming, deforestation and climate change to 3rd/4th class.

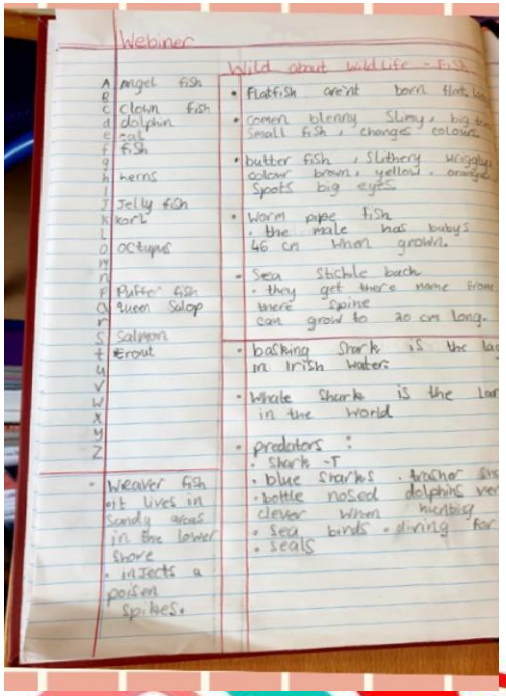
# Science Week

- Junior Infants explored x-rays during Aistear.

- Senior Infants/1st class & 1st/2nd class enjoyed the Nutty Professor workshop! They learned about gas and molecules amongst other interesting ideas.

# Science Week

- 3rd/4th class engaged in a webinar in conjunction with WIT; *Wild About Wildlife-Fish.*
- They were eager to record their learning afterwards.

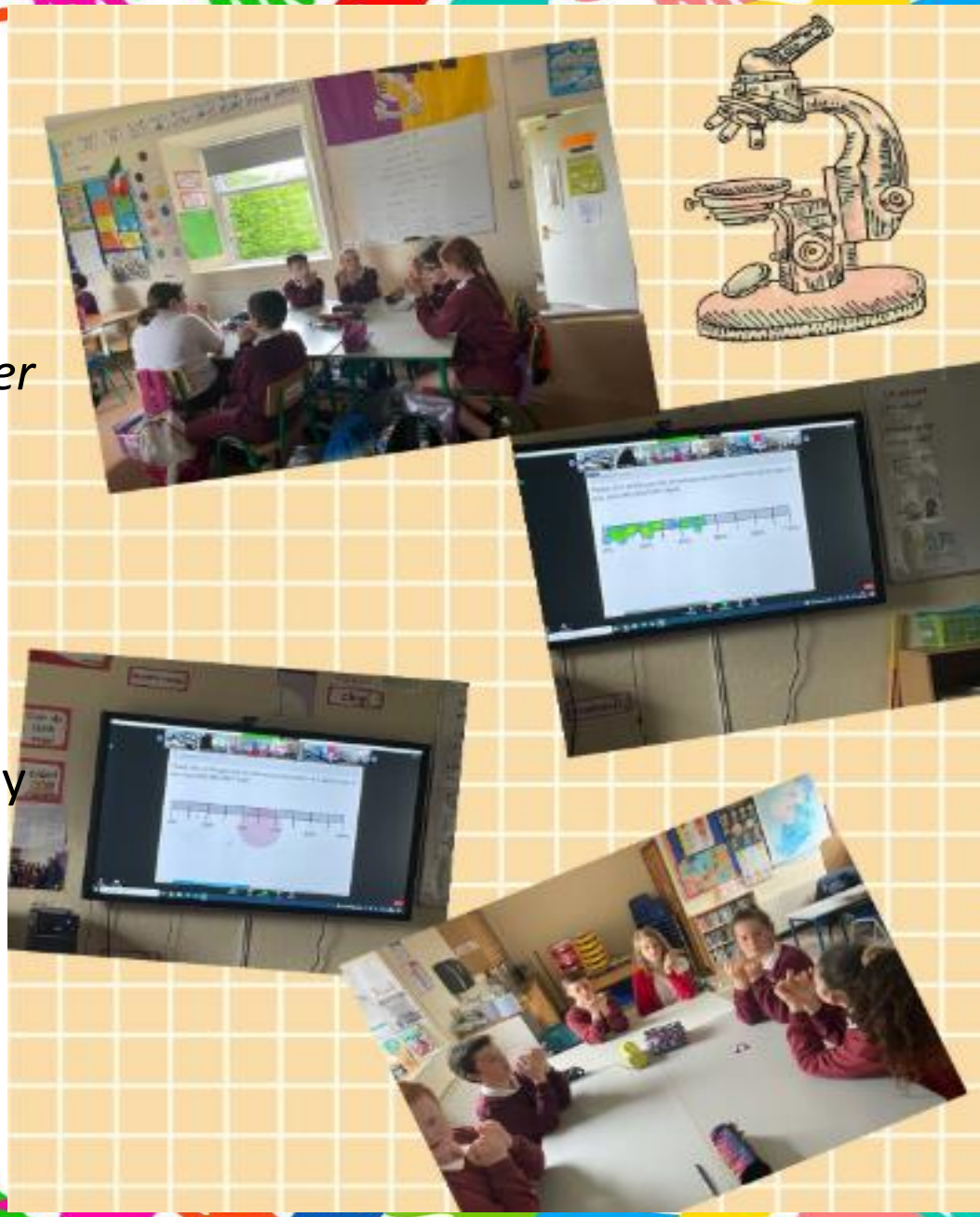



# Science Week

- 5th/6th class workshop;

*Human Variation and DNA Finger Printing.*

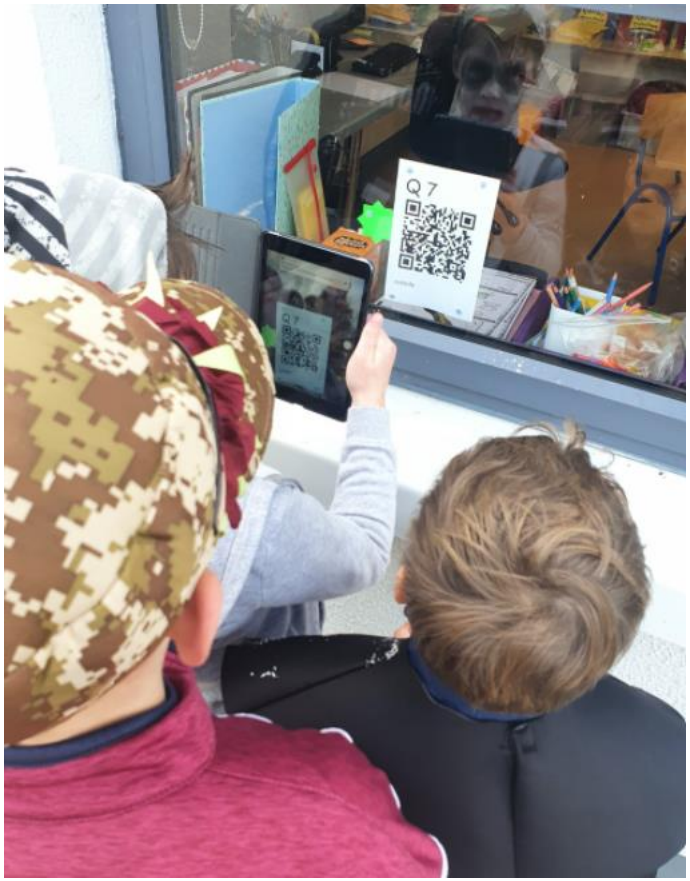
- They learned about the physical characteristics that separate us and the percentages of people who possess traits such as a bendy thumb or had hair on their middle digit!



# Step 2: Technology

# Technology activities completed

- iPads were used from 1st-6th class during Maths Trails.
- Junior Infants incorporated the use of iPads during Aistear.
- 3rd-6th classes engaged with game based learning.
- Children took part in Safer Internet Day.
- 5th/6th class learned all about renewable energy from Kietan, an engineer from Wexford County Council. They will also take a trip to a local wind farm in June.
- 5th/6th class got a look behind the scenes of recording a TV segment. They learned all about the recording, editing and production process.



# 3rd/4th class engaging in game based learning.

- 3rd/4th class have been completing a typing programme as part of station teaching throughout the year. It is supporting their spellings along with familiarising them with the computer keyboard.

# 5th/6th class taking part in game based learning.

- 5th/6th class embarked on a coding programme with Microsoft which they undertook for 6 weeks. This educational edition of Minecraft was run in conjunction with Microsoft and RTE School Hub.

# Minecraft

# Safer Internet Day

- Classes took part in discussions around being safe on the internet.
- 3rd-6th classes were visited by Garda Ronan who spoke about internet safety and cyberbullying.

# Engineer's Workshop on Renewable Energy

# A very different technology experience!

- 5th/6th class took part in recording a budget segment for News2day.

- They learned all about the recording, editing and production process.

# Step 3: Engineering

# Engineering activities completed

**Engineers Week**

- **Junior Infants** completed an egg drop and Diet Coke/Mentos activities.
- **1st/2nd class** examined the 3 Little Pigs' houses and created their own structures.
- **3rd/4th class** completed a skier activity.

**5th/6th class** completed a mapping engineering activity where they mapped the school's grounds.

- The whole school community were challenged to a tower building activity. This took place at home with parents getting involved. All children's towers were displayed for other children to explore.

# Engineers Week


- Junior Infants completed an egg drop activity. They explored how soaking the egg in vinegar changes the durability of the egg's shell when dropped.
- Although the egg still broke there was a definite difference in the size of the crack and the mess made!!

# Engineers Week

- Junior Infants taking part in the Mentos/Diet Coke activity.

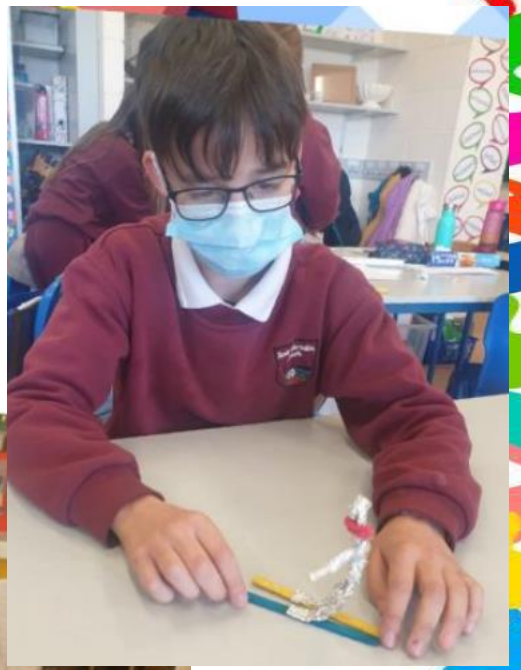
# Engineers Week

- 1st/2nd class engaged in an engineering project where they examined the 3 Little Pigs' houses; their materials and strength. They built their own houses and used a hair dryer to try blow other groups' houses down!

# Engineers Week

# Engineers Week

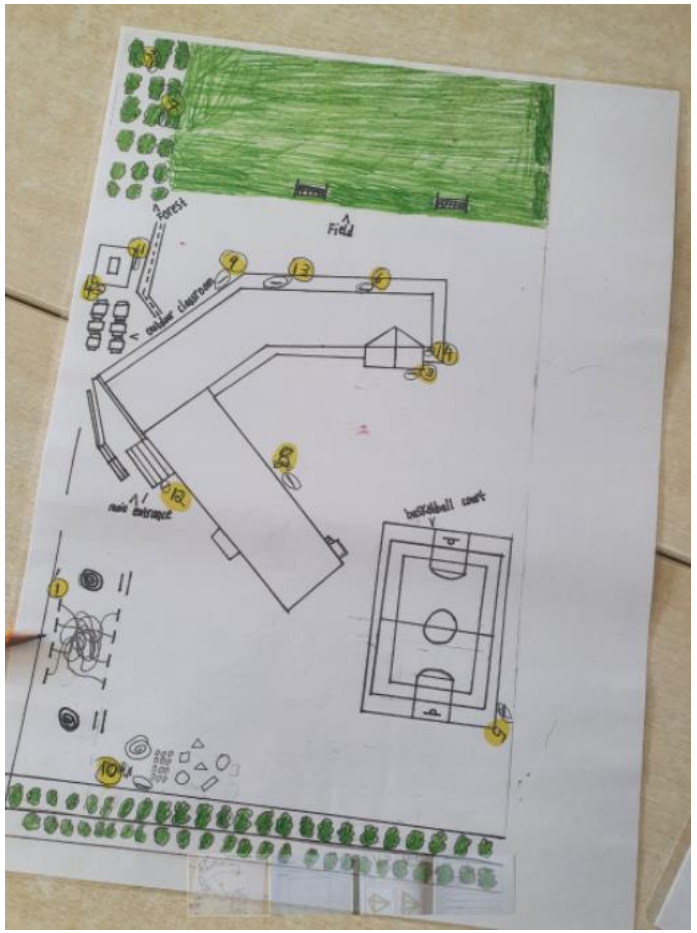
- 3rd/4th class were tasked with creating skiers that could stand without support and slide down a slope. The children really enjoyed the task and relished the opportunity to problem solve when things did not go according to plan.



# Engineers Week


# Mapping Engineering

- 5th/6th class were tasked with mapping our school grounds. Our Active School Committee were so impressed they used the maps as part of their Active Walkway. A prize was presented to the child whose map was used.



# Some examples of our towers!

# We got some very creative entries!

# Encouraging future engineers!

- This student was inspired by all the activities going on in the school. He spent time with his dad creating this motorised vehicle.
- His work was shared with his class and his enthusiasm for inventing and creating is palpable! We can’t wait to see where he goes in the future.

# Step 4: Maths

# Activities completed

- **Maths trails** were completed by every class.
- **Maths Week Quiz** was conducted by 3rd/4th class.
- **Maths Eyes** competition was run in the school.
- **Hands on learning** has come to the forefront of teaching within the school.
- Maths Week **daily problems** were given in class.

# Maths Trails

- All classes took part in Maths Trails during Maths Week.
- The trails incorporated maths from around the school environment and encouraged the children to use their maths eyes!

- Junior Infants taking part in their Maths Scavenger Hunt!

# Maths Trails

- 1st class came together to work on their Maths Trail. Here they are measuring the length of the basketball court.

- 5th/6th class using the trundle wheel on their Maths Trail.

# Maths Quiz

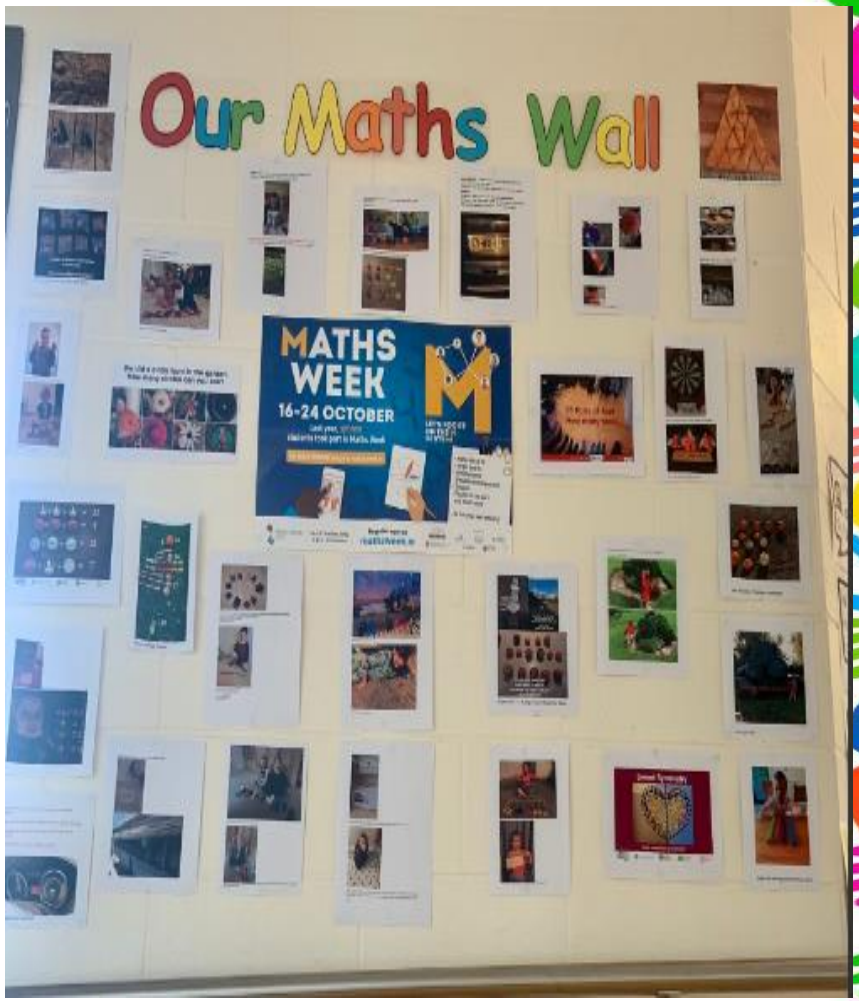
- 3rd/4th class took part in a Maths Table Quiz as part of Maths Week.


# Maths Eyes

- The whole school took part in our annual Maths Eyes competition. We got some really creative and complex entries!


# Maths Eyes

- All entries were displayed on our Maths Wall.
- All children were allowed to explore the entries and answer some questions based on these.



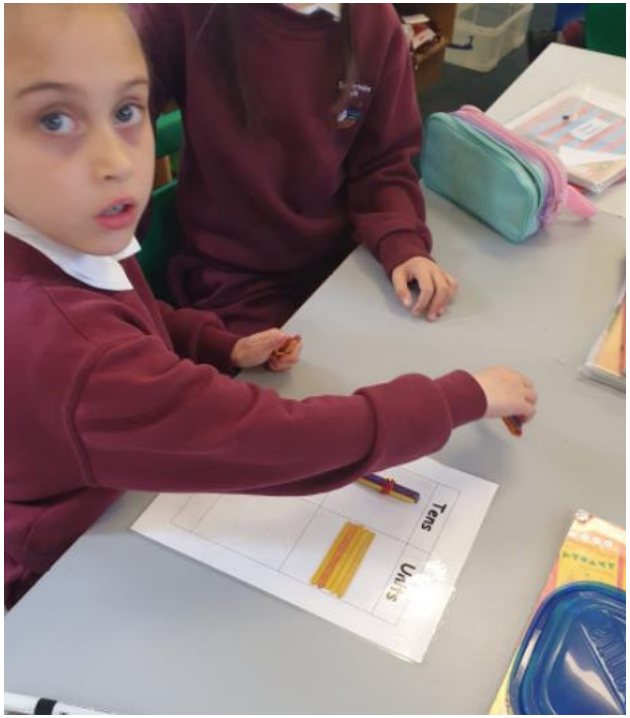
# Hands on learning


- Class teachers have been using hands on learning in their Maths teaching. The children are really enjoying it.

- 2nd class working on weight.

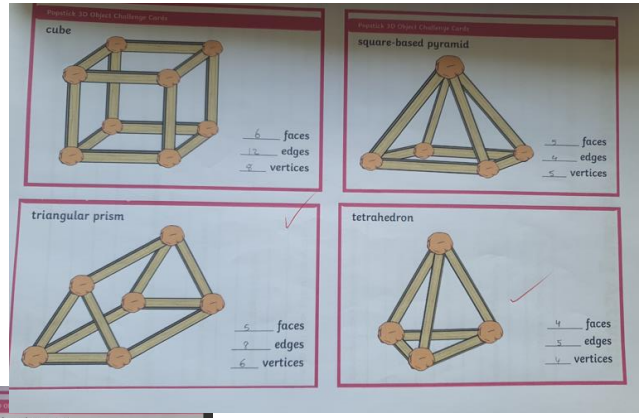
# Hands on learning

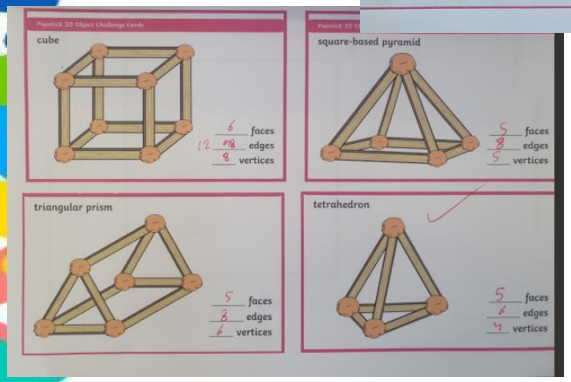
- 1st class learning addition with renaming.

# Hands on learning

- 5th/6th class learned all about 3D shapes through creating and exploring different shapes.




- The class teacher noted that this consolidated their understanding of edges and vertices more than if the were to simply read it from the book.

The teacher also noticed the children linked this learning with engineering as they were able to observe which structures felt sturdiest and analysed why this was the case.

# Step 5: Show and Tell

- Due to Covid, the school had to get creative with how we showcased our learning with each other. We made use of our outdoor classroom and corridor as much as possible.
- 5th/6th class presented their learning on deforestation, climate change and sustainable farming.
- 3rd/4th class put on a mini Science Fair, showcasing experiments they completed throughout the year.
- Maths Eyes competition entries were displayed in the school corridor. All teachers allowed children to spend time exploring these.
- Tower creations were also displayed in the school corridor.

# 5th/6th class presentation

# 3rd/4th Science Fair

# Corridor Displays


# Corridor Displays