

THE PENPOL TIMES

PENPOL PUMPKINS AWARDED BEST INNOVATION PROJECT IN GREAT BRITAIN!

👤 Story shared by Jacob Woolcock on April 26, 2023



THE ROAD TO THE GREAT BRITISH FINALS

For the Penpol Pumpkins the journey to Harrogate for the Great British finals started over a year ago.

In fact, I'd pinpoint their starting point to the moment we left the Harrogate Convention Center last February having taken part in the [2022 England + Wales Finals](#). As we were crossing the road James S turned to me and asked if he could please do it again next year, because he'd had so much fun. A gentle rumble of agreement spread through the children and before we'd even got back to the coach I'd said yes, they can take part again next year if they really want to.

Fast forward to September and I naturally assumed they'd all have forgotten about this agreement. How wrong I was!

The first day of term and they were standing patiently outside the Mac Suite at lunchtime, asking if they could start working on their project. Since then I can't think of a single day when they haven't been in the Mac Suite tinkering away with some part of their robot, researching ideas for their Innovation project, emailing companies for support, holding team-meetings or even painting cardboard pumpkins. They have put in such an incredible amount of effort in the past two terms and the story on this page is entirely a testament to their determination, enthusiasm and perseverance.

Of course if you're a regular reader of the Penpol Times you'll know this wasn't their first competition this season, they took their presentations and robot to the [Cornish Finals at RNAS Culdrose](#) and walked away with an overwhelming set of judges feedback, the Champions Award and a ticket to advance to the Great British finals in Harrogate. You can read more about their experience at Culdrose on the link to the right.

Anyway, you didn't come here to read my ramblings, so let's hand it over to the Penpol Pumpkins as they share their highlights of the day, along with some additional information to give a context to the competition and their achievements throughout.



PENPOL PUPILS COMPETE AT THE NATIONAL FINALS OF THE FIRST LEGO LEAGUE

March 22, 2022

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PENPOL COMPETE AT RNAS CULDROSE IN THE FIRST LEGO LEAGUE

March 18, 2023

[Read this Penpol Times Story](#)

THE ROBOT GAMES

“The Robot Games is my favourite activity to do in the LEGO League because it’s very fun and gives lots of opportunities to learn and develop code – especially for people who might like to work as a coder or an engineer in the future. I would like to become an inventor and invent things that could possibly help our world in facing climate change and pollution problems.”

“Taking part in the Robot Games helped me with my inventing because I was able to understand and develop my ideas with the code. Imagine if rather than writing code for this robot I was actually writing code for a robot on Jupiter or something else that would help the planet in the future!”



Caio



The **pressure is really on** when you've got **two camera people** and **two referees** watching your every move during your 2 and a half minute match!

The teams each get three attempts at the Robot Games, spread across the day. Because it's just the highest score that's counted it gives them a couple of opportunities to achieve their best result.

The game board is exactly the same as the one they practice on at school, but there's something very different doing it in front of hundreds of people and with referees standing right next to you – talk about pressure!

The slightest change in alignment in the starting area can be the difference between glory and disaster, with the robot either heading straight to its intended target to complete the mission or veering wildly off into another mission and getting stuck!

Whilst it's a high-pressure situation, the team were able to stay focussed and on task for each match, achieving a high-score of 230 points. Whilst this wasn't quite up to their 'in-school' record of 295, it remains an incredibly credible score which they should be very proud of.

During each match the teams were cheered on by their parents, Penpol staff and the rest of the Pumpkins. This created an electric atmosphere during the three rounds!



The Pumpkins had **plenty of support** from their fellow team members and the rest of the **entourage!**

“The Robot Games is worth a quarter of the total points for the competition, which means it’s incredibly important. As one of the blue team robot engineers, my job was to launch the Toy Factory, TV and Dinosaur missions – as well as changing between different attachments as quickly as I could.”

“On the day this was tricky, because EVERYONE was watching – it was even being live streamed! Hearing the audience cheering “PENPOL PUMPKINS!!” was nerve wracking, but really helped me get in the zone to complete my missions.”



Jenna

Between matches the children were able to take advantage of the practice tables, allowing them an opportunity to practice their lineups and even refine some of their code. Jenna, Ada, Caio and Felix used this time really wisely to make some minor adjustments to their robot to ensure maximum accuracy.

The first match they played was even live-streamed to the world (with a video embedded down below). But what’s more, Ethan was asked to give a live commentary on the match itself with host Tom Deacon. He leapt at the opportunity and gave a play-by-play rundown of the teams progress as the match unfolded – a natural born presenter!



The **referees and team members** work together at the end of each match to ensure they all agree on the **final scores**.

Points in Round 1

200

Points in Round 2

210

Points in Round 3

Penpol Pumpkins - Robot Games



“It felt kind of worrying doing the commentary – what if I messed up what I was meant to say? But it was also really fun because I got to commentate for my team which was SUCH a cool thing to do.”

“I felt like the team did really well on the Robot Games matches because our speed was so much better than it was at Culdrose. I think that’s because we’d all practiced a lot more.”

“The day itself was so much better than last year because we knew what to expect and were able to really show off all our hard work – we even won an award!”



Ethan

Before we get into the next three parts of the competition, it's worth having a quick reminder of how the scoring system works in FIRST LEGO League. The children are graded against several different categories in each presentation, with a mark awarded from 1 point (beginning to show that criteria) to 4 points (exceeding that criteria by going above and beyond). For a judge to award 4 points they have to specify a reason why they believe that team has gone above and beyond.



Beginning



Developing

1 point for a team who are beginning to demonstrate the criteria. **2 points** shows that a team is developing that criteria.



Accomplished



Exceeding

3 points is where a team has accomplished the particular criteria.

4 points is where a team has gone above and beyond and exceeded the expectation.

ROBOT DESIGN PRESENTATION

The second element of the competition is called Robot Design and here the team completely re-worked their presentation from the Cornwall finals back in March. Back then the judges gave them high marks for everything, with the exception of explaining the code they had written. The judges felt they could have expanded on this more.

The team took this feedback on board and went about planning ways to better share and explain their code and how the robot itself worked. They hit upon a great idea of using an iPad with videos, code and interactivity as a way of bringing their learning to life in an easy-to-explain way.



“A major part in our presentations was our Robot Design one. We used this presentation to also show off our Core Values and creativity in the presentation, all whilst talking about the design of the robot and how our code worked.”

“After we’d finished our presentations I think we might have left the judges a bit speechless as they didn’t have ANY questions to ask us! I think we’d probably covered everything they needed to know which was amazing. They told us it was a very good presentation, in fact they told us it was one of the best that they’d seen in all the years they’d been judging.”



Felix

Alongside the techie aspect of their presentation, there was also dancing, singing and a (slightly bizarre!) chanting each time a new mission was described. This added to the sense of fun that was sewn throughout their presentations and the judges really enjoyed how involved everyone was in this.

A special mention here needs to go to Caio, Jenna, Felix and Ada who took centre stage in the presentation to talk through, in detail, many different aspects of their robot – from attachments to code, testing to reliability scores. They shared the progress they’d made since Culdrose and discussed how they had made refinements to their code to shave off precious seconds and score more points.



The Pumpkins were interviewed by Prince Abdi and his camera crew, who were really keen to learn all about their Pumpkin theme and how their robot

Judges Feedback for the Robot Games

The judges praised the team for their **clear mission strategy**, which was **described clearly both verbally and through an interactive diagram** on the iPad. There was a **clear explanation of the robot and all its innovative features**, which **went above and beyond the other teams** on the day.

The judges also remarked that they enjoyed their use of an iPad with a app-type approach worked well enabling them to show **clear evidence of their design, iteration and testing**. This particularly shone with their **incredibly detailed overview of their design and mission strategy**.

Lastly, the judges were pleased that **every single team member was involved**, remarking that **each student went over and above expectations** to deliver such a strong presentation.

The area for development identified was to consider explaining more of **their initial design process**, potentially **including diagrams of other designs that they'd tried** before settling on their current robot and attachments.

4	Identify Mission Building	4
2	Design Workplan Innovation	4
4	Create Functionality Model	4
4	Iterate Testing Improvements	3
3	Communicate Explanation Evidence	4

CORE VALUES

One particular area where the Penpol Pumpkins truly excelled was the Core Values. These six values include Discovery, Innovation, Impact, Inclusion, Teamwork and most importantly, Fun!

Having worked with these children for the past two years, I could give countless examples of how each child has gone above and beyond in demonstrating all six of these values, but you'd get very bored of my writing. Instead let me paraphrase a couple of examples the children themselves shared when talking to the judges:

Caio: *"When we first started this project I'll be the first to admit I really struggled at **teamwork**. As time has gone on it's a skill I've really improved at. Whilst I'm still not perfect at it, I really get on well working in a team and supporting others."*



With the help of Mrs Allen and Mrs Woolcock, the Pumpkins had the most orange Pit Area in the whole competition!

"This competition has allowed me to be more open and honest about myself, for example I know that people can trust me and I can trust them. When we first started none of us really knew each other but over time we've built such strong relationships and friendships with each other."

"When we first heard that we had the best presentation in Great Britain it was an absolute shock to us because over time all of us had fun, designed amazing posters, had lots of laughter and genuinely enjoyed ourselves. Even though we were having fun we managed to succeed, which I think shows that as long as you put in lots of hard work, you can have fun and not have to take things too seriously!"



James B

Jenna: "Two years ago I would have NEVER stood up in front of people to talk – let alone leading a presentation in front of a room full of judges or doing a school assembly! I've **discovered** that I have so much more confidence than I realised and can do anything if I set my mind to it."

Ada: "Working with Chelsea (our mentor from RNAS Culdrose) has had a great **impact** on me – she's inspired me to become an aircraft engineer just like her in the future. She has such a fun job and I'd love to be like her when I grow up."

Ernie: "I've been able to enjoy taking a back-seat in the coding this year and instead worked more on the Innovation Project. I've been able to mentor and teach other team members to help them learn how to code with the robot, which means everyone is **included** in the competition."



Fellow teams, parents and even presenters were frequently seen **taking selfies** in the fab 'Don't be a Pumpkin' photo frame - complete with fun props!

"Miles and I contacted LEGO to see if would be okay to have 150 LEGO Pumpkins to hand out at the competition. We were overwhelmed that LEGO decided to give them to us and it meant that we could spread the message about Food Waste by talking to people about the problem and then giving them a little LEGO Pumpkin to remind them."

"My proudest moment of the day was going up on the stage after we'd heard that we'd won the Innovation Project trophy. It made me feel very excited because that's one of the biggest awards to win – along with the Robot Games, Core Values and the Champions Award."



James S

The Pumpkins embodied these values throughout the whole day, sharing their badges with other teams, talking to adults about the food waste recycling project and cheering on and encouraging

other teams during their robot games.

As the day went on something lovely and unexpected started happening... Other teams came by our Pit Area (the teams base for the day) and left little presents and notes for the Pumpkins. These included some cool LEGO bookmarks, 3D printed key rings and lots of badges and sweets! It was great to see how friendly other teams had been to us, something which I think is testament to how confident and open our team were with meeting and chatting to everyone else as the day went on.



The Pumpkins came back to their **Pit Area** to find these lovely **laminated bookmarks** (filled with LEGO Cards!) that **Team Electric8** had left for them to say thanks for getting LEGO Pumpkins!

Judges Feedback for the Core Values

The judges felt that the teams **presentation was amazing, particular the way they worked so closely together and complemented each other.** Their **research was outstanding,** including **drawing information from industry experts, schools, parents and the council.**

They were really pleased to see that the children were making an **impact in their community by working with the council** to develop and further push their ideas and felt it was clear that they **all knew exactly what they were talking about** and **delivered that information in an excellent way.**

Lastly, the judges remarked that they **wowed them with an amazing presentation that was so much fun** – in fact the **judges were crying with laughter! Brilliant.**

The advice for developing this further was for the children to think about how they can **pass this enthusiasm onto the younger children at school** to keep the FIRST LEGO League momentum going **for years to come.**

Discovery

team explored new skills and ideas

4

Impact

Innovation

team used creativity and persistence to solve problems

3

Inclusion

team applied what they learned to improve their world

team demonstrated respect and embraced their differences

4

Teamwork

team clearly showed they had worked as a team through their journey

3

Fun

teams clearly had fun and celebrated what they have achieved

THE INNOVATION PROJECT

Finally, the team shared a presentation with the judges called the Innovation Project. Despite being relatively short, this was the culmination of nearly 8 months of hard work. The team were inspired by the amount of pumpkins that were left to go to rot after Halloween and were struck by the fact that this was incredibly wasteful.

They soon realised that other types of food were also going to waste and after researching further they discovered that this was actually a huge problem. Not only did 35% of bin bags in Cornwall contain food waste, but the Methane gas produced when the food rots in landfill is 25x worse than Carbon Dioxide for Global Warming.

The real shame is that Methane can be used for good – even creating clean electricity and powering certain vehicles!



Following on from their Cornish Finals, the team created this **wooden board** with **examples of their advertising campaign on**. Sadly it lost the D in landfill on the 10 hour trip to Harrogate!

“It was a big thing to think of, but it kind of clicked when I mentioned my idea to the team. They loved the idea of pumpkins and soon realised just how much food waste we could be dealing with. It felt like it would be really good for the community as well as the competition, because we could spread for message about recycling food waste with our local community.

When we learnt that Cornwall Council were going to use our ideas to help them promote this across all of Cornwall, I felt like it was a big step forward for our ideas and goals. It's gone beyond being a part of a LEGO competition and we're now going to be able to make a real difference in our part of the world!"



Ada

They conducted lots of research into this and initially designed a product for people to use at home to recycle their own food waste and harness the useful methane gas. However, prototypes soon revealed that this wasn't a great option and they began to look elsewhere for inspiration.

After some emails to Biffa, SUEZ and Cornwall Council the children learnt that there is a planned Food Waste collection coming later in the year. This was it! The children realised they could help advertise and promote this service by creating a set of adverts – tv, radio, tiktok, posters, etc etc to get the public's attention and encourage them to stop sending their food to landfill.

They've created loads of adverts and have been sharing their message with everyone they met in Harrogate by giving out badges, LEGO pumpkins and discussing how important it is to recycle food waste.



The Pumpkins were **full of energy** heading into the Innovation Project presentation - armed with props, models and posters to explain their **project solution**.

"The funniest part of the presentation was definitely when Ethan was begging James to let him have a red panda – he gets funnier every time he does it!"

"My proudest part of the presentation was the part when I had quite a big part to say and I didn't mess it up at all!"

"The judges said that in all their years of judging they'd never seen anything quite like our presentation. The way we conveyed our message to them through a play was

something they really, really liked.”



Piran

In the last few weeks before the Great British Finals, the children had a visit from recycling team at Cornwall Council who came to see their presentation and adverts. The council were blown away by the Pumpkins and are currently arranging for us to go on a tour of a food waste recycling plant as well as planning how we can work together to use the Penpol Pumpkins adverts as a way of actually promoting the new service to the whole of Cornwall.

Talk about making an impact!!



The Penpol Pumpkins pose for a team photo outside of Harrogate Convention Center.

Judges Feedback for the Innovation Project

Having earned an **extraordinary 36 points out of 40** on their Innovation Project, **the judges were so impressed with their enthusiastic presentation and the range of different media across all platforms** used to deliver it.

The Penpol Pumpkins had **talked with a number of different users, professionals and Cornwall Council** to research and develop their project, which led to them being able to share a **clear definition and communication of the problem**. They also loved how there were **so many different iterations of the solution** in terms of different Food Waste collection adverts **being communicated across many different platforms**.

Finally, the judges wanted to let the team know that **they had a simply amazing presentation**, which they deeply enjoyed, **including acting, song and lots of laughs**. They **clearly demonstrated how this had impacted on them** and how they were making a difference in their community.

The next step for the team should be to **think about how they can further improve their ideas by taking on more feedback from others** and then **how they can maintain their current level on enthusiasm as the project with the council continues.**

Identify

Problem | Research

4

3

Design

Ideas | Planning

3

3

Create

Innovation | Model

4

4

Iterate

Share | Improvements

4

3

Communicate

Presentation | Solution

4

4

Of course, the biggest recognition of the student's hard work came at the end of the day when it was announced that they had **won the Innovation Project award!** The Penpol Pumpkins and their mission to reduce food waste is OFFICIALLY the best Innovation Project in the country this year. What a massive, massive achievement.

Penpol Pumpkins, we are incredibly proud of each and every one of you. Congratulations!



Penpol Pumpkins - Innovation Project Winners



“The moment they announced that we’d won the Innovation Project was exciting. I didn’t even realise what was happening for a few seconds – everything was a blur! Once I realised that we’d actually won I leapt up and ran to the stage to collect our trophy.”

“I was very shocked, but also very proud of our team because I knew how hard we’d all worked to get this achievement and how much time and effort we’d all put in over the years. It made me feel very overwhelmed but in the best possible way.”



Miles

And if by any chance you’re wondering what the best Innovation Project in Great Britain looks like, here’s a little peek! *(This was recorded after a ten hour coach trip and without unpacking all the props and posters they’d usually share during their presentation – but still, I think you’ll get a pretty good flavour of what they’ve been up to!)*

Penpol Pumpkins - Innovation Project

Of course, getting all these wonderful students to Harrogate is no small task, and we couldn't have done it without the kind and generous support of our sponsors: Rowe IT, The IET, Paradise Park, Penpol Friends, LaserMaster, Atlantic Pools, Adam Masters General Builders, Fugro, Cornwall Stairs and Philps.



A massive thank you to them all!





ALSO IN THE NEWS:

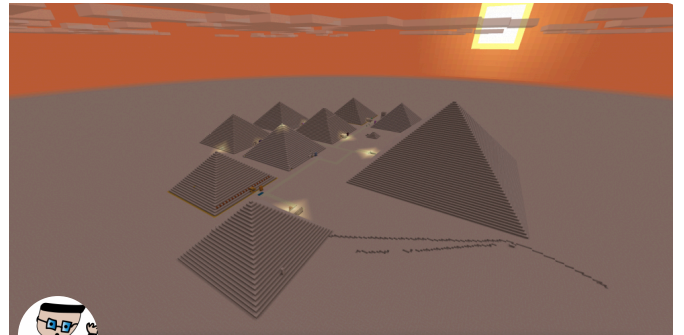


YEAR 2 VISIT TO ST MICHAEL'S MOUNT

On a very windy, stormy Monday 6th December, year 2 went to visit St Michael's Mount as part of their Castles topic. After putting on our head-to-toe waterproofs, we got on the coach and drove through

[READ MORE »](#)

Imogen Robinson • 9th December 2021



CONSTRUCTING EGYPTIAN PYRAMIDS IN MINECRAFT

This half term we've been building Pyramids in Minecraft Edu in our Computing lessons. Mr Woolcock and Paul have created a shared world where we were all able to work together and build pyramids for our

[READ MORE »](#)

Jacob Woolcock • 8th December 2022



PENPOL'S SPONSORED MILE FOR UKRAINE

Over the past few weeks, Penpol have been raising money for ShelterBox – a charity that are providing emergency shelter and resources to families who have lost their homes during the current war happening in Ukraine.



A VERY SPECIAL VISIT FROM BIFFA

Last week we had a very special visit from Biffa and their brand new Food Waste Recycling Truck. Okay, you might be asking what's so special about that? Well the Penpol Pumpkins have been spreading the

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Jacob Woolcock • 16th July 2023



YEAR 6 ACTIVITY WEEK- 'SUN, SEA AND SAND'

What a beautiful day! The sun was shining and the light was perfect for photography! With energy levels weaning after what had already been an eventful few days, we made our way to Hayle beach with

[READ MORE »](#)

Nic Stanlake • 19th June 2021

Our Penpol School Vision: *"Penpol pupils are **curious, creative and courageous** learners. Our school community believes in **authenticity** as the foundations of **deep-rooted** learning.*

*Through our **rich and relevant** curriculum, we nurture **community-minded, forward-facing** international citizens of the future."*

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