

Inspiring kids in STEM and Arts subjects

STEAM 2015 – 2016 END OF YEAR REPORT



STEAM Education Ltd is a not-for-profit limited company (542836) operating out of UCC Gateway Innovation Centre, Western Road, Cork. W: <u>www.steam-ed.ie</u> T: 0214205437

At STEAM Education our mission is to INSPIRE THE NEXT GENERATION



to love STEAM subjects & become scientists, technologists, engineers, mathematicians, & artists!



STEAM Programmes IN-A-BOX!

We provide fun engaging ready-to-teach programmes in science, technology, engineering, arts & maths for children in primary schools!



Current programmes include Science-in-a-box, Engineering-in-a-box and Maths-in-a-box, with Technology and Arts in development. Steam

Steam

Meet the Team

Managing Director: Dr. Alice D'Arcy 0876189837 alice.darcy@steam-ed.ie



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Communications & Engineering: Linda Egan 086856 6999 linda.egan@steam-ed.ie

Maths & Events: Grainne Bagnall 0864147979 grainne.bagnall@steam-ed.ie



Accounts & Procurement: Greg Scully 0214205437 (office) Greg.scully@steam-ed.ie



And in a supporting role! Seamus Devlin (Founder); Prof. John O'Halloran, UCC(Director), Prof. Colette Murphy, TCD (Advisor), Kevin O'Callaghan (Advisor), Fiona Naughton (Advisor)









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We want to thank all of you for your support and participation in STEAM IN-A-BOX! Programmes in 2016



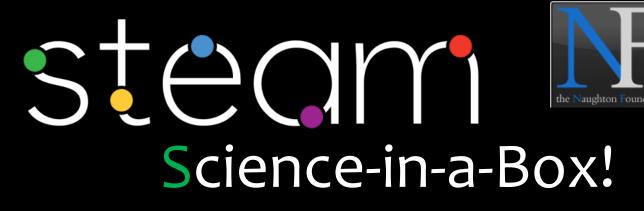


It has been a very busy year!



Let's have a look at some of the amazing things we achieved with your help!





Supported by The Naughton Foundation & a number of private donors



28 science programmes in 16 schools in Dublin, Louth, Meath & Cork

Including 2 Gaelscoileanna: programmes co-delivered through Irish by fluent Irish speaking science postgrads!

777 children in science programmes (in 2015/16 school year)

711 children in science programmes (in 2016/17 school year)

Primary teachers engaged: 2015/16 school year: 28

Primary teachers engaged: 2016/17 school year: 27

Science postgrads co-delivering the programmes: 12 in 2015/16; 10 in 2016/17 Including postgrads from Trinity, Royal College of Surgeons, & Dundalk IT

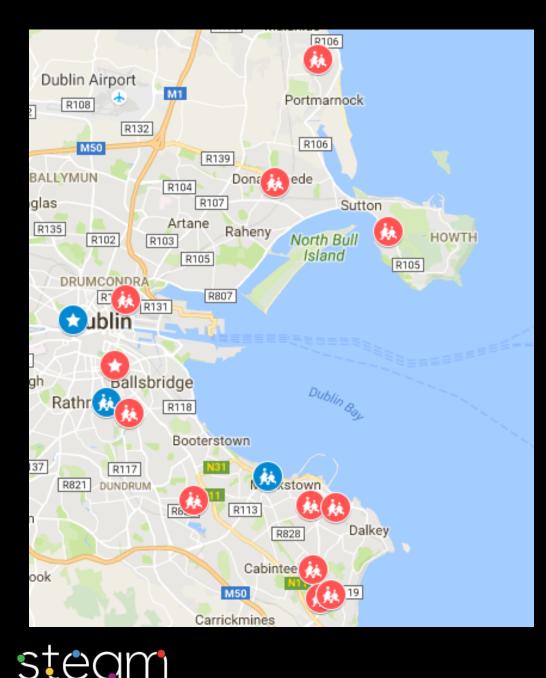
Science-in-a-Box!

Is a 25 week programme, 1 hour per week, €5000 Delivered by company employees or science postgrad. Covers everything from the Big Bang to Human Biology!









Science Schools! St Helen's Senior NS, St Fintan's NS, Holy Trinity Senior NS, St Vincent's Girls NS, St Mary's NS Ranelagh, St Laurence's Boys NS, St Joseph's NS, The Harold School, Johnstown Boys NS, Scoil Cholmcille Senior School, St John's NS Ballybrack (supported by The Naughton Foundation)

> Scoil Bhríde Ranelagh and Scoil Lorcáin (supported by private donors) &

Our Lady of Lourdes, Ballinlough, Cork 9

Congratulations Science-kids!

By June 2017 almost 2000 upper primary school children will have completed our science-ina-box programme since our pilot science course in 2015/16!

> Our Lady of Lourdes Ballincollig, Cork – science-in-a-box class in 2015/16 – receiving their certificates of completion!



Engineering in a Box! A 10 week programme, 1 hour a week

Delivered by company employees or engineering postgraduate.

We use a co-teaching model engaging with and supporting primary school teachers





Pictured to right: MAREI **Research Engineer Donal** Murray who co-developed our pilot phase engineering programme





In early 2016, with support from MAREI & Enterprise Ireland we developed:

Endineerin

Overview of Engineering in a Box!



10 1 hour lessons delivered in school time We provide the lesson plans, activities, materials, and training

Engineers are problem solvers! We look at problems/challenges that have faced humans throughout history & how we work to solve them

Block 1:

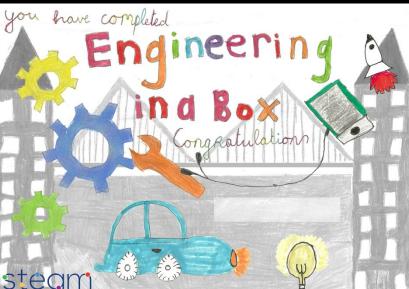
- 1. Introduction to engineering Shelter
- 2. Infrastructure
- 3. Food & Environment
- 4.Transport on land
- 5. Transport air and sea

steam

Block 2:

6. Biomedical engineering 7. Simple machines 8. Communications 9. Energy





We launched & ran a pilot in 3 schools in Spring of 2016 with the support of:



It went really well!



It went so well that we ran the programme again in October 2016 in 17 classes (in 13 schools)



le Cathrach Chorcaí



Engineering in Knocknaheeny Learning Neighbourhood Schools

stean



Cork City Council Comhairle Cathrach Chorcaí



Knocknaheeny

REDIT UNION



Sundays Well Boys NS







Sundays Well Girls National School



Scoil Cholmcille, Blarney Street Cork





Steam's Engineering-in-a-Box!



Totals for 2016: Cork City & County

Pilot Programme: 5 schools, 6 classes – 161 kids, 6 teachers, 4 co-teaching engineers & 4 co-teaching postgrad engineers from UCC



Autumn Programme: 17 classes in 13 schools – 420 kid

17 teachers, 15 co-teaching engineers & 7 co-teaching postgrad engineers from UCC

581 kids have completed Engineering-in-a-Box!

Primary school gets first-hand insight into engineers' work

BY SIOBHÁN CRONIN

at primary level. A WEST Cork primary school has teamed up with a UCCbased company, founded by a Clonakilty man, to promote science, arts and technology subjects.

ing children at this young age, Steam Education brings it will prompt some of the the 'Stem' subjects (science, professionals of the future to technology, engineering and think about having a career in maths), plus arts, into primary those areas. Abbeystrewry National schools in a series of fun and

School in Skibbereen has interesting demonstrations and experiments, with the aim teamed up with Steam this of fanning the flames of wonyear, and will welcome hourder and excitement that these long weekly visits from local engineers who will talk about subjects can bring to young their work and careers with the children.

Steam was established in 2014 by Clonakilty native and scientist Seamus Devlin, who started the programme in his struction of the nearby statechild's local school, Darrara NS, having noticed that not all of-the-art Skibbereen Com-

and enquiring minds.

the subjects were being taught munity School. As a result, two Bam engineers will be co-Now it is a successful notteaching the 'Engineering in a for-profit firm, supported by Box' programme at the school, such heavy-hitters as BAM, and encouraging the children Eli Lilly, Sisk, GSK and DePuy. to see engineering in a fun and It is hoped that by involvpractical way.

Engineers Michael O'Brien and Conor Nolan will spend one hour a week over 10 weeks, interacting with the children and teachers at Abbeystrewry and running experiments and demonstra-

tions to get the kids involved. Steam Education, now based at the UCC Western Gateway Building, says its Science in a Box programme covers everything from the Abbeystrewry's partner Big Bang to human biology, firm is Bam construction, linked to the primary school which has just completed conand junior cert curricula. The engineers will teach

alongside the teachers and



Students at Crosshaven NS receiving engineering certs

the programme comprises 'Both Michael and I were interactive games to help the forward by Bam, to deli children learn the key scienthis programme in conju tific concepts in each lesson. tion with Engineers Irel: 'In Bam, we put a lot of work and Steam,' he added. into professional development Michael, from Marcroo and sharing our expertise with pointed out how it will w people who may or may not in practice: 'The program be directly involved with conwill be one day a week for struction,' explained Conor. weeks. Conor and I have s

We began to expand our PR

'Over the past few years, the BUSINESS

DISCOVERY

siliconrepublic

PORTFOLIO PEOPLE

MORE

PORTFOLIO

it, so each of us will do five

weeks. This will be my first

time getting involved with

Steam, so we are looking for-

ward to sharing our experi-

ence of working in the con-

The duo say that it will hope-

fully help to inspire the stu-

struction industry.

lents.

LIFE

Engineering in a Box programme opens for primary students

by Colm Gorey

34 MINUTES AGO



from Shanbally National School in Cork who will be participating in the pilot programme.

LATEST NEWS



Engineering in a Box programme opens for primary students 34 MINUTES AGO



Check out 9 smartphones launched at MWC 1 HOUR AGO





New Raspberry Pi 3 with Wi-Fi and Bluetooth released for €32

2 HOURS AGO

RELATED CAREERS



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And with the support of An Chomhairle um Oideachas Gaeltachta & Gaelscolaíochtaour <u>(COGG) & Foras na Gaeilge</u>

An Chomhairle um Oideachas Gaeltachta & Gaelscolaíochta





we have translated our Engineering-in-a-Box Pilot Programme into Irish. It will be delivered by fluent Irish speaking engineers in a number of Gaelscoileanna in 2017! Science-in-a-Box is also available as Gaeilge.



We have partnered with Engineers Ireland STEPS programme to advance engineering in primary schools



What this space for Engineers Week 2017!



Steam Maths-in-a-Box!



Maths in a Box!

6 weeks, 1 hour per week = €1500

Delivered by company employee or maths postgrad*



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Grainne Bagnall – previously of SAM – Sense About Maths – has joined us at STEAM to develop our Maths in a Box Programme!

Here's our latest write up in the Irish Examiner

ONE IRISH WOMAN IS CHANGING YOUNG GIRLS' ATTITUDES TO MATHS



Steenstein Ltd.

Testimonials from company outreach employees who have co-delivered our programmes



"The kids are really great... it's like you are talking to your own future... this is a really great platform to learn about myself as well, what the future is, how it is going to transform, and who are the people that are going to transform this future".. Dr. Rehan Ahmed, Bioengineer @ INFANT & Engineering coteacher



"Personally what I find with the co-teaching was that it added a lot of value back to the community...I got a lot of satisfaction out of it...(it) is something I would recommend anybody to get involved in. From a company perspective there's been a lot of advantages for the employees – **there are other CSR initiatives but perhaps they are not as close to home as this one**".. Dana Kelleher, Data scientist @ Trend Micro & Maths <u>Co-teacher</u>

It was a bit intimidating going in for the first time standing up in front of a class of 30 curious twelve year olds. However, the lessons were very well structured, & the nerves soon disappeared. The teachers were a great help (&) the kids really enjoyed the lessons & wanted to do more. They were really engaged, asking lots of questions & getting involved in the activities. Some of the girls even told their teacher it was their favourite class at the end of the year!... That was probably the best part for me and **hopefully one or two of them will look at Engineering as a career in the future!**

Dan Crean, Process Technician @ STRYKER

Testimonials from teachers & kids in STEAM Programmes



Teachers..

"Thank you so much for all your hard work included in the Engineering-in-a-Box Program. We have thoroughly enjoyed all of the lessons and the children have achieved a greater knowledge of Engineering as a result, we have even some children who would like a career in Engineering in the future".

Kids..

'I like when we do the activities because they are really fun and you learn from them' 'I like the way we really had to think hard for the activities' 'I like building things because it's really fun' 'Solving problems! It was challenging!





THE CURIOSITY DEN!

We also run inspiring events for children aged ~9-12, TYs AND adults, with STEAM workshops, displays and panel discussions



Our latest Den, held in CIT in October, catered to over 150 children and 50 adults and was very popular!

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So once again thank you to all our supporters from STEAM and from the kids!



We look forward to working withsteamyou further in 2017

Supporters, Partners and Collaborators Include:





Contact us to get involved! STEAM Education Ltd 2.29 Western Gateway Building, UCC www.steam-ed.ie





STEAM Education Ltd is a registered company (Company No: 542836) operating as a not-for-profit social enterprise, based in the Gateway Innovation Centre in University College Cork