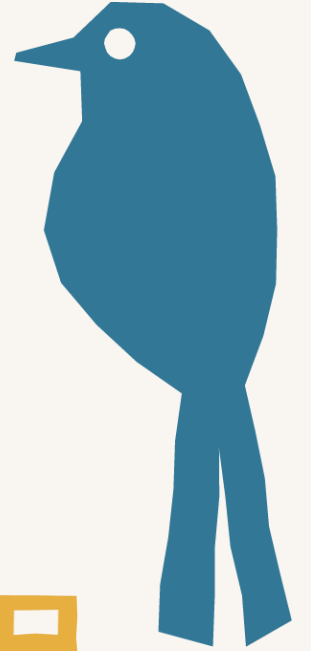




Natural
History
Museum



Boosting biodiversity in education: Linking community science with action



**Lucy Robinson, John Tweddle, Jade Gunnell &
Victoria J Burton**

Natural History Museum

NBN conference 23 November 2023





Angela Marmont Centre for UK Nature

Community science

Identification and Advisory Service

Collections and facilities

UK natural history training

Science-led recovery and enrichment of UK nature



National Education
Nature Park and
Climate Action Awards

The background features a variety of colorful icons: a blue target-like symbol, two orange figures holding hands, a green donkey, a dark green lizard, a yellow star, a green leaf, an orange microscope, a red sun, a blue landscape with hills, a blue hand, an orange house, and a green circle.

National Education Nature Park

Our partnership

Large England-wide partnership, funded by the Department for Education.



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Learning
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Manchester
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University



NBN Trust
Making data work for nature



Royal
Geographical
Society
with IBG



UK Centre for
Ecology & Hydrology

Working with



esri UK
THE SCIENCE OF WHERE

Background

- One of the most nature-depleted countries in the world
- Dasgupta Economics of Biodiversity Review highlights importance of education
- Access to green space has positive benefits for wellbeing
- There's a need to address STEM skills shortage
- England's primary and secondary schools = area twice the size of Birmingham



Overall aim

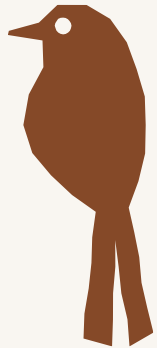
To empower every young person in England to take action to make a positive difference to both their own and nature's future by:

- Developing a connection to nature
- Understanding the threats it is facing
- Feeling able to do something about it
- Taking action in their own space



Programme goals

Biodiversity gain
across the
educational
estate



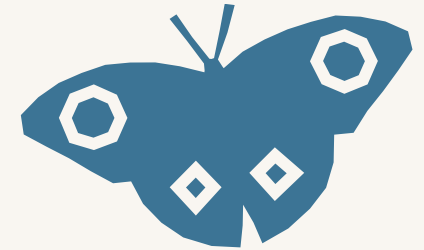
Development of
green skills



Young people
exhibit pro-
environmental
behaviours

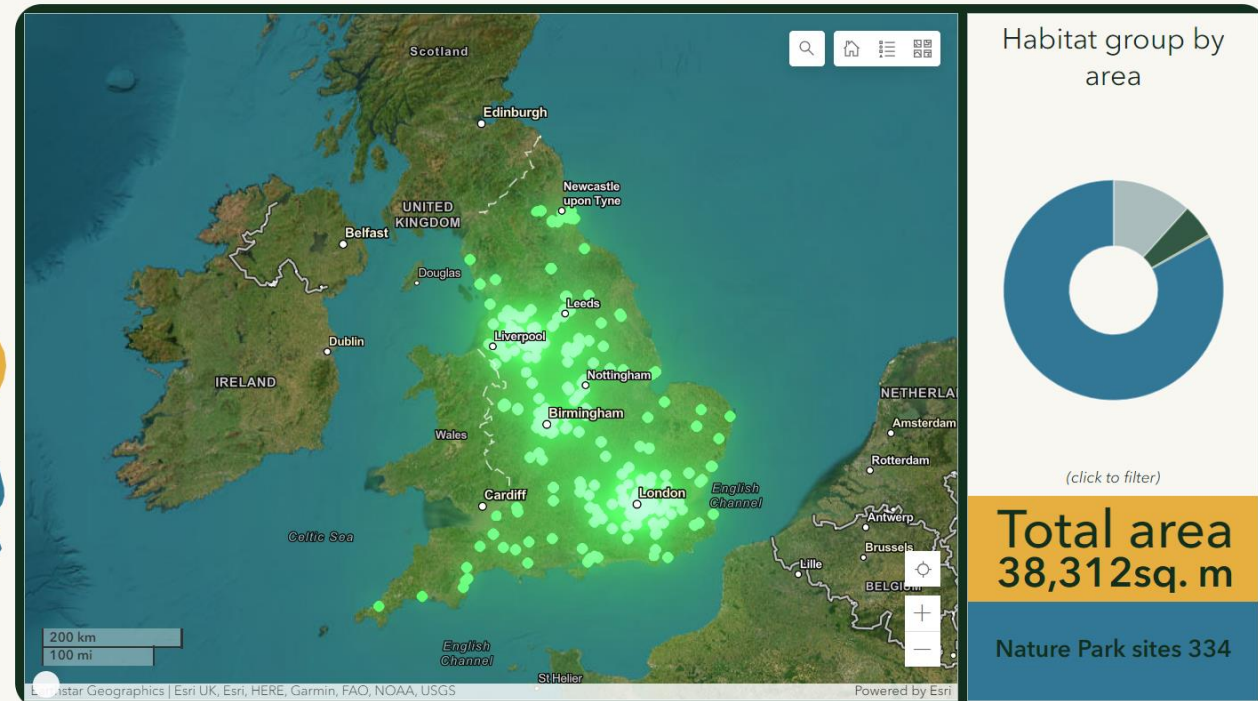


Improved
wellbeing for
young people



Successes in first month

- Over 1000 teachers registered from almost 1000 schools, nurseries or colleges
- Over 330 sites added to the map



Five step cycle



Using data



Hidden Nature Challenge



3 Ways to...Share your Findings



Using overlays



Mapping your site



Water permeability



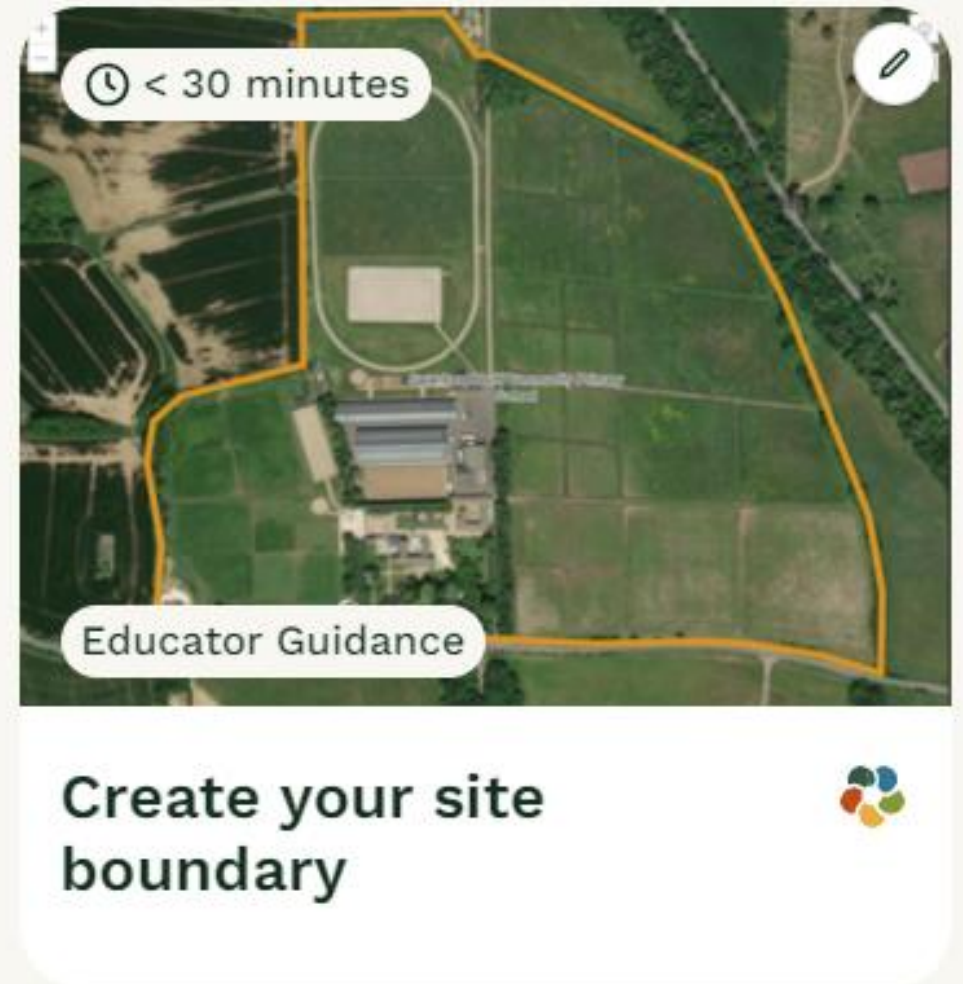
Investigate Environmental Quality



Mapping your site

Esri tools to support all mapping activities

1. Create their site boundary on the map
2. Mapping existing habitats
3. Plan and implement enhancements
4. Monitor change



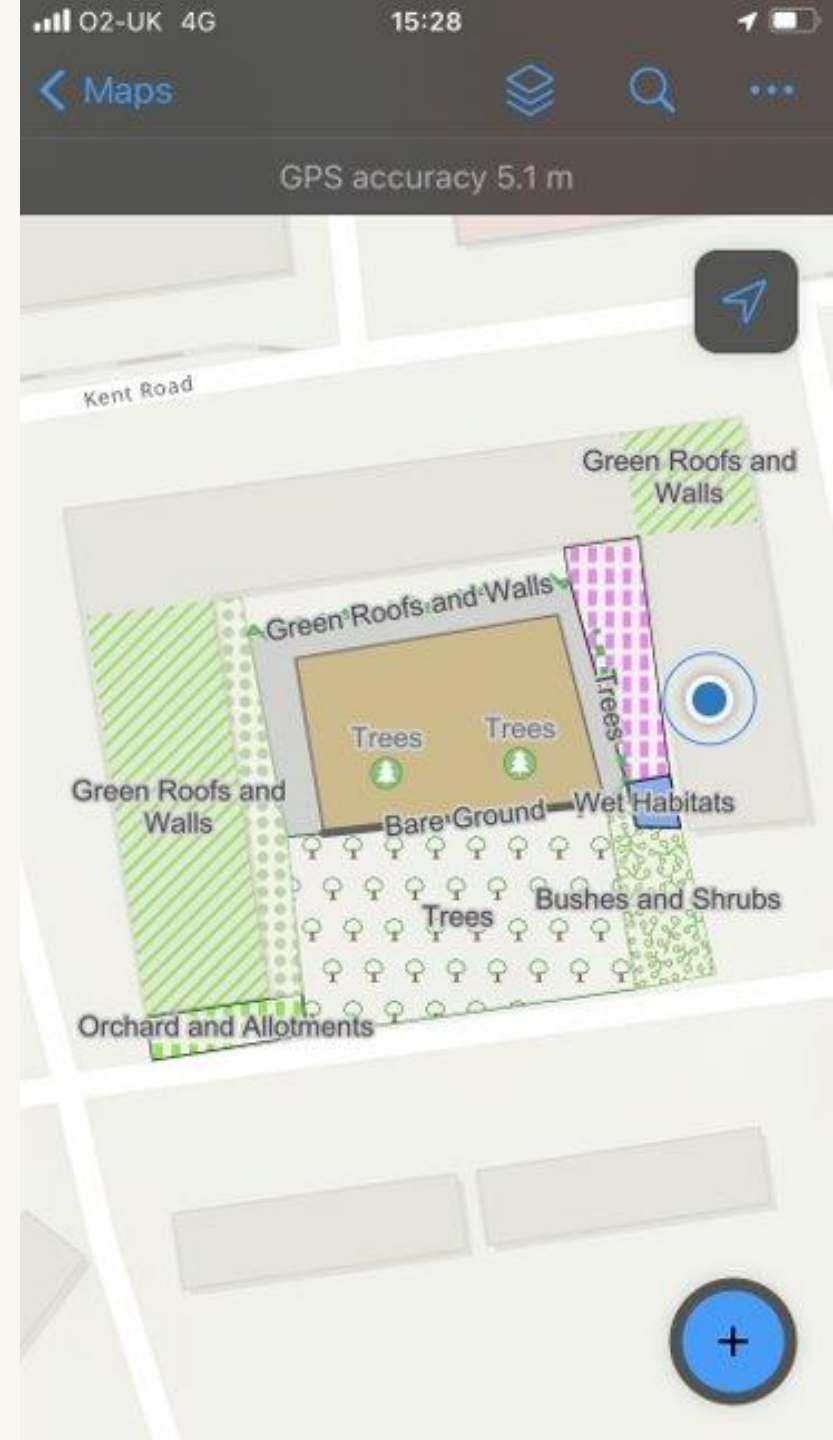
Habitat mapping

Habitat schema adapted from UK Habs and Urban Greening Factor (43 habitat categories).

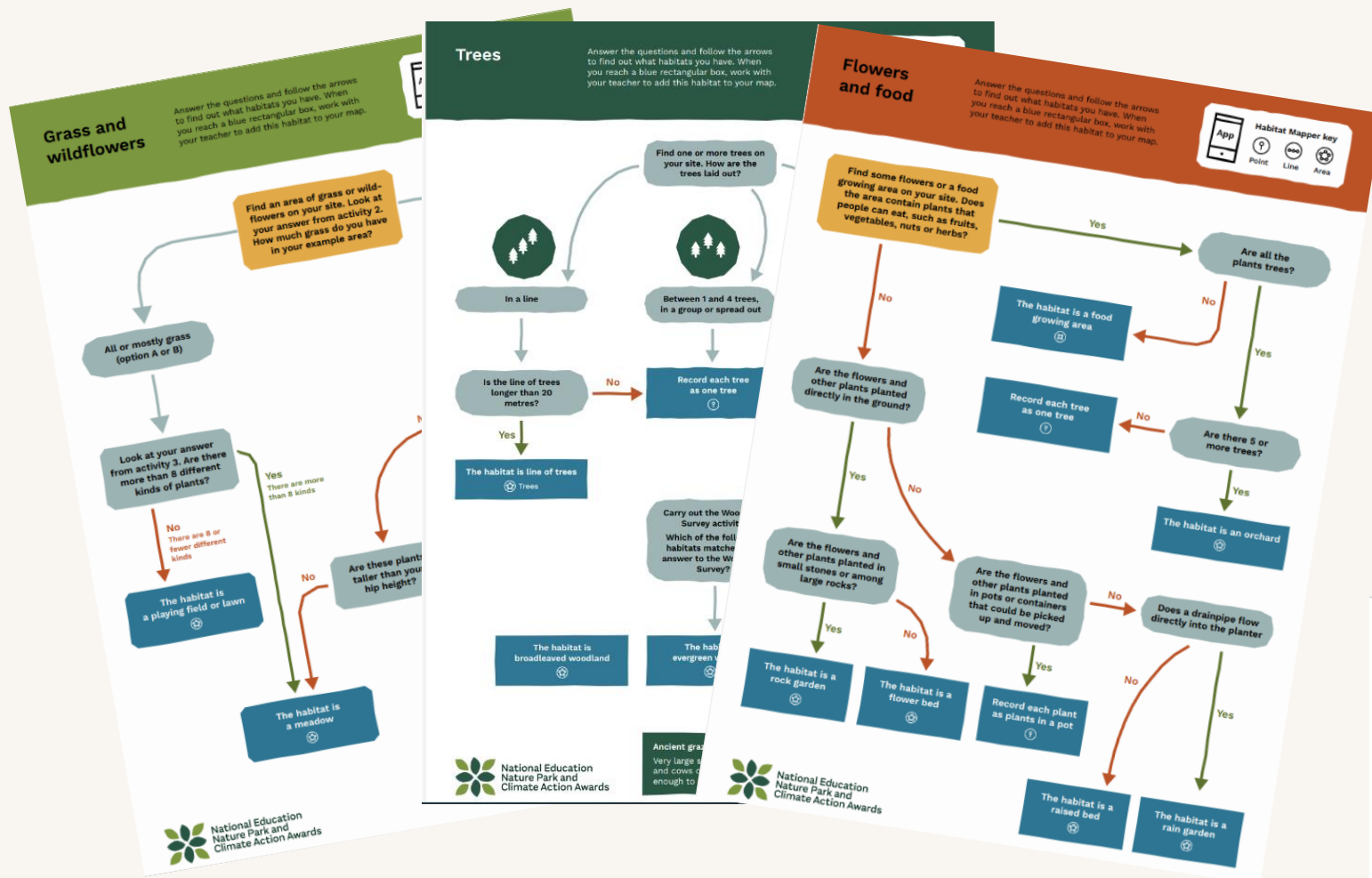
Polygons, lines and point features

Also mapping features such as bird boxes, log piles and compost heaps

From next year: Habitat quality assessments



Habitat mapping resources



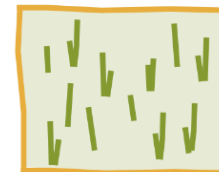
3 What grasslands or meadows does your school have?

ACTIVITY 3: How much grass is there?

Take a look at the images below. Choose which option most closely matches your sample area.

Option A

Mostly grass



Option B

Lots of grass, but some other plants too



Option C

Mostly other plants



Use this space to make a drawing or bark rubbing of your tree

Take no longer than 2 minutes.

Meet a Tree

Tick the statement that matches your tree.

- Seedling:** I'm under 1m tall with just a few leaves.
- Sapling:** I'm over 1m tall, have a flexible trunk, and smooth bark. I can't grow fruits or seeds yet.
- Mature tree:** I'm a fully grown tree with a strong trunk and spreading branches. I can grow fruits or seeds.
- Veteran Tree:** I'm a very old tree with a thick, bumpy trunk. Some of my branches might be missing or have holes.

Am I evergreen or broadleaf?

Tick the statement that matches your tree.

- My leaves are tiny scales that overlap on my twigs, or needles. I am an evergreen tree. I usually keep my leaves all year.
- My leaves are other shapes and more than 1cm wide. I am a broadleaf tree. Most broadleaf trees lose their leaves in winter (they are deciduous) but some keep their leaves all year, like Holly.

Biodiversity data

Young people will begin to gather biodiversity data from Spring 2024

- Baseline data
- Habitat-specific surveys
- Fun iNaturalist events like City Nature Challenge
- Monitoring of interventions they make to enhance their site
- Esri tools and apps will facilitate data entry



Enhancing school sites

Schools can get creative and imagine a new future for their site

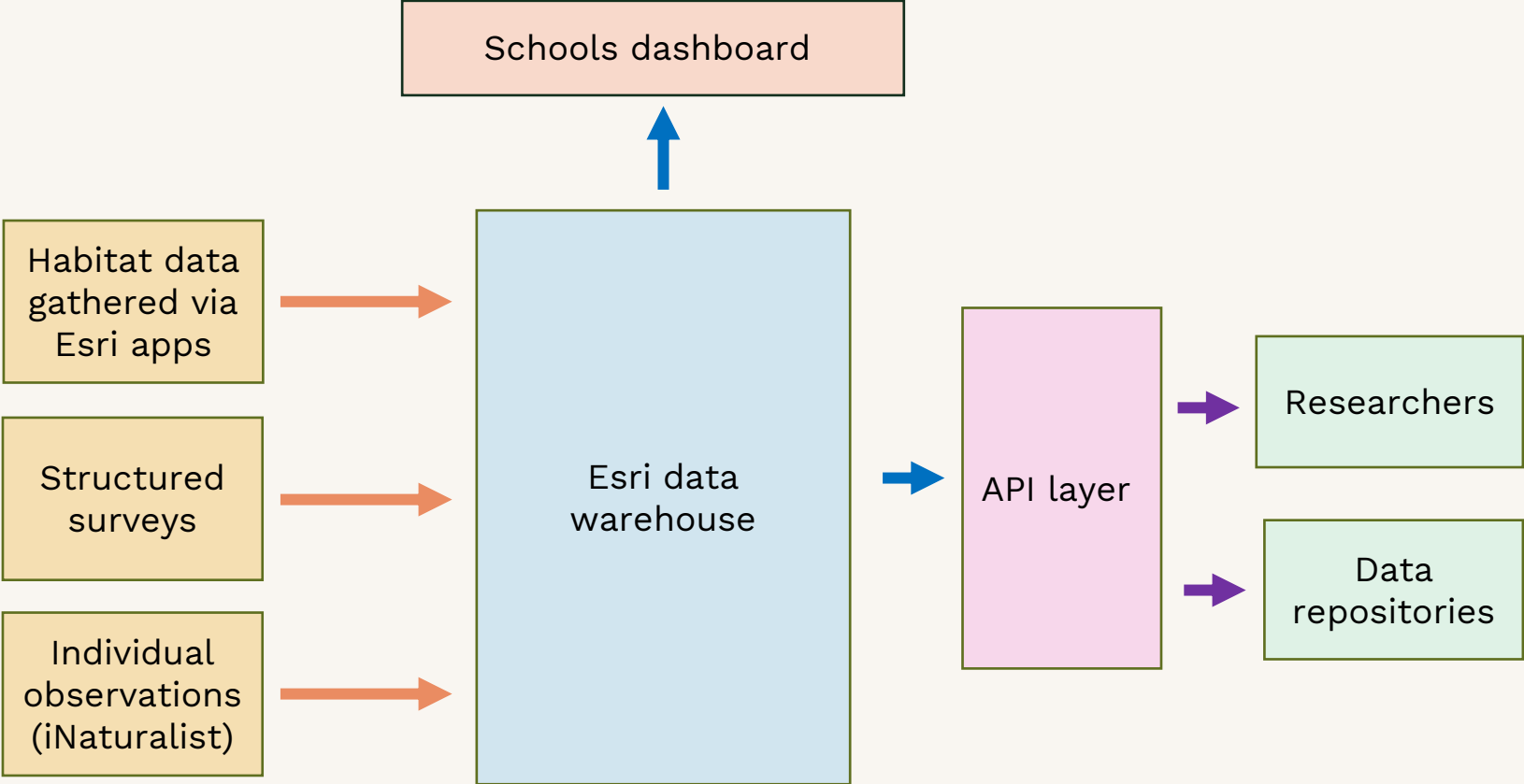
Young people play active, decision-making and practical roles

Small (or big) actions, taken across thousands of sites, have a massive impact for nature regardless of the starting point

Map and monitor to measure change



Data flow and onward sharing



Measuring biodiversity gains

Postdoctoral researchers within the team –
Dr Victoria Burton & Dr Alexa Varah

- Measurable gains in spatial extent
- Change in quality of habitats
- Specific data on key species groups
- Modelling of likely longer-term gains



Join and support us!

www.educationnaturepark.org.uk

eNewsletter for programme updates if you are interested but not a teacher



Thank you!



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