Information for teachers and school leaders new to Open Schooling

MAKE IT OPEN

**PACK ONE:
Introduction to
Open Schooling**

PACK TWO:
Open Schooling
case studies

PACK THREE:
Planning your Open
Schooling activity

What is Open Schooling?

Open Schooling is an approach in which purposeful collaborations are built between schools and their wider communities. Families, experts and other stakeholders collaborate with teachers and students to address relevant local challenges, contribute to community development, and promote an active global citizenship attitude.

Open Schooling offers students the opportunity to learn together in the real world, and widens their horizons to learn from people other than their teachers.

Open schooling activities are characterised by 4 features:

Placed

A place-based curriculum

The activity is located, either physically or virtually, in a world that the student recognises and is seeking to understand.

Purposeful

Purposeful projects

The activity feels authentic, it absorbs the student in actions of practical and intellectual value and fosters a sense of agency.

Passion-led

Passion-led teaching and learning

The activity enlists the outside passions of both students and teachers, enhancing engagement by encouraging students to choose areas of interest which matter to them.

Pervasive

Pervasive opportunities for research and constructive challenge

The activity enables the student to continue learning outside the classroom, drawing on family members, peers, local experts, and online references as sources of research and critique.
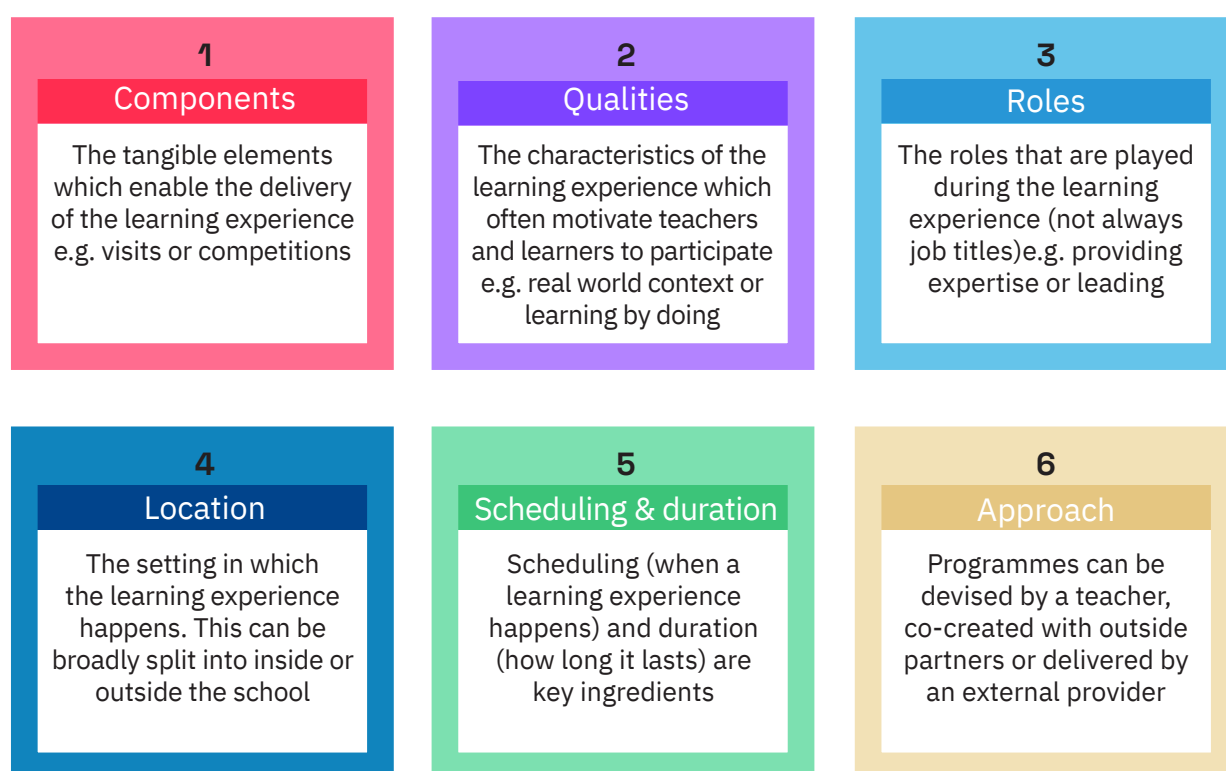
Further information
OSOS: Open Schooling Roadmap A Guide for School Leaders and Innovative Teachers

Forms of Open Schooling

You almost certainly already do some form of Open Schooling: when you involve outside partners, or bring your students outside the school walls.

Open Schooling can be tailored to deliver specific curriculum in a new way, to improve student engagement or to initiate and deepen a school's relationships with its community. Whatever form it takes, at the heart of Open Schooling is a mindset and culture that is outward facing and collaborative.

The building blocks of Open Schooling:

1 Components	**2** Qualities	**3** Roles
The tangible elements which enable the delivery of the learning experience e.g. visits or competitions	The characteristics of the learning experience which often motivate teachers and learners to participate e.g. real world context or learning by doing	The roles that are played during the learning experience (not always job titles)e.g. providing expertise or leading

4 Location	**5** Scheduling & duration	**6** Approach
The setting in which the learning experience happens. This can be broadly split into inside or outside the school	Scheduling (when a learning experience happens) and duration (how long it lasts) are key ingredients	Programmes can be devised by a teacher, co-created with outside partners or delivered by an external provider

An Open Schooling project combines these building blocks in different ways to make the learning experience more open and connected. See **Pack 2** for case studies which show this in action.

> *"Meeting with an external expert and cooperating with the local community had "a positive impact on students and broadened their view of reality by presenting different perspectives"*
> - Polish teacher involved with the Make it Open project

Further information
OSOS
OS Together
Learning Outside the Classroom Manifesto

Open Schooling benefits

Open Schooling holds the potential to benefit students, teachers, schools and the local community.

"I was very impressed by the way my students guided the younger students. They were very prepared." – Israeli teacher involved with the Make it Open project

## For students: Expand pupils' horizons and raise their aspirations

Open Schooling allows students to learn at their own pace and helps them develop essential skills such as communication, teamwork and critical thinking. Students relate their learning to real life in the world around them and are more prepared for real-life situations when they leave school, modelling how learners can participate as active citizens in the future.
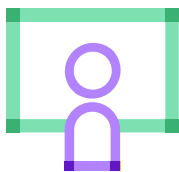
For teachers:
Provide unique professional development experiences for school staff; Improve teaching and learning

- Personal and professional development
- Exploring new ways to deliver curriculum
- Opportunities to work collaboratively across different subject areas
- Connecting to parents and local community
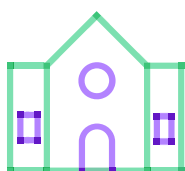
For schools:
Connect with stakeholder organisations, policymakers and the community; Raise your school's profile

- Improving the (science) teaching and learning culture across the school
- Participating in a wider schools network, locally, nationally and internationally
- Increasing the profile of the school
- Embedding the school in the local community and professional networks

For communities:
Invest in the next generation; Nurture relationships which increase community sustainability

- Involving experts, professional and sector organisations to support the next generation
- Directly involve parents and the local community in student learning and development
- Model collaborative and community minded behaviours in solving relevant problems
- Passing intrinsic knowledge and skills within a community

Top tip
Maximise benefits by connecting stand alone projects across the school or over time.

This creates efficiencies and economies, builds momentum and relationships.

Open Schooling needs

Open Schooling can require slightly different skills and resources than more traditional teaching approaches, though it need not be more complicated.

Like all successful teaching, Open Schooling projects demand a combination of ambition, creativity and methodical planning. The following are specifically relevant to Open Schooling projects.

Community support
- Backing of the school leadership
- Parental support (and consent if needed)
- Access to local and subject interested communities and networks
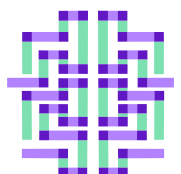
Tangible resources (if needed)
- Funding
- Equipment or tools
- Materials
- Space

Skills
- Communication and relationship building
- Collaboration and participatory processes
- Creative leadership
- Technical skills (depending on project)

Attitudes & mindsets
- Openness to new things
- Resourcefulness and improvisation
- Determination and persistence
- Sensitivity to potential issues and willingness to listen

Open Schools as centres of community

Open Schooling programmes always engage communities, whether that's a local community, interest groups or professional networks. If embraced by the whole school this can contribute to a transformation into an Open School — a hub at the heart of its community.

Working with communities
There are a variety of ways schools can collaborate with their communities:

- Students can create something that is publicly accessible that will benefit the community
- Students can talk to their local community and pass on knowledge that they have learnt during the project
- Members of the community can bring their expertise into the classroom and teach and be part of the students learning
- The school can work in collaboration their community to run a project from start to finish

> *"Our schools should be incubators of exploration and invention. They should be accelerators of innovation. They should promote Open Schooling."*
> – Open Schools for Open Societies

## Open Schooling as a route to becoming an Open School
Open Schools are characterised by their more open, localised and socially responsible learning environment. In this vision schools facilitate open, effective and efficient collaborations to the mutual benefit of schools, their students and their communities.

Driving forces for Open Schools

- Rethinking how schools work as civic organisations
- Relating all learning to the world around them
- Shifting from students as consumers to students as creators

Characteristics of Open Schools
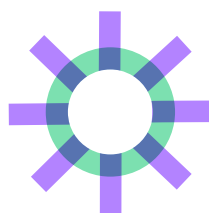
- Collaborate with non-formal and informal education providers, enterprises, parents and local communities
- Active as agents of community well being
- Bring real-life projects to the classroom
- Engage parents directly in their children's learning
- Embrace difference and creating access

More information on Open Schools
Open Schools for Open Societies
SALL
Phereclos
Pulchr

MAKE IT OPEN

Make it Open is a pan-European, collaborative project which draws on Open Schooling, Maker Education and Citizen Science approaches to enliven science and STEM curriculum. Our goal is to develop an engaging and accessible toolkit for schools to adopt and adapt for your own needs.

"Thanks to this project, I felt more of an educator than a teacher. The teacher teaches and the educator helps students learn. Such a change makes students realize that they are responsible for how much they learn, and that the educator (i.e. I) can help them"
- Polish teacher involved with the Make it Open project

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Westcountry Women Working With Water (5W)

Helping local schools to solve local flooding problems through hands on activities and building solutions.

Location: UK, Somerset **Dates:** 2018 - 2019
Organisation: University of the West of England, Bristol

The Westcountry Women Working With Water (5W) project engaged primary school children in Somerset, rural England with the water cycle, flooding and sustainable drainage systems in their local area.

150 students, parents and teaching staff worked together to build 2 rain gardens, learning about climate change and flooding along the way. Through these activities the children also learnt about engineering and how it can help solve local environmental problems. Female engineers led all the hands-on and outdoor activities to encourage girls to consider careers in STEM.

The rain gardens are now a permanent feature of the schools involved. These gardens continue to be used in children's citizen science initiatives to monitor rainfall and runoff data.

> *"It is important to position children as 'engineers' or 'geographers' of the future to help explore potential career roles from an early age"* - 5W project

Highlights:

- Visible female leadership created role models to encourage girls to consider STEM careers
- The project worked in sync with its rural setting, drilling into local issues and concerns
- The design of the project was strategic; the short term project involving the construction of the rain gardens created a permanent community learning resource

Supporters:

- The Royal Academy of Engineering
- Westcountry Rivers Trust, University of Exeter and Over the Air Analytics

Our Moving World: Physics Everywhere

Upgrading a local playground to teach the community about physics.

Location: Israel   **Dates:** 2021
Organisation: Bloomfield Science Museum (Make it Open project)

Highschool students in Jerusalem used a local playground as a vehicle to explore and understand physics, sharing their new learning with the local community.

Over the course of the project they met with design experts, visited a science museum and considered how to engage others in the discoveries they had made.

The students created a series of captions with information and ideas for activities. Working with the science museum and the local municipality, these were then attached permanently to the playground equipment, creating a permanent layer promoting STEM understanding.

An end of the project the learners became teachers, sharing what they had learned with pupils from a nearby elementary school.

"I was very impressed by the way my students guided the younger students. They were very prepared. Their explanations were simple and coherent." - Teacher

Highlights:

- The use of a familiar environment as the project context positions science and STEM firmly in the everyday of students lives
- The opportunity to make a significant change to a shared public space makes the process of making change real and accessible
- Peer learning and changing roles from learner to teacher encourages independence and agency

Supporters:

- Part of the Make it Open pilot programme funded by the European Commission

Islands Diversity for Science Education

Citizen science collaboration showcasing the unique environments of different Island communities.

Location: Online (international collaboration between Portugal, Spain, England and Greece)
Dates: 2018-2020   **Organisation (main):** OSOS

Islands Diversity for Science Education (iDiverSE) project was conceived to raise awareness of the unique cultural and natural heritage of the islands of the world, to raise their perceived value and encourage their protection.

Under this banner schools from different islands collaborated to collect data on their local environments. Using interdisciplinary and inquiry-based methods, students used the data as the basis for Science Trails to engage their local communities.

Each Science Trail explored the water, land and skies of the students' islands and showcased how each island has unique characteristics and qualities. Teachers involved in the project were offered Design Thinking training, tools and support for their activities.

At the end of the project, students and teachers shared their work and received iDiverSE certificates.

Highlights:

- The involvement of an international network brought significant richness to the project, from comparative data to social connections
- Teacher development, through training and stretching practice, is a compelling reason for teachers and schools to participate
- The Science Trails formed a meaningful legacy and gift to local communities

Supporters:

- Erasmus

> *"Students learned to cooperate with each other and present their views with arguments. They have acquired the skills of creativity and critical thinking in scientific matters."*
> - Teacher from Experimental High School of Heraklion involved in the IDiverSE project

BioRocket internship

A 6 month paid biology lab internship available to high school students in underserved and minority groups.

Location: New York, USA   **Dates:** 2009 - present (2021)
Organisation (main): GenSpace

The BioRocket Research Internship is a paid internship aimed at high school students in underserved and minority groups in New York City.

Throughout the 6 months, on a basis of 2 days a week, students learn about genetic engineering and gain experience working in a real life laboratory. Students also get the opportunity to visit research labs and biotech companies and be mentored by scientists.

At the end of the project students draft an original scientific paper that they can use for college applications, submit to student scientific journals, or other uses. An end of programme celebration is also held for the interns to showcase their research to their families, friends, teachers and the GenSpace community.

> *"Genspace helped broaden my career aspirations and goals. [The BioRocket Research Internship Program] helps you feel as if you're the scientist yourself, not that you're just listening to a teacher or following directions from a textbook."* - Haneefah, BioRocket program alumna

Highlights:

- The project creates a bridge between education and professional worlds
- The applied nature of the programme helps connect it to the everyday and frame it as work rather than learning
- Focusing on a tangible output - a scientific paper - has immediate value in terms of motivation and legacy in terms of leveraging the experience in the future

Supporters:

- The Pinkerton Foundation and NYC Science Research Mentoring Consortium

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- Polish teacher involved with the Make it Open project

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Planning your Open Schooling activity

Now that you're ready to start an Open Schooling activity, how do you go about planning it? This pack gives you an overview of the process and some pointers to keep in mind.

In the following pages you'll find:
- An Open Schooling roadmap
- A high level description of the planning stages
- A set of tips
- Some templates for communicating with potential supporters and partners

> *"Things I'll do again with my students; going out of school with the class for lessons, lectures of parents that are relevant for the topic, a project as a product."* - Israeli teacher involved with the Make it Open project
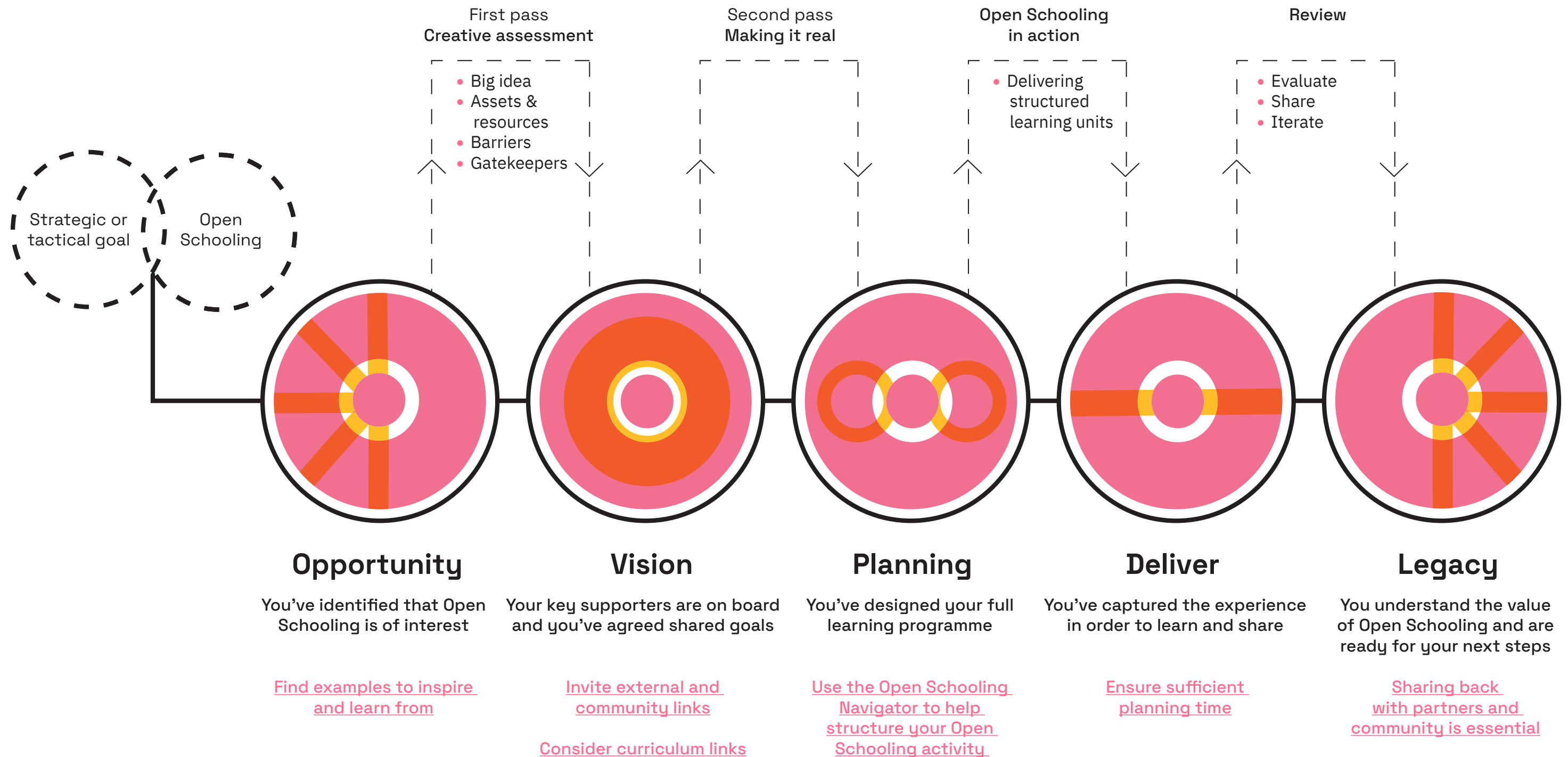
Designing your OS project
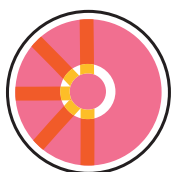There are a number of different ways you can build your OS activity:

Approach	Best for
Open Schooling Navigator: Part of the Make it Open project; a digital tool to build Open Schooling activities tailored to your needs	- Getting inspired by lessons/activities from other educators - Adapting and customising tested activities - Engaging with the wider Make it Open project, which includes an international network, local hubs and teacher training
Using external learning providers: External learning providers, like competitions, festivals, museums or other specialist organisations, often run Open Schooling style programmes	- Creating momentum and visibility - Creating national or international connections - Connecting to professional and disciplinary worlds
Build from scratch	- Creating activities which are tightly tailored to specific needs - Building strategic or longer term programmes - Experienced Open Schooling teachers

Project roadmap

Open Schooling activities can be big or small, local or global. They share a mindset and culture that is outward facing and collaborative. Maximise their potenial by thinking through your commitment up front.

First pass
Creative assessment

- Big idea
- Assets & resources
- Barriers
- Gatekeepers

Second pass
Making it real

Open Schooling in action

- Delivering structured learning units

Review

- Evaluate
- Share
- Iterate

Strategic or tactical goal

Open Schooling

Opportunity

You've identified that Open Schooling is of interest

Find examples to inspire and learn from

Vision

Your key supporters are on board and you've agreed shared goals

Invite external and community links

Consider curriculum links

Planning

You've designed your full learning programme

Use the Open Schooling Navigator to help structure your Open Schooling activity

Deliver

You've captured the experience in order to learn and share

Ensure sufficient planning time

Legacy

You understand the value of Open Schooling and are ready for your next steps

Sharing back with partners and community is essential

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Project roadmap

From Opportunity to Vision
(Creative Assessment)

Open Schooling should correspond with a strategic or tactical goal you wish to address. Time put in to assessing the creative opportunity and shaping it into a shared vision is time well spent.

- Big ideas: Do you have an idea already or are you looking for one?
- Assets and resources: What do you have that you can use for your project?
- Hard requirements: Are there things the project must deliver to be successful from your point of view?
- Barriers and gatekeepers: What or who is going to get in your way?

Being able to communicate a compelling and realistic vision for your Open Schooling programme will put you in a good position to get others on board and make it real.
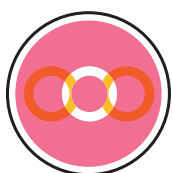
From Vision to Planning
(Making it real)

Planning Open Schooling activities can require some adaptation of your normal planning processes, according to the nature of your activity.

For example:
- Involving others: Who can participate in the activities and in what ways?
- Accessing resources: Are there creative ways that you can access the resources you need?
- Social sustainability: Many STEM related professions have major issues in terms of inclusion and diversity. How could your project be ambitious about these issues?
- Safeguarding and care: Openness; can create new and unfamiliar challenges in terms of safeguarding children.

The Open Schooling Navigator offers a range of inspiration and planning tools which might be useful at this point.

From Planning to Delivery
(Open Schooling in action)

As an educator, this is the part of the process in which you are likely to be most confident and skilled. Open Schooling activities might require you to adapt your teaching style, to allow learners to take increased responsibility for their learning experience.
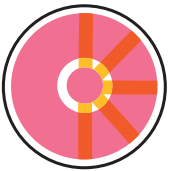
From Delivery to Legacy
(Review)

As a collaborative project, the end of your Open Schooling project should be a shared moment. Documenting the project, evaluating the experience and sharing the stories can be part of the learning as well as the legacy.

- Involving learners and partners in evaluating the project encourages critical thinking skills.
- Sharing the stories supports communication skills, instills pride in achievements and raises the visibility of individuals and the school.
- The relationships and partnerships initiated through the project need to be informed of the outcomes of their work, and the relationships maintained or sensitively wound down.
- Finding funding, new partnerships or adding momentum to future Open Schooling projects is easier with solid documentation of past achievements.
- Other teachers in your school and district will be interested in your experiences.

How to create external relationships

Collaborating with and learning from others is an important part of Open Schooling. The following are a few ways to identify and involve people in your Open Schooling activities.

Get set for a successful relationship

- Be empathetic: Put yourself in the position of a partner. How would you like to be approached? How often would you like to be updated?
- Think imaginatively about what you can ask of a partner: something easy for them might be really useful to you.
- Consider rewards: What could make them feel appreciated? Sometimes small things, a thank you card, or a photograph can make all the difference.
- Consider the beginning, middle and end of your relationship: If you'd like them to be involved again this is particularly important.

> *"I would add more experts to talk with the students"*
> - Israeli teacher involved with the Make it Open project

Example: Finding an expert

You are running a project on food waste and want an expert to explain decomposition; how do you find a 'decomposition' expert?
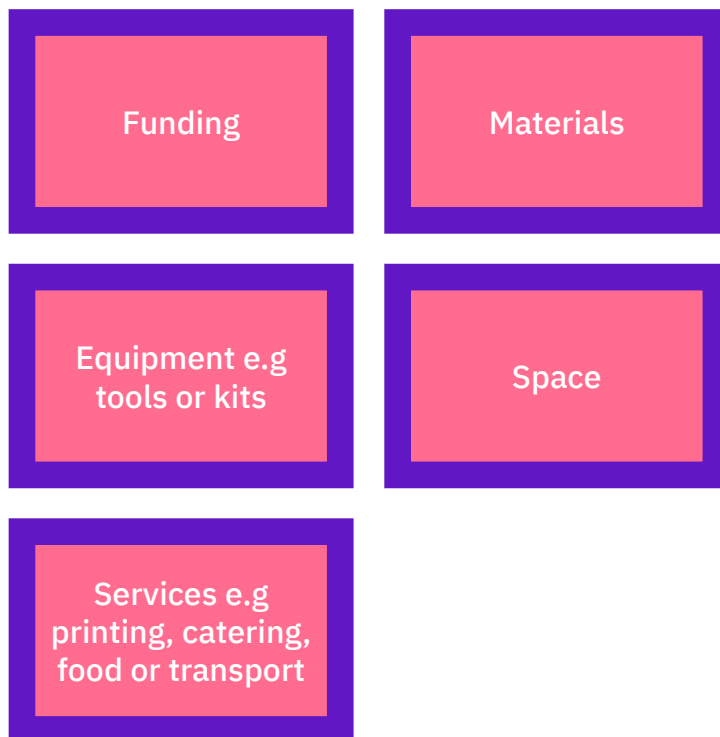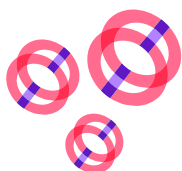
- Think about words related to the subject area (e.g. soil, worms or food waste) and identify related activities, jobs and companies (e.g. composting, gardener, soil scientist)
- Start close and work out: using your immediate networks. Your own school premises team or a neighbour with a compost bin may have hidden expertise or contacts.
- Specialist interest and sector organisations can be supportive in terms of connections and networks.

5 ways to identify potential partners

1 Start with your existing networks - they're bigger than you think when you include colleagues, neighbouring houses and businesses, parents and interest groups

2 Use local media, from local social media to newspapers

3 Find subject interest groups whether hobbyists or professional networks; they can make enthusiastic supporters

4 Connect through learning networks, including informal organisations as well as local schools and universities

5 Don't be afraid of approaching larger businesses and corporations who are often keen to support local initiatives

How to find resources

Open Schooling relies on:

Funding	Materials
Equipment e.g tools or kits	Space
Services e.g printing, catering, food or transport	

Where can you find resources?

Don't be scared to ask - you might be surprised by what people are prepared to offer. Do your research and ask the right person for something it's easy for them to give. Like your search for partners, start close to home and work your way out:

- Parents and parents networks
- Local community and interest groups
- Local government
- Neighbourhood companies
- Sector organisations, Trusts and Foundations

It's easy to get stuck on budget as a barrier to doing things, but often it's about being resourceful, exploring alternatives and making do with what's available. See also 'How to find external partners' and 'Letter templates' to parents and organisations.

> For building a composter: *"If you don't have space, you want to save time, use small wooden boxes instead of building a composter - they work great. Instead of digging a garden, you can use pots that you put on the windowsill"* - Polish teacher involved with the Make it Open project

Social sustainability

Equity, access and inclusion are central to achieving Open Schooling's goals of addressing relevant local challenges, contributing to community development, and promoting an active global citizenship attitude. Diversifying student participation in STEM is critical to achieving an equitable profession and healthy society.

Equity
Equity means the fair and just treatment of all students so they have the opportunities and support needed to reach their full academic potential. In other words to level the playing field so that all students can participate in STEM

Access
Making sure that a system or experience is designed so that barriers are reduced and it is available for the widest range of people, regardless of ability and experience. Access creates the possibility for inclusion.

Inclusion
Inclusion involves the active invitation to participate, the making of resources and opportunities available to every student and making sure students feel valued and accepted.

Example projects which centre social sustainability

- **SMASHFest UK** focusses on underrepresented groups in STEM
- **Girl Power: ARTEMIS** focussed on women in STEM
- **Mars Safari** focussed on women in STEM
- **Wondersphere** allowing hospitalised children to do hands on science
- **BioRocket internship, GenSpace** community lab offering internships to students from underserved groups
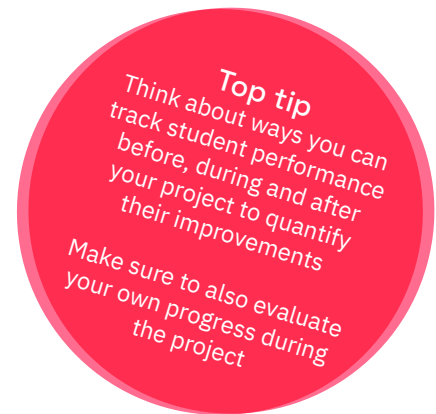
Further reading
- Equity in science education
- Equity compass

Evaluation and sharing

How can you tell if your project has made a difference? Why is sharing your results so important?

Why is evaluation important?
Documenting, evaluating and sharing your Open Schooling project encourages critical thinking and reflective practice. They can yield tangible benefits in terms of engaging partners, improving your programmes and supporting your school in developing a learning culture.

Top tip
Think about ways you can track student performance before, during and after your project to quantify their improvements

Make sure to also evaluate your own progress during the project

"Things I'll do again with my students; going out of school with the class for lessons, lectures of parents that are relevant for the topic, a project as a product."
- Israeli teacher involved with the Make it Open project

Time is always short. Setting out your intentions for evaluation and sharing early will ensure they are integrated into your plans. Consider opportunities to be creative and integrate evaluation into the activity.

"The children worked in groups of 3 or 4, and halfway through the process, we presented the different designs to each other. The children were inspired by each other's ideas and applied parts of the ideas of others in their model." - Dutch teacher involved with the Make it Open project

5 questions to ask yourself

1 What have you learned?

2 What benefits and skills have you and your students gained?

3 How can you quantify or evidence whether you reached your goals?

4 How do your results relate to your original project objectives?

5 What can you improve in the future?

What can I evaluate?

Plan	Delivery	Student performance and attitudes	Legacy
Was it enough time to run the project? Did you need more resources?	Were there any issues? Did all students participate?	Have they improved in performance? Have their attitudes changed?	Have you formed new relationships within your community?

Letter template - parents

Family involvement can be an important part of Open Schooling. The following is an example of a letter to parents for you to adapt.

Dear *[insert name]*

[Insert name of your school] is aiming to incorporate Open Learning into the science curriculum. Open Learning is an approach which encourages students to work with wider communities, and learn by solving real world challenges. Students learn by doing, and it can help develop skills such as communication, teamwork and critical thinking.

This could be an opportunity for you to get involved in your childs learning
An important part of Open Learning is creating opportunities for students to learn from people in their local communities, who have different knowledge, experience and expertise. We are currently looking for local people with knowledge in any of the following areas, at any level, to be involved in the project:

- *[insert role/ area of knowledge needed]*
- *[insert role/ area of knowledge needed]*
- *[insert role/ area of knowledge needed]*

If you are someone, or know of anyone, who has experience in any of these areas, please do get in touch by *[insert date]*. These voluntary roles can take very little time, and could be a huge contribution to your childs learning experience.

We look forward to hearing from you.

Yours sincerely,

[insert name]

Letter template - organisation

Community engagement is an important part of Open Schooling. The following is an example of a letter to a local organisation for you to adapt.

Dear *[insert name]*

[Insert name of your school] is aiming to incorporate Open Learning into the science curriculum. Open Learning is an approach which encourages students to work with wider communities, and learn by solving real world challenges. Students learn by doing, and it can help develop skills such as communication, teamwork and critical thinking.

An opportunity for [insert name of organisation] to get involved
An important part of Open Learning is allowing the students to have the opportunity to learn from a variety of people within their local communities, who have different knowledge, experience and expertise. The school is planning to run a module around *[insert name of topic]* and we understand that you have expertise in this area.

We're writing to ask if you will consider getting involved. We are very flexible about how this could happen, from a remote zoom call to visits or workshops. Our ideal would be *[insert something which you think the organisation can provide including as much detail as possible]*.

I would be happy to answer any questions you have about our school and the module we plan to run. I will follow up by email in the coming days and hope to speak soon.

Yours sincerely,

[insert name]

Top tip
If you can, get your students to reach out to companies - you'll have a better response rate than emailing them yourselves

Letter template - organisation

Community engagement is an important part of how larger companies operate. The following is a template for a letter to large organisations which you can adapt.

Dear *[insert name]*

I'm writing as a teacher at *[Insert name of your school].* We're currently planning our science learning for the year ahead, and we're looking for outside partners to get involved. Our vision is of Open Learning, in which students work in partnership with our wider communities, and learn by solving real world challenges. This approach will help develop skills such as communication, teamwork and critical thinking.

An opportunity for [insert name of organisation] to get involved
An important part of Open Learning is allowing the students to have the opportunity to learn from a variety of people within both local and expert communities, who have different knowledge, experience and expertise.

We are currently planning to run a module around *[insert subject area].* We understand that you have significant expertise in this area and want to invite you to be involved. One idea is a series of 5-10 minute video clips which could open each lesson, to help inspire students about *[insert role/ area of knowledge which you think the organisation can provide].* There may be other ways or other ideas to get you involved depending on your availability and interest.

I am very happy to answer any questions you have about our school and the module we plan to run. I hope its acceptable to follow up on this letter with a phone call at the end of this week to discuss the possibility of your involvement then.

Yours sincerely,

[insert name]

Top tip
For a faster response, try to send the request to a named individual you know might be interested rather than a generic approach.

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