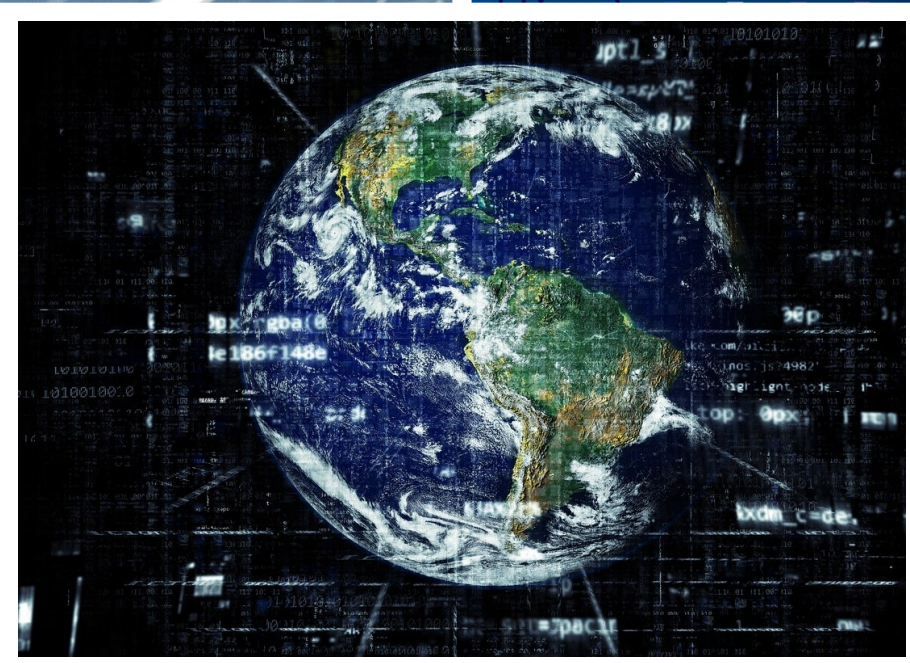
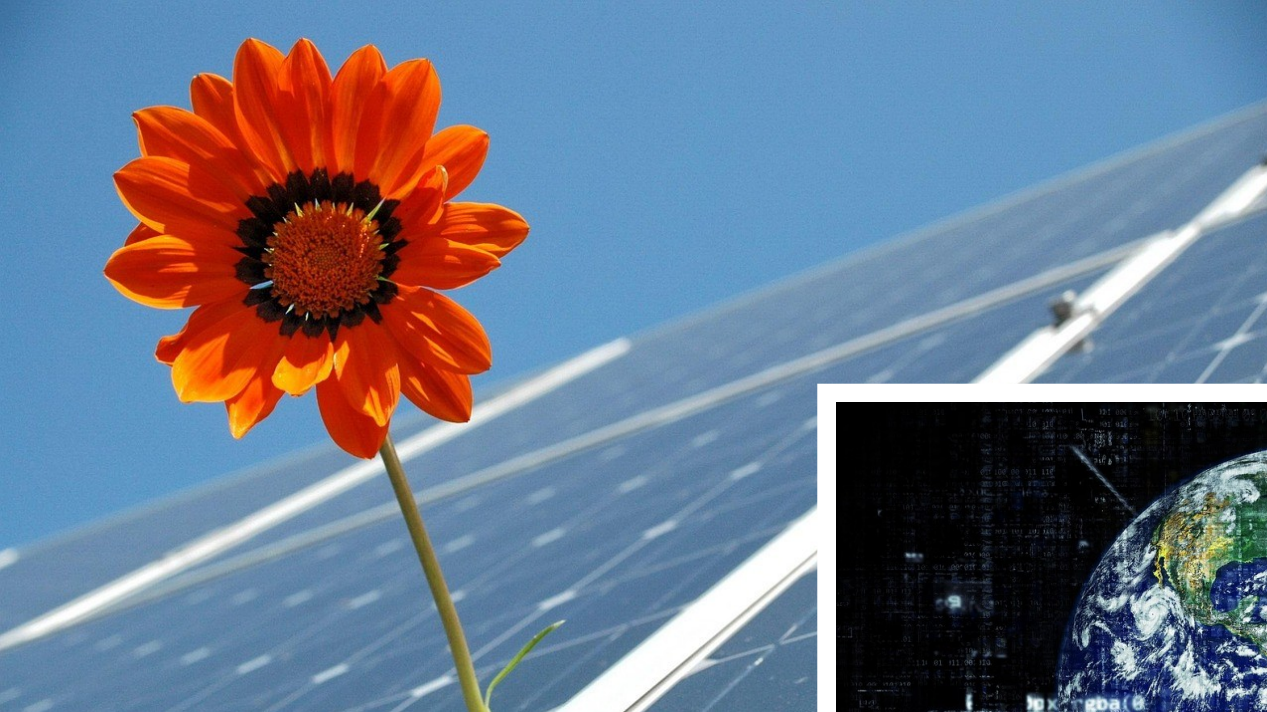
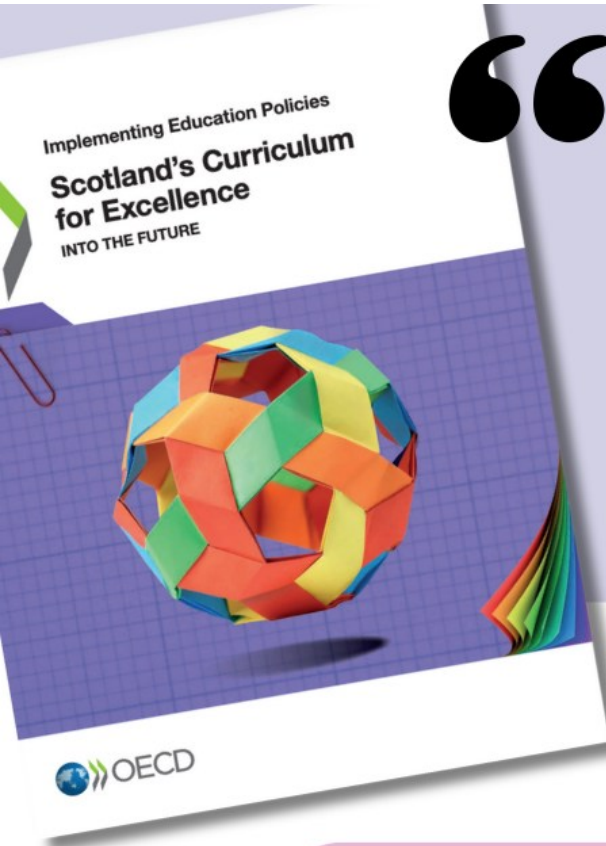


Learning for Sustainability and the Curriculum Improvement Cycle



Ollie Bray, Strategic Director, Education Scotland – 29th September 2026, online.





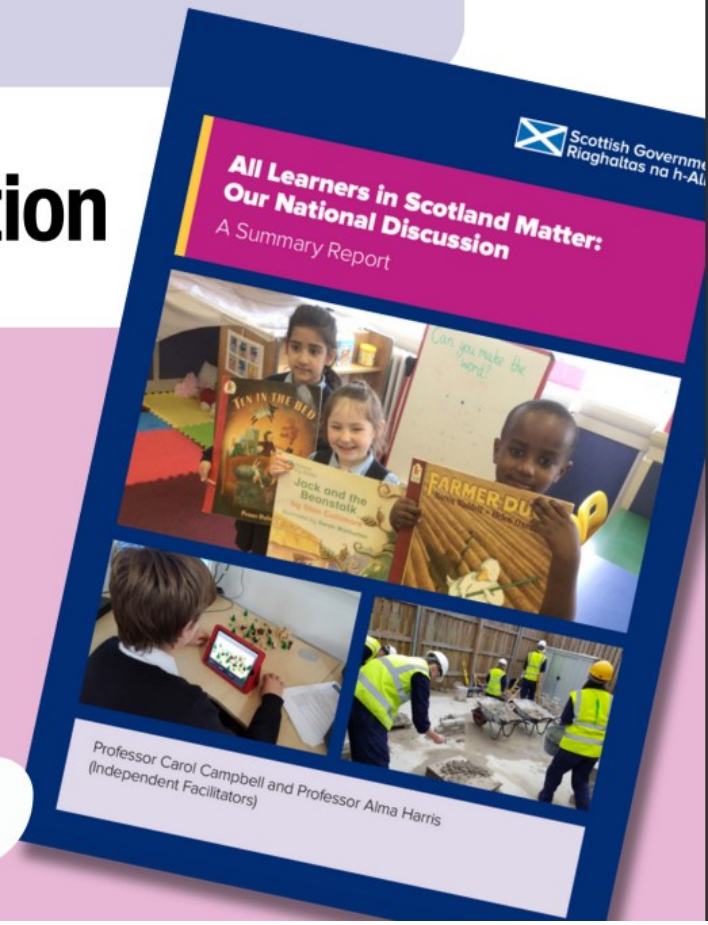
“ Scotland could consider establishing a systematic curriculum review cycle with a planned timeframe and specific review agenda, led by the specialist stand-alone agency

3.4 Develop a systematic approach to curriculum review

Scotland's Curriculum - calls to action

A regular curriculum review process should be established to ensure that the curriculum remains fit for purpose, reflects contemporary learner needs, and can be effectively delivered in ways to ensure that all learners in Scotland have high quality curricular linked learning experiences.

As part of the review of the curriculum **the technical framework of the BGE (including the Experiences and Outcomes) needs to be re-visited** to ensure it is still fit for purpose and aligns with emerging recommendations about the Senior Phase from the 'Hayward Review'.



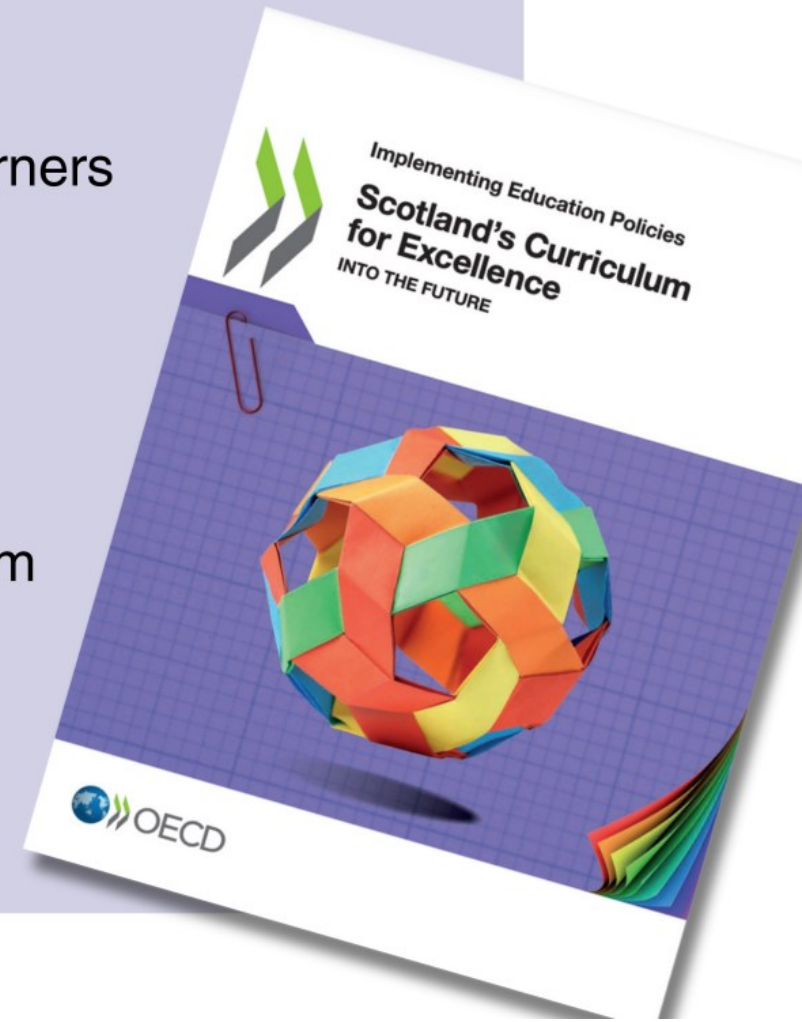


Re-assess CfE's aspirational vision against emerging trends in education to take account of evolutions in education and society (1.1)

Find a better balance between breadth and depth of learning throughout CfE to deliver Scotland's commitment to providing all learners with a rich learning experience throughout school education (1.2)

Adapt the Senior Phase to match the vision of CfE (1.3)

Continue building curricular capacity at various levels of the system (1.4)



“

The main focus of Curriculum Improvement Cycle (CIC) work will be to **evolve the technical framework to provide greater clarity** on the role and purposes of knowledge in developing understanding.

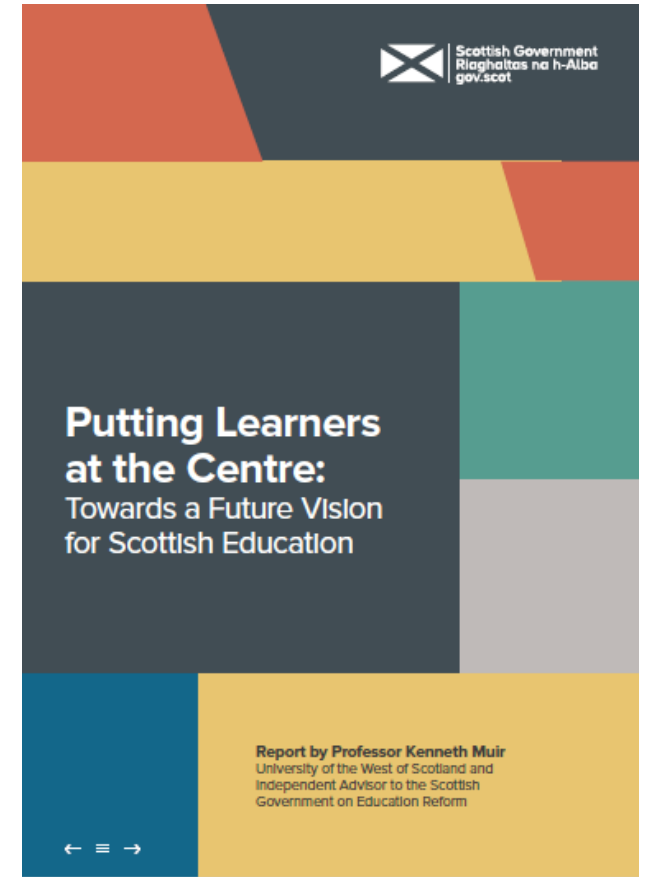


Future vision - Learning for Sustainability

The current generation of learners see climate change as one of the most significant issues facing their futures and, as such, must be recognised as a key driver influencing the future of our education system.

All efforts, whether concerned with educational recovery post-pandemic or in terms of the future vision for Scottish education, must be directed to the purposes described in Article 29 of the UNCRC.

<https://www.gov.scot/publications/putting-learners-centre-towards-future-vision-scottish-education/>



Youth voice

- Children's Parliament – [Link](#)
- Scottish Youth Climate Declaration – [Link](#)
- Children's Climate Assembly – [Link](#)
- LfS: Young people and practitioner perspectives (Dundee University) – [Link](#)
- Children & Young People's Commissioner Scotland – [Link](#)



First Minister

Priorities for Scotland

- Eradicating child poverty
- Growing the economy
- **Tackling the climate crisis**
- Improving public services

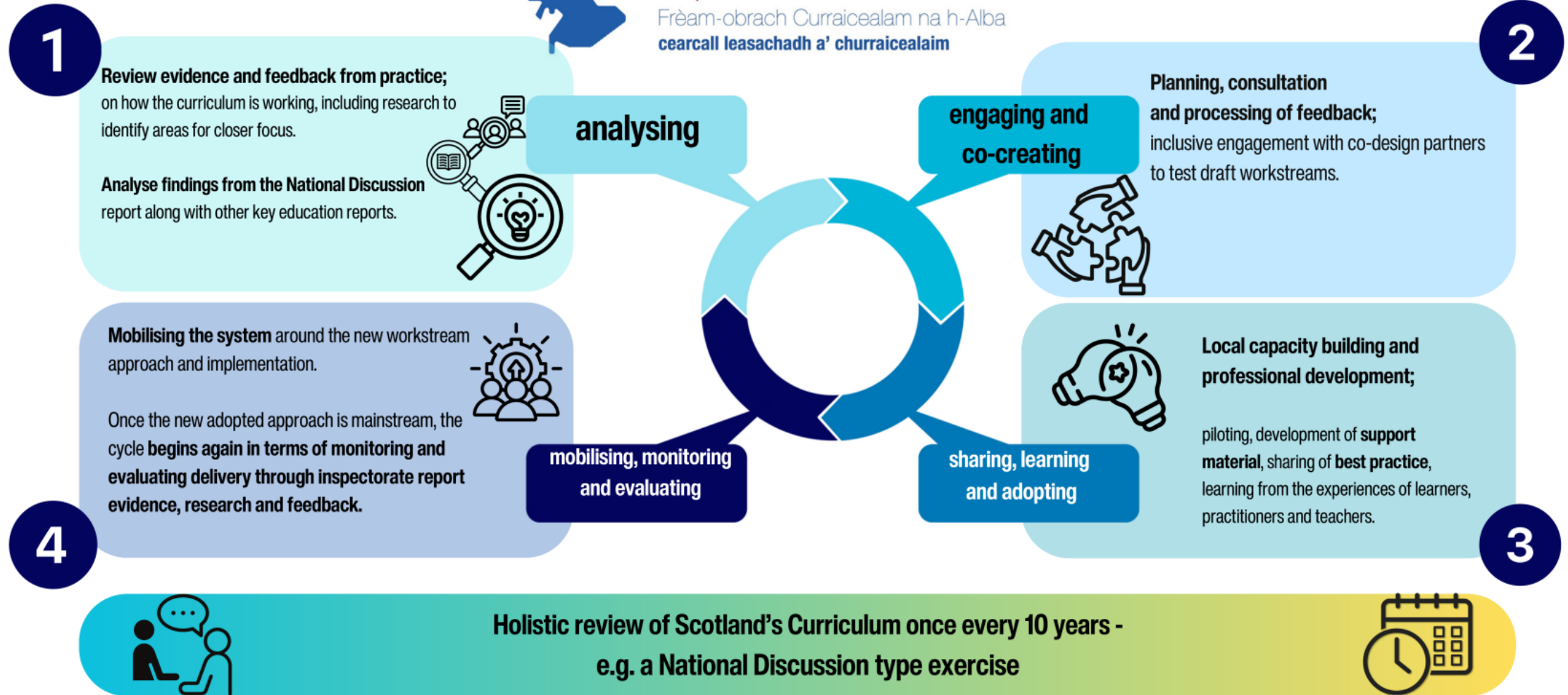




Scotland's Curriculum Framework

curriculum improvement cycle

Frèam-obrach Curraicealam na h-Alba
cearcall leasachadh a' churraicealaim





Scotland's curriculum framework

Why



4 capacities

What

Opportunities for personal achievement

Interdisciplinary learning (IDL)

the curriculum

the totality of all that is planned and enacted for children and young people throughout their education

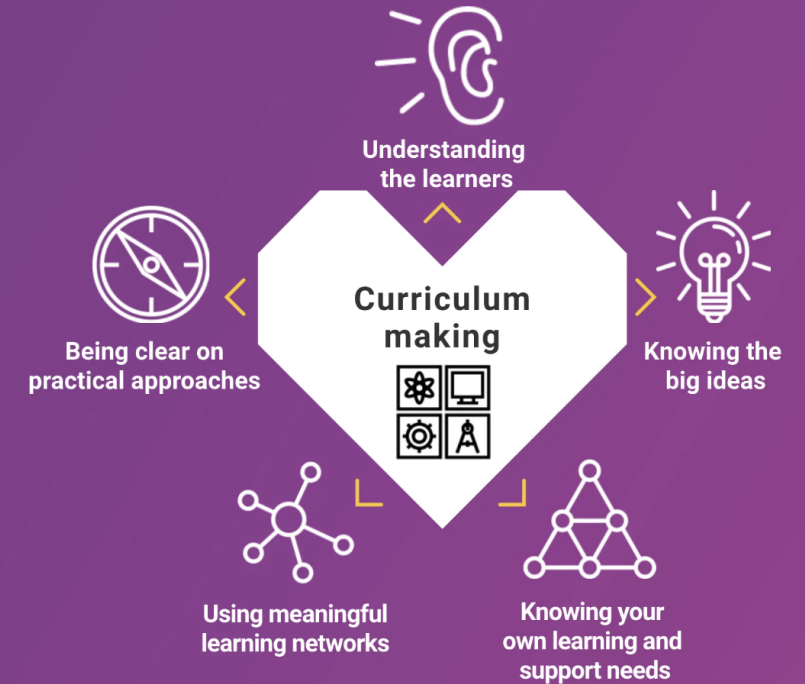
The ethos, life and culture of Scotland's learning communities

Curriculum areas and subjects

+ entitlements

contexts

How



curriculum making

www.scotlandscurriculum.scot

Starting with our ‘why?’



Being Me: as a Responsible Citizen

Curriculum making in Scotland’s schools and education settings helps develop children and young people’s understanding of **social justice, rights and equalities**. It develops ethical awareness and responsibility towards others, society and the planet. It helps them to understand how the world around them works locally, nationally and globally, through **democratic values**. The curriculum includes diverse perspectives, values fairness and supports thoughtful participation in civic life. It helps them to understand their status as rights holders and global citizens, and nurtures commitment to **Learning for Sustainability**.

see *Building Scotland’s Curriculum* part 2 (and associated draft activities)

What

**Opportunities for personal
achievement**

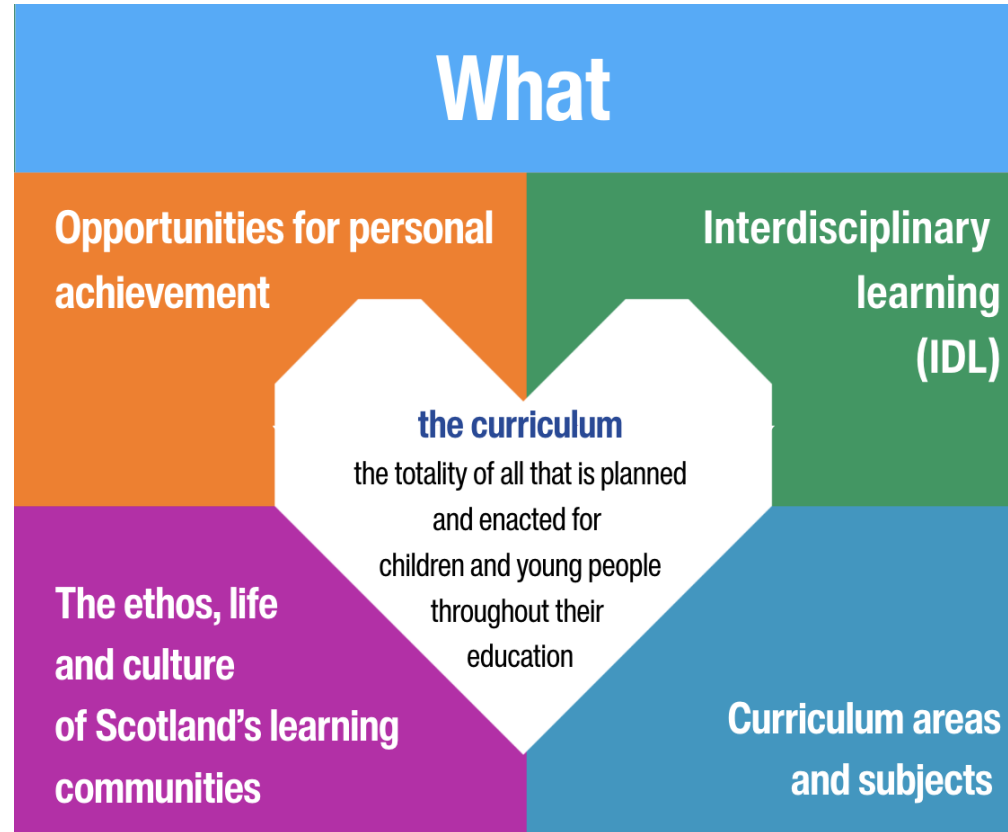
**Interdisciplinary
learning
(IDL)**

the curriculum

the totality of all that is planned
and enacted for
children and young people
throughout their
education

**The ethos, life
and culture
of Scotland's learning
communities**

**Curriculum areas
and subjects**



Overarching Big Ideas

Curriculum areas
and subjects

Facts,
definitions,
examples...

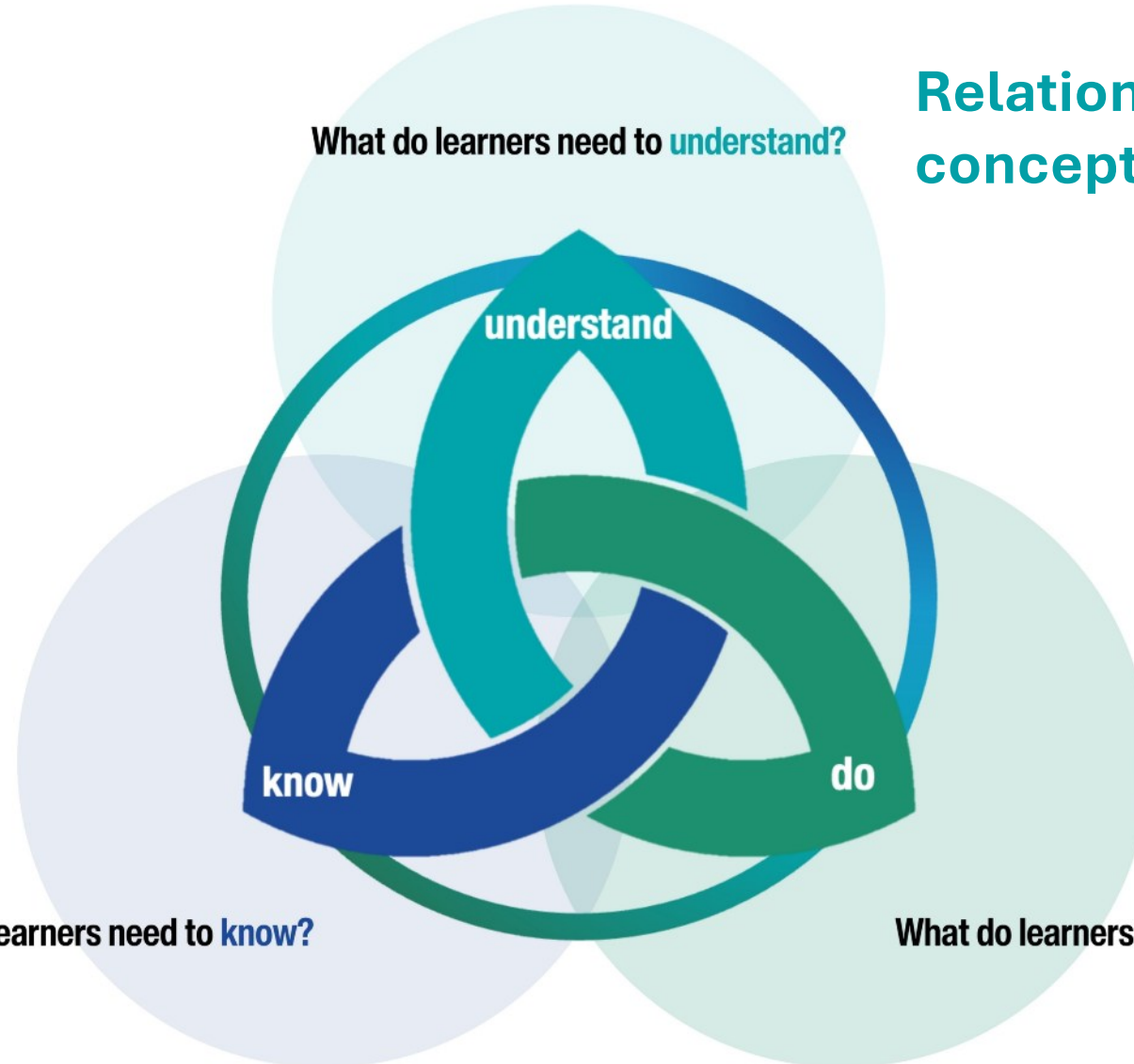
Relationships between
concepts...

Skills, Processes,
Procedures,
Strategies...

What do learners need to **know**?

What do learners need to **do**?

What do learners need to **understand**?



The story so far...

December 2023: CIC announced

April 2024: ES commissioned to lead on the development of the CIC

May 2024: Cross-curricular exploration begins

August 2024: Maths pilot work begins

October 2024: CIC become public facing

November 2024 – April 2025: co-design work begins

November 2025: Maths emerging thinking materials published

June 2026: Draft samples published



Curriculum Improvement Cycle (CIC)

Background and a Case for Change

Findings from the Pilot Curriculum Reviews 2023/24:
A Discussion Paper

November 2024



Sciences Curriculum
Background and Evidence
Paper

March 2026

Cross-curricular learning

- Learning for Sustainability
- Creativity
- Democratic values
- Digital
- Entrepreneurship
- Mental, Emotional, Social & Physical HWB

- Language and Communication
- Money and finance
- Numeracy
- Social justice, rights and equalities
- Careers and pathways



Learning for Sustainability

Big idea 1



Connecting with each other

People belong and contribute to local and global communities. Everyone has their own story, and the diversity of these helps shape society, culture and values. Beliefs and behaviours can change over time and individuals and communities can influence this. Learning from our past and present actions, can help to influence our future.

Big idea 2



Nature

Humans are part of the natural world, and we depend on it to live. People use the earth's natural resources and this can have a negative impact on nature and communities. Learning about and taking action to conserve and re-generate nature is vital for our planet's health. Being in nature and connecting to it can benefit our health and wellbeing.

Big idea 3



Climate Change

All living things depend on the climate to survive. As a result of human activity, we are causing the climate to change and this is causing harm. These impacts are felt inequitably across the planet, with the poorest communities often affected most. We will need to adapt our way of life in response to a changing climate. The challenges of climate change can seem overwhelming but through political, collective and individual action, we can make a positive difference.

Big idea 4



Production and consumption

People depend on the planet's resources to sustain life. Many of these resources are finite and production of these involves the extraction of raw materials with potentially exploitative practices. Too much production and consumption of resources can produce waste and pollute environments. A circular economy can transform waste into useful and valuable material.

Big idea 5



Power and justice

The world is an unequal place. Peace, power, justice and rights impact both people and planet. Some people, organisations and countries have more power and use this to gain advantage over others. This imbalance of power has been a historic feature of our societies and has led to global inequality which we still see today. Challenging thinking and practices can reduce inequality and improve outcomes for people and communities.

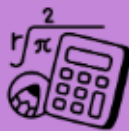
Big idea 6



Shaping our future

The future is shaped by our collective actions. To create a sustainable future for all, we need new ways of living that protect people and planet. Creative and disruptive thinking provides opportunities for us to take action both locally and globally.



Careers and Pathways	Creativity	Digital	Entrepreneurship	Money and Finance	Health and Wellbeing	Learning for Sustainability	Language and Communication	Numeracy	Democratic values	Social justice, Rights and Equalities
										
Self within Society	Agency	Digital technology	Entrepreneurial mindset	Financial Wellbeing & Rights	Relationships	Connecting with each other	Understanding texts	Number sense	Democratic values, ideology and rights	Identity and belonging
Pathways and Opportunities	Open mindedness, imagination and curiosity	Essential digital skills	Fostering collaborative innovation and leadership	Money, Me and Society	Healthy communities	Nature	Using language and communication	Spatial Understanding	Participation, engagement and activism	Prejudice and discrimination
Labour Market and the Workplace	Exploring opportunities and creating solutions	Creativity and communication	Social justice and impact	Risk and Security	My Physical and Virtual World	Climate Change		Making Sense of Data	Power	Power and injustice
		Citizenship	Entrepreneurial action			Production and consumption			Misinformation and disinformation	Rights
						Power and justice				
						Shaping the future				

Cross-curricular expectations
Big ideas overview

Sciences big ideas

Skills

**Being
scientific:**
building
our skills
toolkit

Understanding how we do science:
methods, processes, skills &
techniques

Knowledge

**Our
scientific
knowledge:**
what we
understand
so far

**Understanding scientific
knowledge:** curiosity &
discovery

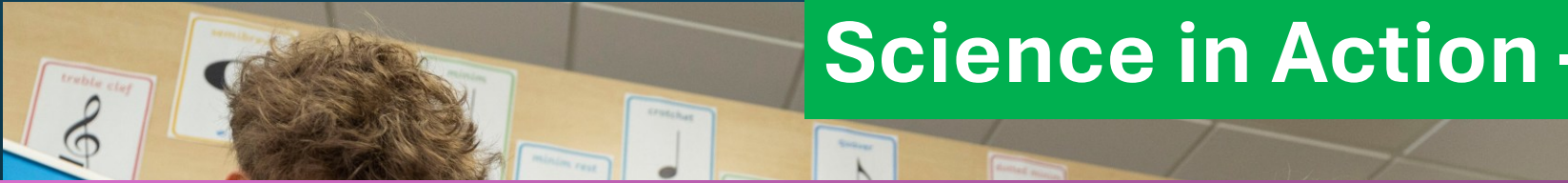
Application

**Science in
action:**
be the
change

**Understanding how science
impacts our lives and
society:** application,
innovation & scientific
literacy

BIG IDEA:

Science in Action – Be the change



- Taking scientific action
- Science around me
- Scientific decision-making



The Connected World



Know Do Understand Model

Example from Connected World: Energy in Society (Third Level)

Understand

Various methods are used to generate, supply and store energy to meet energy demands and ensure future energy security.

Know

Energy sources

- Electrical current can be generated when energy from fuels or renewable sources is used to turn turbines. It can also be generated by photovoltaic cells.
- Turbines spin generators, which generate electricity.
- Electricity is supplied through power lines and cables to where it is used.
- Demand for electricity increases at times when many people use electrical devices.
- Reducing unnecessary use of fuel reduces the demand for the supply of electricity.

Know Do Understand Model

Example from Connected World: Energy in Society (Third Level)

Do

- Recognise the link between the use of energy resources, electricity demand and supply solutions.
- Justify why energy security is important for communities and society.
- Use terms such as turbines, generator, photovoltaic cell and power lines in relation to energy generation, demand and supply.

Curriculum area	Learning for Sustainability
Languages	Big idea: Understanding People, Places and Cultures Connecting with languages and cultures helps us to be responsible global citizens who can make a positive difference in society.
Health & wellbeing	Big idea: Flourishing in a Changing and Connected World Through socially responsible action, informed judgement and inclusive collaboration, learners shape environments where people and the planet can thrive.
Literacy and English	Big idea: Empathy and Advocacy When creating texts, we understand the impact of our choices and actions upon a range of audiences and learn to advocate for ourselves and others, contributing to a more inclusive and just society.
Literacy and Gàidhlig	Big idea: Connecting with Gaelic culture and community In learning about our own and other people's cultures with curiosity, appreciation and care, we are open-minded, respectful and active members of a diverse and connected world with Gaelic at its heart.
Technologies	Big Idea: Shaping Our Future Every technological decision has economic, environmental, and social impacts. By critiquing the implications of technology, learners develop the capacity to make responsible choices and actively shape a more sustainable and equitable future.

Embedding LfS in the framework

It's written into the KDU...

Where the learning relates to things children need to learn conceptually, this sits in **understand, know and do statements** in the appropriate Curriculum Area(s).

Embedding LfS in the framework

It's written into the KDU...

Where the learning relates to things children need to learn conceptually, this sits in **understand, know and do statements** in the appropriate Curriculum Area(s).

It can be applied, reinforced...

Where it can be reinforced in another Curriculum Area, provides context or allows the curriculum to come to life, or can help learners makes connections. To support practitioners, this is highlighted in **Notes...**

Embedding LfS in the framework

It's written into the KDU.....

Where the learning relates to things children need to learn conceptually, this sits in **understand, know and do statements** in the appropriate Curriculum Area(s).

It can be applied, reinforced...

Where it can be reinforced in another Curriculum Area, provides context or allows the curriculum to come to life, or can help learners makes connections. To support practitioners, this is highlighted in **Notes...**

Key experiences...

Where key age-appropriate experiences support this cross-curricular learning, this are articulated in brief '**Breadth of Experience**' guidance

Understand: Human activities are changing the Earth’s climate by increasing greenhouse gases, and scientific evidence helps to inform decisions about how to reduce emissions and respond to the impacts of climate change on communities around the world.		
Know:	Do:	
Climate change		
• Levels of carbon dioxide in the atmosphere depend on the balance of processes that release and remove carbon dioxide. • Methane is a powerful greenhouse gas produced by waste decomposition and fossil-fuel extraction. Journey to net zero • Climate change is a local and global issue requiring collective action which is informed by scientific evidence.	• Use evidence and data to identify how human activities affect greenhouse gas levels and contribute to climate change. • Use scientific vocabulary: methane, decomposition.	

Science

Understand: Human activities are changing the Earth's climate by increasing greenhouse gases, and scientific evidence helps to inform decisions about how to reduce emissions and respond to the impacts of climate change on communities around the world.		
Know:	Do:	
Climate change		
- Levels of carbon dioxide in the atmosphere depend on the balance of processes that release and remove carbon dioxide. - Methane is a powerful greenhouse gas produced by waste decomposition and fossil-fuel extraction. Journey to net zero - Climate change is a local and global issue requiring collective action which is informed by scientific evidence.	- Use evidence and data to identify how human activities affect greenhouse gas levels and contribute to climate change. - Use scientific vocabulary: methane, decomposition.	

Technologies

People and Planet	The impact of technology and innovation on people and the environment.	Everything is made from something.	Making new things requires raw resources and this causes environmental damage	Technology can affect people's lives and choices in different ways, and that it is important to consider fairness and environmental impact	Designing and using products and services requires balancing the benefits for people with the need to protect the environment and support communities.	Justifying and evaluating products and services involves balancing ethical considerations alongside social, environmental, and economic impacts to achieve responsible outcomes.
--------------------------	---	------------------------------------	---	--	--	--

Science

Understand: Human activities are changing the Earth's climate by increasing greenhouse gases, and scientific evidence helps to inform decisions about how to reduce emissions and respond to the impacts of climate change on communities around the world.	
Know:	Do:
Climate change	
- Levels of carbon dioxide in the atmosphere depend on the balance of processes that release and remove carbon dioxide. - Methane is a powerful greenhouse gas produced by waste decomposition and fossil-fuel extraction.	- Use evidence and data to identify how human activities affect greenhouse gas levels and contribute to climate change. - Use scientific vocabulary: methane, decomposition.
Journey to net zero	
Climate change is a local and global issue requiring collective action which is informed by scientific evidence.	

Technologies

People and Planet	The impact of technology and innovation on people and the environment.	Everything is made from something.	Making new things requires raw resources and this causes environmental damage	Technology can affect people's lives and choices in different ways, and that it is important to consider fairness and environmental impact	Designing and using products and services requires balancing the benefits for people with the need to protect the environment and support communities.	Justifying and evaluating products and services involves balancing ethical considerations alongside social, environmental, and economic impacts to achieve responsible outcomes.
-------------------	--	------------------------------------	---	--	--	--

Social studies

GEOGRAPHY	
Understand: Events and issues may have different types of causes and consequences.	
Know: Geographical events and changes often have different causes and consequences that can affect people and places in different ways.	Do: Describe how different causes lead to geographical events and changes. Describe different consequences for people and places.
Notes - Geographical events and changes may have natural causes (such as heavy rainfall, earthquakes or volcanic eruptions), human causes (such as building, farming or pollution), or both. - Some causes are easier to identify than others. - Different consequences can affect people, places and environments in different ways - Geographical change may have positive and negative consequences. - Examples of geographical events and changes may include flooding, coastal erosion, earthquakes, deforestation, pollution, climate change or changes to land use.	

Learning for Sustainability example

It's written into the KDU model

Science has sustainability as a concept throughout Early > Fourth

Technologies 'people-and-planet' strand from materials and resources to environmental damage, fairness, communities and balancing ethical, social, environmental and economic impacts

Social Studies contains substantial learning about place, environment, resources, climate, economy and society

It can be applied, reinforced...

Beginning of Second Level ← → End of First Level

Understand: The reliability of data depends on the questions asked and the consistency of methods used.

CCC

Know	Do	Know	Do	Know	Do
Categorical data falls into distinct groups. Numerical data can be quantified and is expressed as numbers. In surveys, the choice of question type is based on the type of data being collected. Technology can support efficient data collection and organisation.	Design questionnaires using multiple choice questions. Collect results using paper based and web-based approaches.	In surveys, the design of a question can influence the data collected. In multiple choice questions, the categories offered can influence the reliability of the data collected.	Design questionnaires using open and multiple-choice questions. Justify decisions made in the choice of question types. Consider and discuss how the choice of categories affects the reliability of the data collected. For example, having too many/too few categories, having subjective labels (such as very often/ often/ sometimes), and having categories that overlap (such as age: 10 to 20/ 20 to 30...). Collect results using paper based and web-based approaches, justifying the approach taken.	In surveys, the wording of a question can influence the reliability data collected. The reliability of data collected can be affected by human error.	Discuss given examples of questions which are worded in ways that could affect the reliability of responses. Suggest ways in which these questions could be improved. Design questionnaires in order to maximise the fairness and reliability of the data collected. Justify decisions made in the wording of questions. Collect results using paper based and web-based approaches, taking steps to minimise human error.

Notes

Some categories have a natural order e.g. small, medium, large. Others do not, e.g. blue, green, brown.

Any digital survey or polling tool could be used, based on ease of access and appropriateness. Paper based approaches could include counting hands up, keeping track of individual responses using tally marks or record sheets.

Examples of human error could include poorly worded questions, gaps in data due to miscounting or questions set to not requiring a response.

Examples of poorly worded questions could include ones which lead towards a particular response, ones which include subjective wording, or ones which are confusing or difficult to answer.

Data could be collected in relation to a range of cross cutting themes including sustainability, careers, democratic values, social justice & equalities etc.

Make connections to Literacy & English when considering open and closed questions.

Key mathematical language (Learners)

Categorical data, numerical data,

Learning for Sustainability example

It's written into the KDU..

Science has sustainability as a concept throughout Early > Fourth

Technologies 'people-and-planet' strand from materials and resources to environmental damage, fairness, communities and balancing ethical, social, environmental and economic impacts

Social Studies contains substantial learning about place, environment, resources, climate, economy and society

It can be applied, reinforced...

e.g. data handling in Maths

Key experiences...

Connect with nature, be in nature, engage with nature

Taking action, positive action and reduction in impact

Participation and decision making - youth voice

(reinforced in Ethos & Life)

What

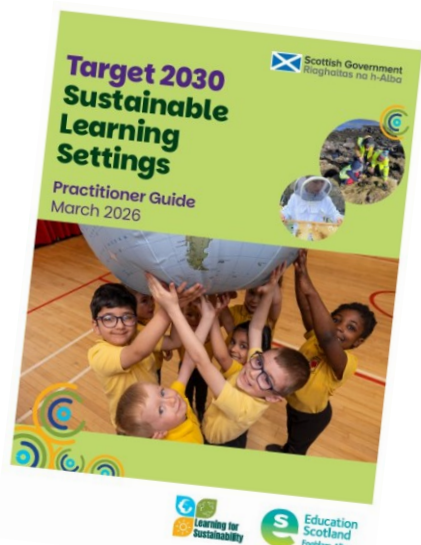
Opportunities for personal achievement

Interdisciplinary learning (IDL)

The ethos, life and culture of Scotland's learning communities

Curriculum areas and subjects

the curriculum
the totality of all that is planned and enacted for children and young people throughout their education



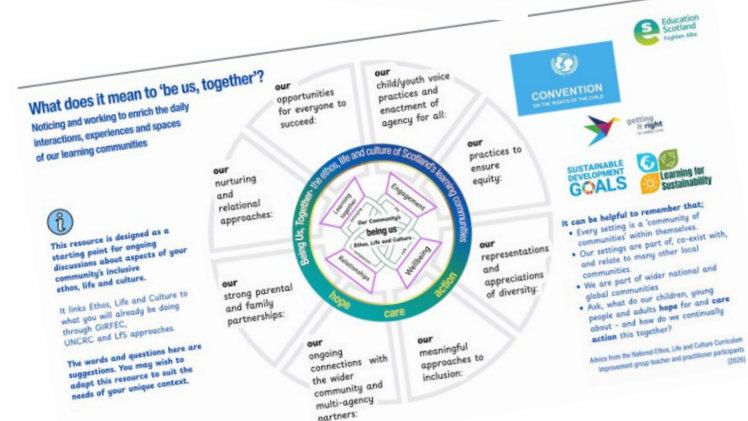
Grant funding – new course

We are delighted to have been selected for a Scottish Government grant to support the development of a new course of study at **SCQF Level 4 – Foundations in Sustainable Futures**.

This will meet a nationally recognised need for purposeful interdisciplinary learning programmes in earlier secondary years, and will provide a pathway into the Diploma course offered in S5-S6.

Questions or themes for IDL can be identified in a range of ways including:

- A (big) question identified by an individual or group of children or young people about which they are curious
- Assets, needs or questions in the local community
- Solving a real-world problem
- Global technological, health or environmental issues
- Cross-curricular themes such as Learning for Sustainability and Social Justice, Rights and Equalities
- Opportunities to engage with community partners
- Opportunities to engage with employers, industry sector representatives, and future destinations.





Scotland's curriculum framework

Why



4 capacities

What

Opportunities for personal achievement

Interdisciplinary learning (IDL)

the curriculum

the totality of all that is planned and enacted for children and young people throughout their education

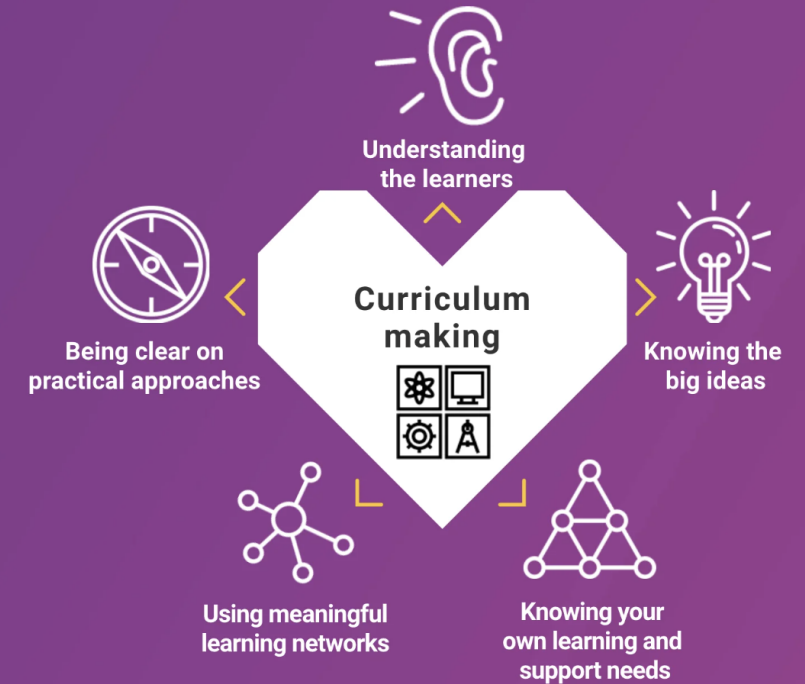
The ethos, life and culture of Scotland's learning communities

Curriculum areas and subjects

+ entitlements

contexts

How

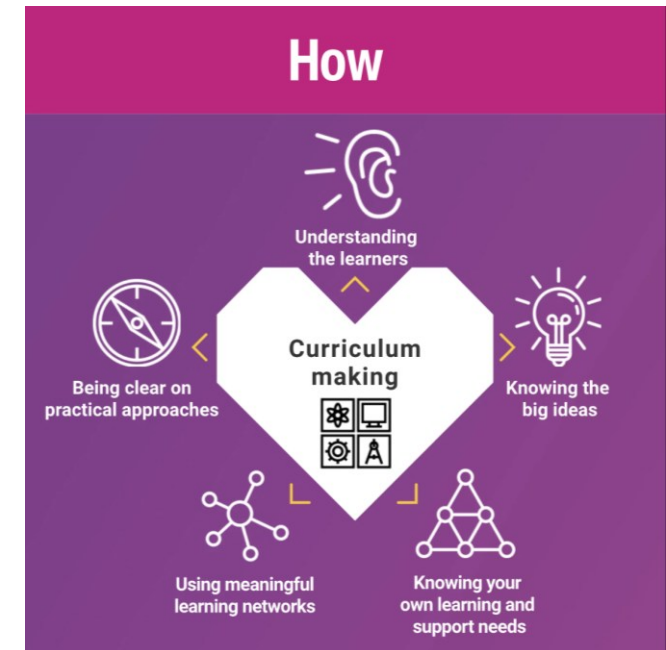


curriculum making

www.scotlandscurriculum.scot

Next Steps

- Professional learning as part of enactment work (what does a teacher / practitioner need to understand, know and do...
- High quality, adaptable resources
- How Scotland's Learner Profile might evolve to support individual children and young people?
- What opportunities might be available in the medium to long term to incentivise?
- And also to guard against unintended consequences?





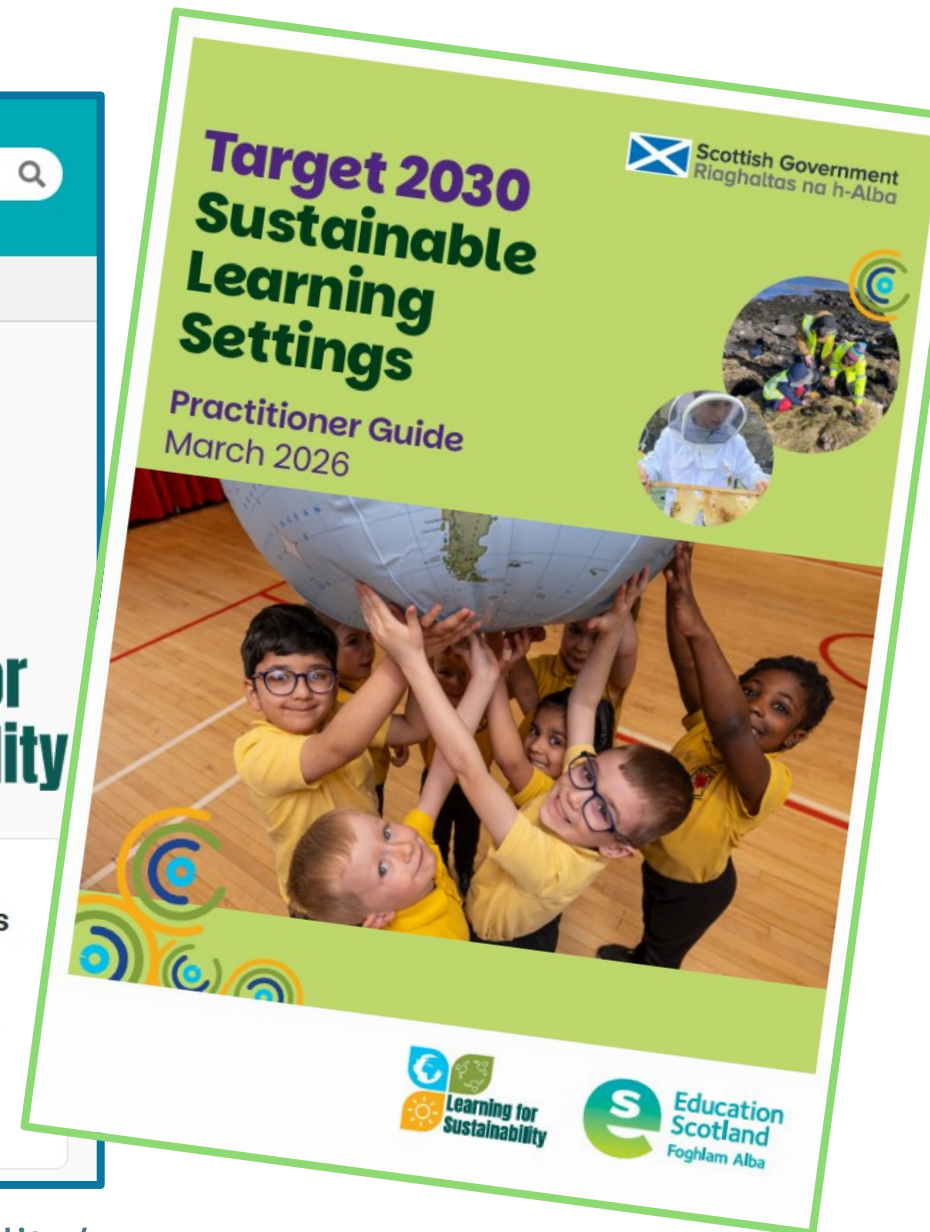
Learning for Sustainability education



Sustainable learning settings practitioner guide

Read the practitioner guide on how to become a sustainable setting by 2030.

[Read the guide](#)



<https://education.gov.scot/resource-themes/learning-for-sustainability/>