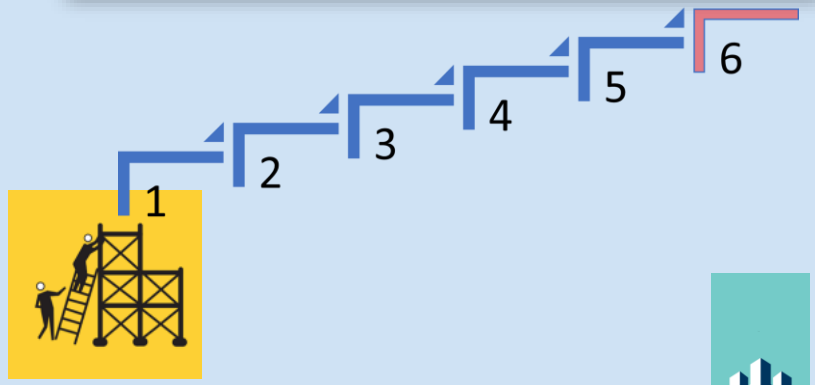
Module 3: Sequencing/integrating GIS into the curriculum

3) Working with GIS layers



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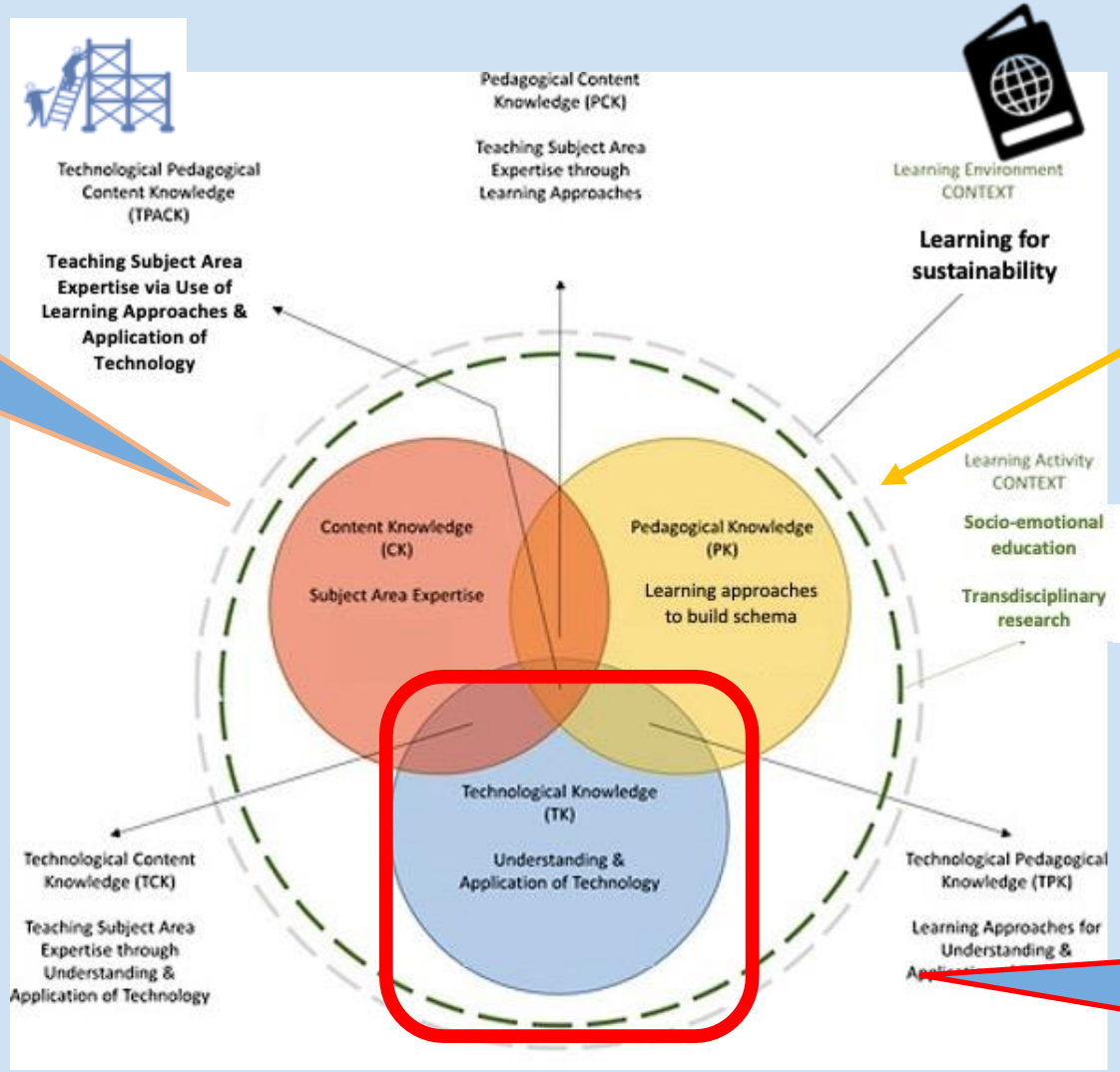
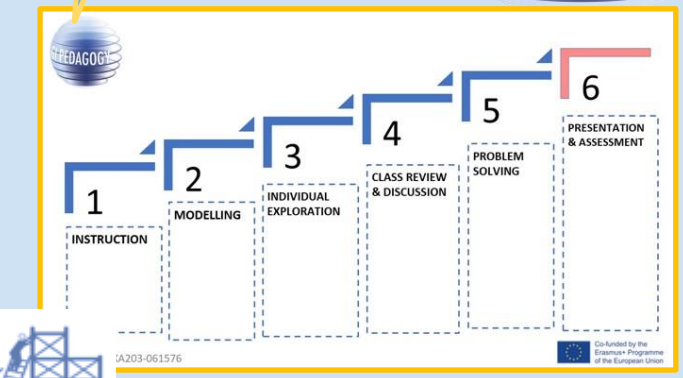
English Curriculum: Sequencing

Sequence your Curriculum Content Knowledge



Pedagogy



Assess your GIS Technical Competency Level (L1 – L5) for teaching with GIS in the Curriculum?

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English Curriculum: Sequencing

Rosenshine's Principles of Instruction (dual coding icons) for teachers' use

Principle	Description	Icon
1	**(Daily) review** Start each lesson with a repetition of previous material. Regular repetition reinforces what was learned and leads to more spontaneous recall.	
2	**New materials in small steps** Present learning materials in small amounts. Accompany students with practice after each step.	
3	**Ask questions (onderwijsleergesprek)** They connect the new learning material with previous knowledge and practise it.	
4	**Provide models** Pupils can focus on the steps to solve a problem.	
5	**Guide student practice** The best teachers spend a lot of time supervising the practice/learning of new material.	
6	**Check student understanding (onderwijsleergesprek)** By checking in between, pupils can learn the material with fewer mistakes.	
7	**Obtain high success rate** Aim for the students to experience approximately 80% success in the exercises, questioning ...	
8	**Scaffolds for difficult tasks** The teacher provides temporary support that decreases as students become more competent.	
9	**Independent practice** Provide practice time in and out of the classroom so that the learned material can be automated.	
10	**(Weekly and monthly) review** Pupils need to practise intensively in order to automate the material. Not necessary for this key study.	

Icons based on Rosenshine poster by Oliver Caviglioli

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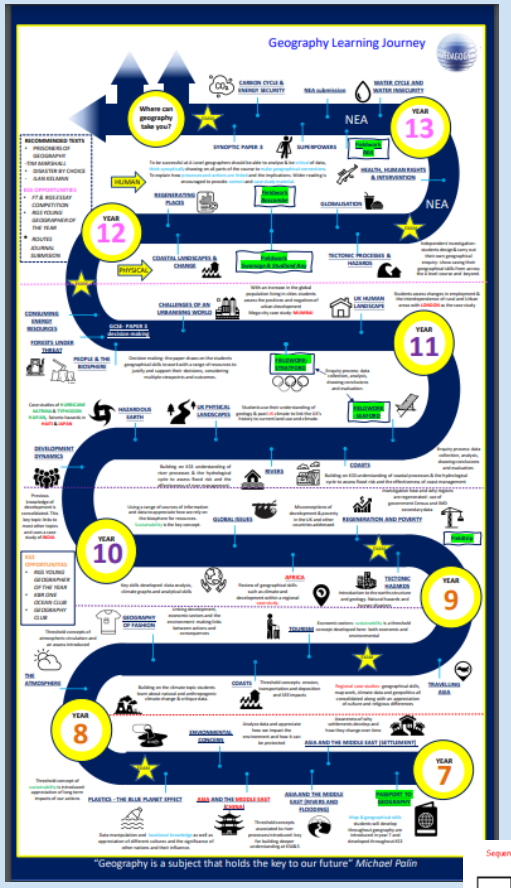

Step	*Identify a topic / story that is going to be told / explored using GIS*	Other
	[LESSON TITLE]	
	[LESSON SUBTITLE]	
	Curriculum context:	
	Target age group:	
LOs	***Learning objectives***	
	[Ideas for Learning objective statements] ● Retrieve prior learning about… ● Describe and explain links between… ● Describe, explain and evaluate… Can link to SDGs especially: (Choose only those related to the vignette topic and activities)	

Sequence of lessons — Geography Department

	Autumn (? weeks)	Spring (? weeks)	Summer (? weeks)
Yr 7	Passport to Geography: selected countries	Asia + Middle East: Physical - Rivers + Flooding	Environmental concern
	Asia + Middle East: (Human - settlement)	Asia + Middle East: China	Plastics: the Blue Planet effect
Yr 8	The Atmosphere	Coasts	Travelling Asia
	The Geography of Fashion	Tourism	
Yr 9	Tectonic hazards	Africa	India
	Regeneration + Poverty	Global issues	
Yr 10	2) Development Dynamics	4) UK Physical Landscapes	4.2) Coasts
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	3) Challenges of an Urbanising World	8) Forests under threat	
Yr 12	Regenerating Places	Boscombe/Swanage + Studland Fieldwork	Tectonic Processes + Hazards
	Coastal Landscapes + Change	Globalisation	Health, Human Rights + Intervention
Yr 13	Water cycle + Water Insecurity	Superpowers	Synoptic Paper 3
	NEA	Carbon Cycle + Energy Security	

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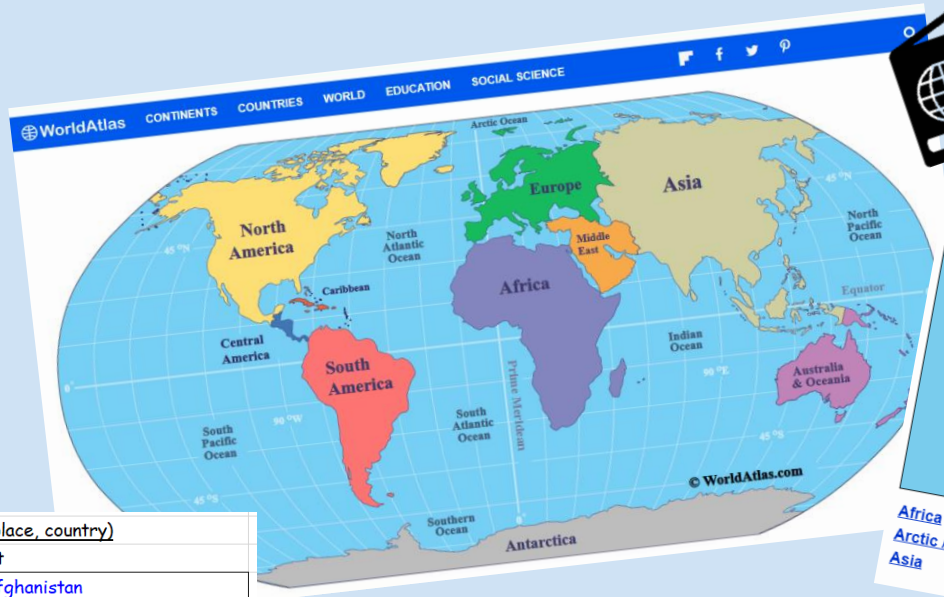
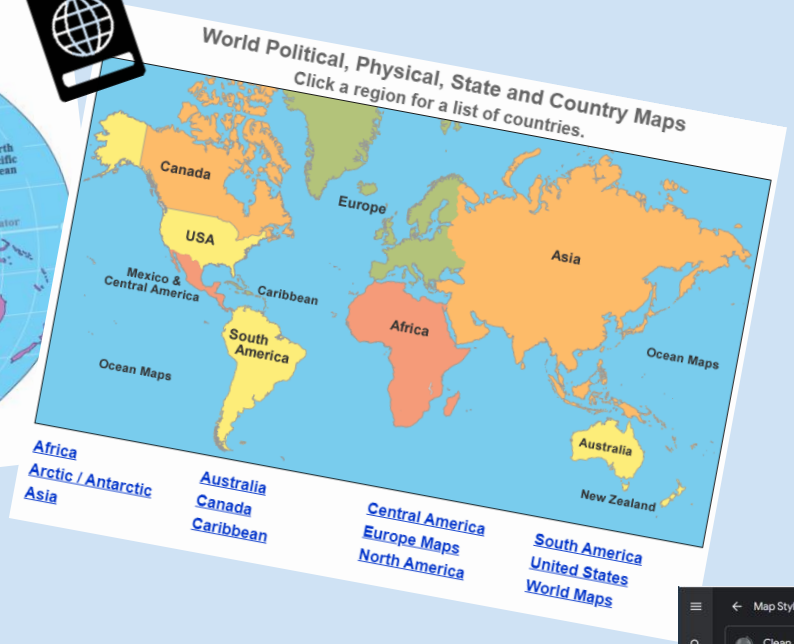
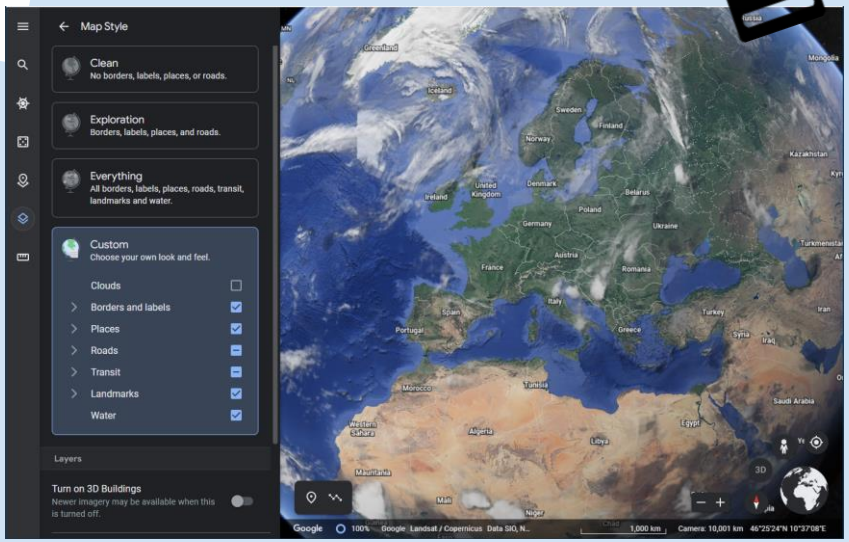
English Curriculum: Year 7-9





Case-study (place, country)
Yr 7 passport
Afghanistan
Canada
China
France
Greece
India
Italy
New Zealand
South Africa
Spain
Ukraine
United Kingdom of Great Britain and Northern Ireland

Use
GIS Visualisers



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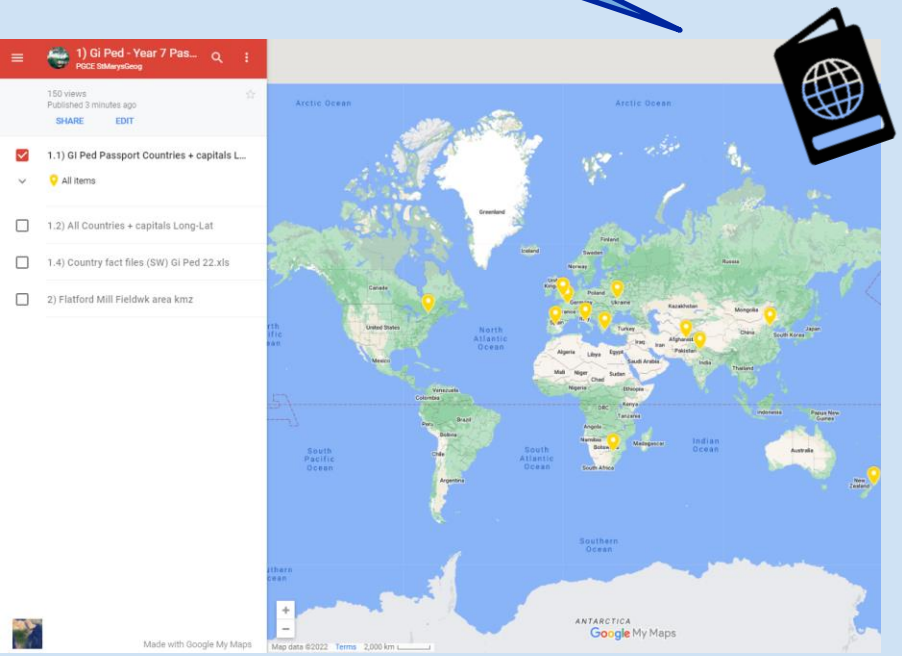
English Curriculum: Year 7-9

Add data + photos to your GIS visualiser



GI PEDAGOGY

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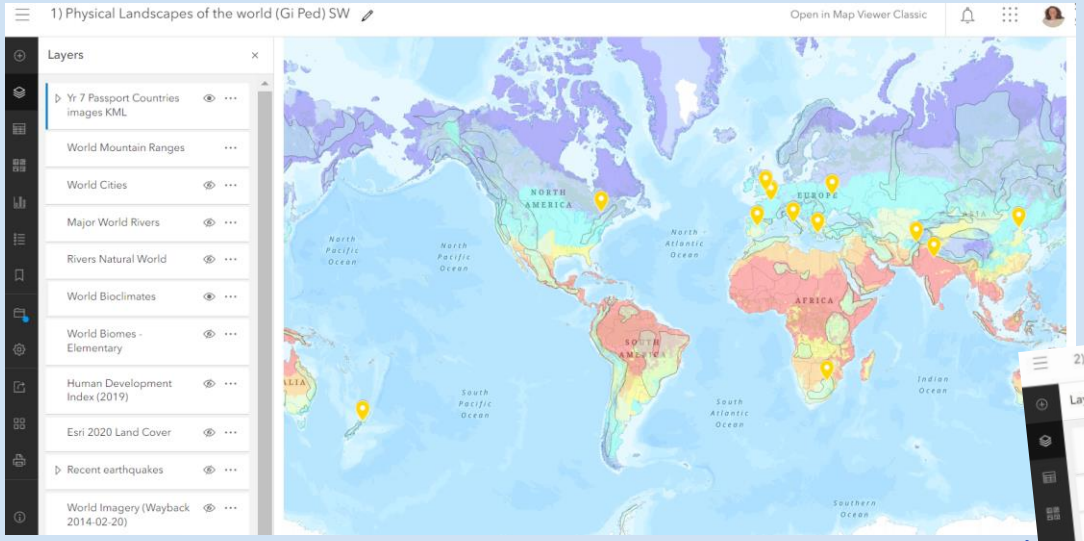
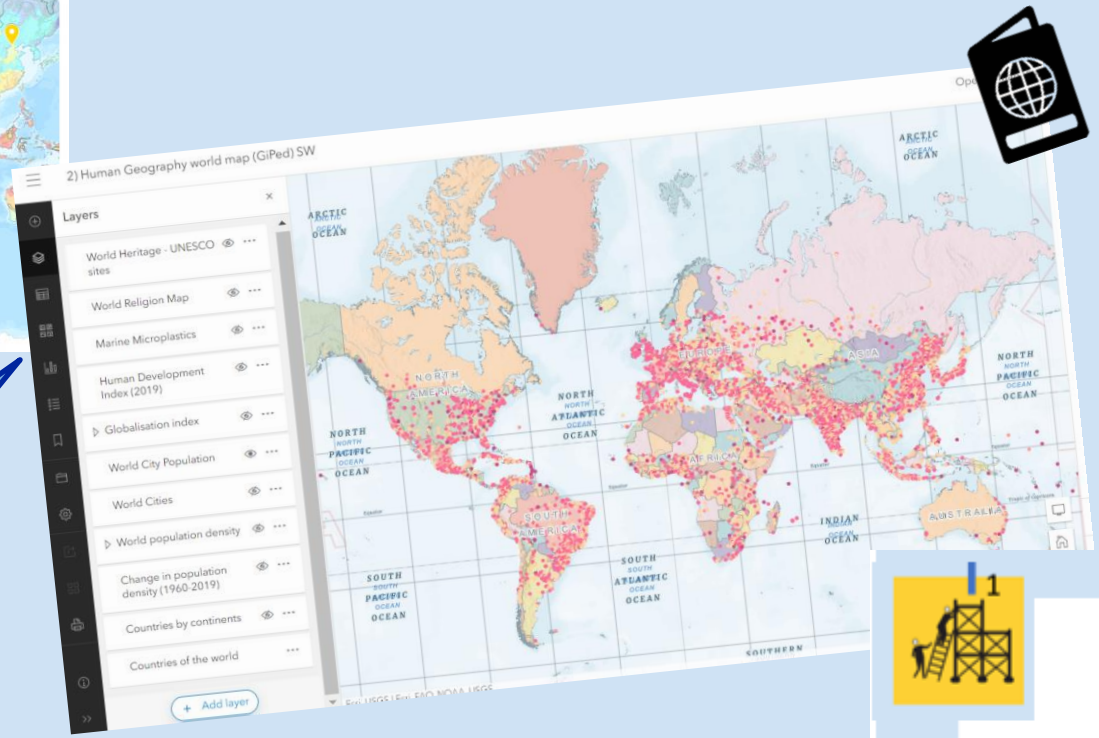
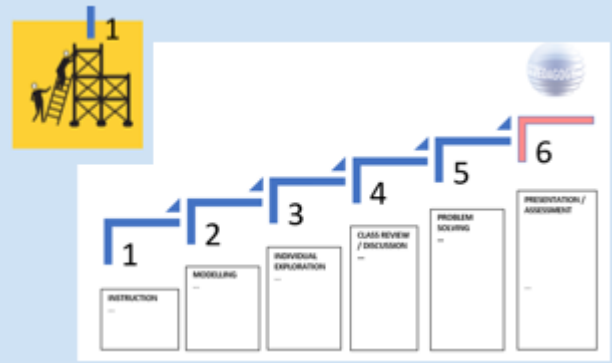
English Curriculum: Year 7-9



Work with GIS layers





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English Curriculum: Year 7-9

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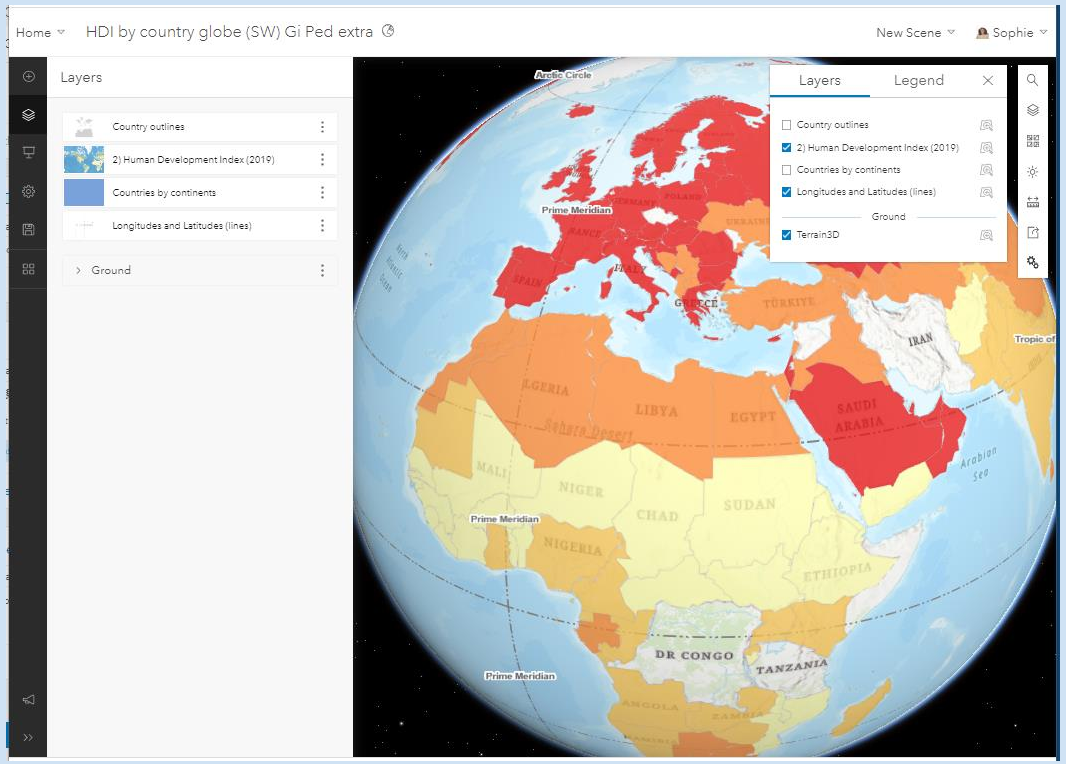

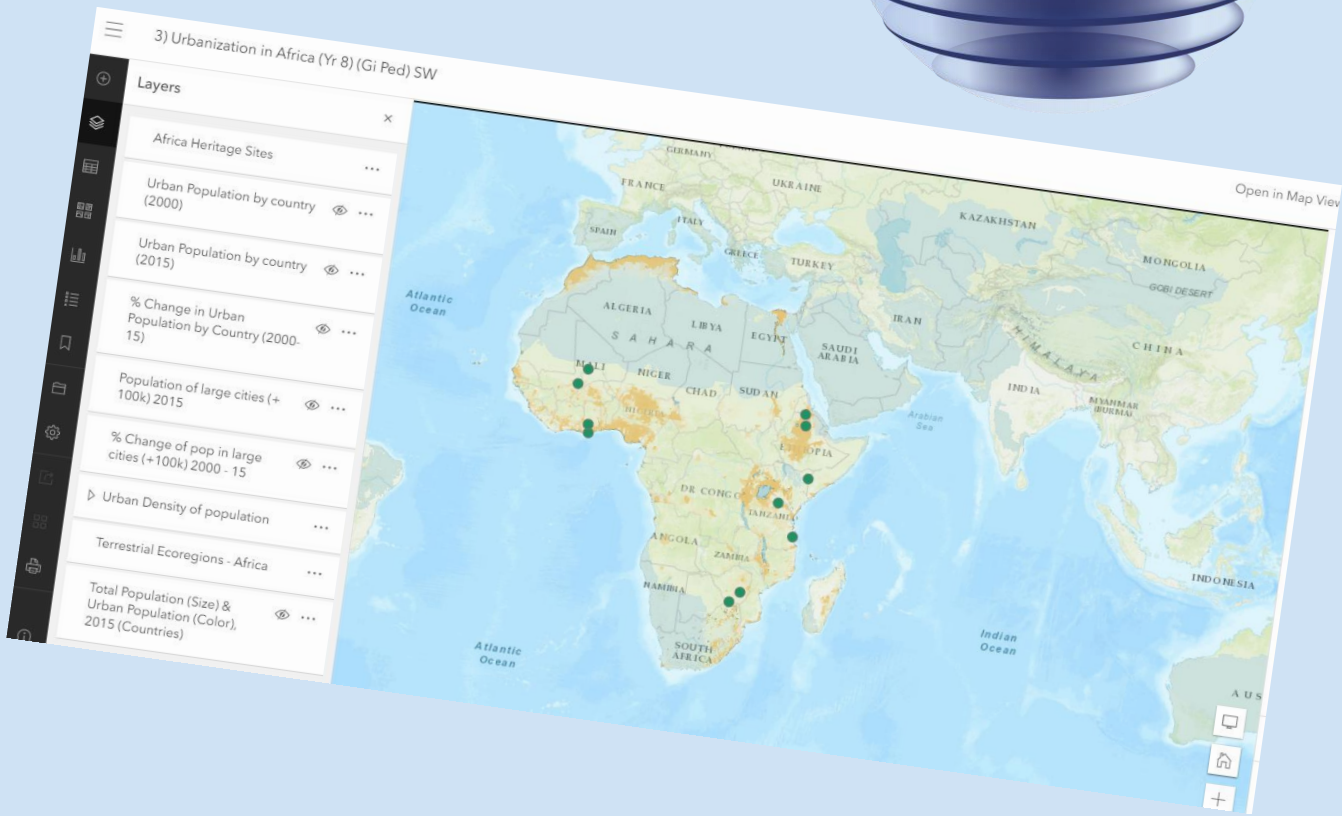

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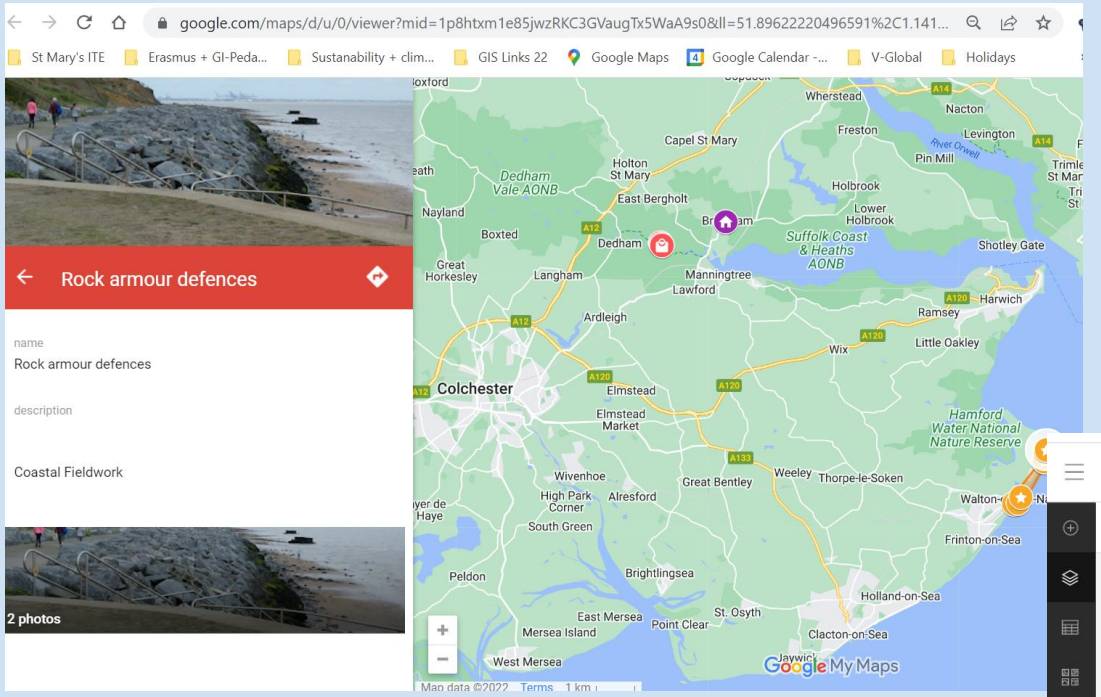
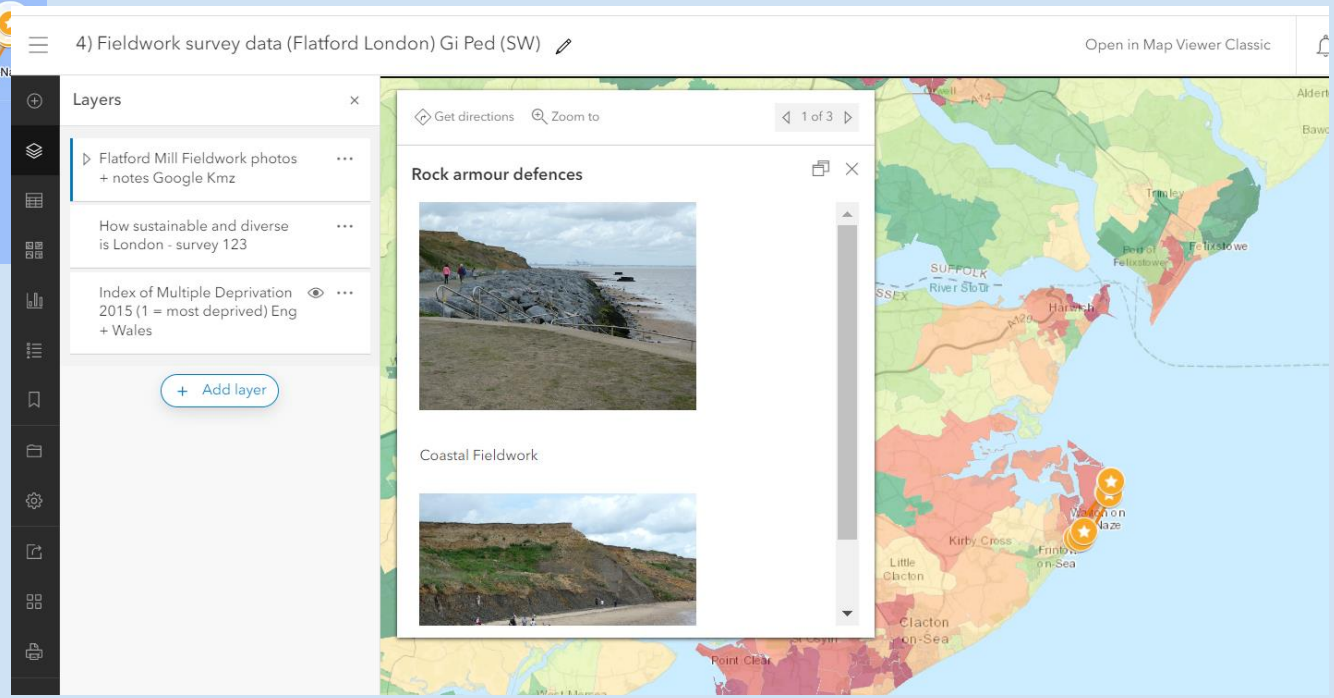
English Curriculum: Year 7-9





Add data + photos to your GIS layers

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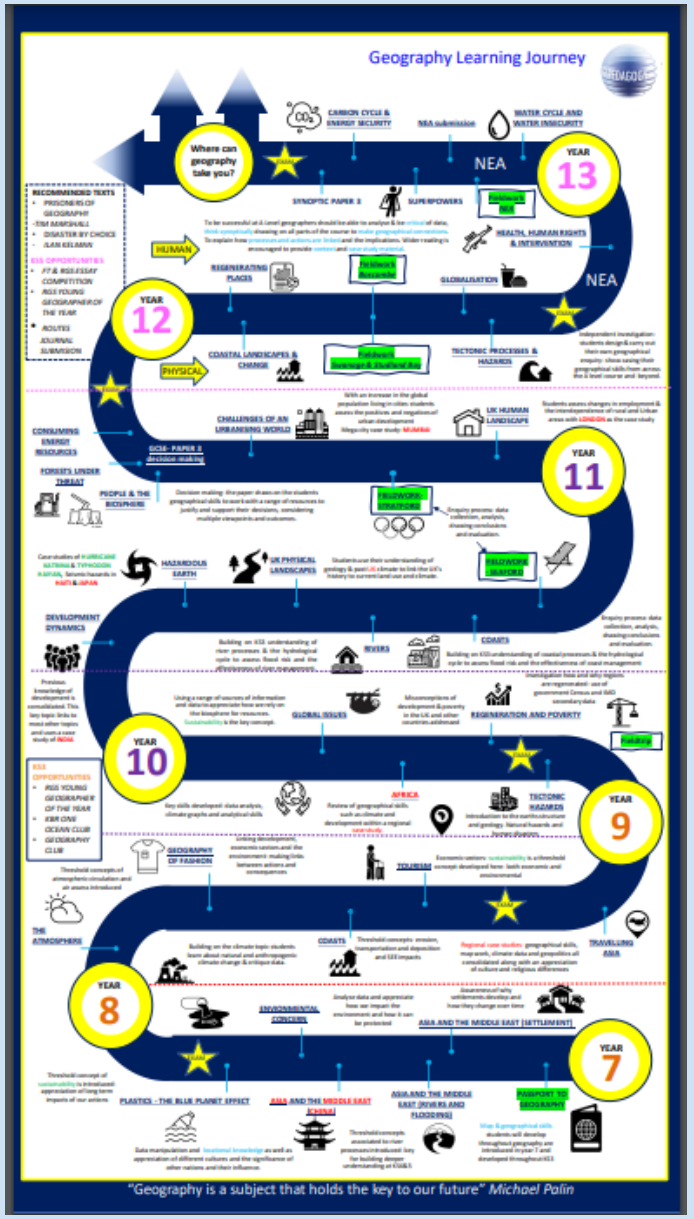
English Curriculum: Year 10-13



Sequence of lessons — Geography Department

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Yr 13	Water cycle + Water Insequrity	Superpowers	Synoptic Paper 3
	NEA	Carbon Cycle + Energy Security	

2021-22

Yr 9			
Thematic	Case-study (place, country)		
Tectonics	Africa	Recent earthquakes	(live feed)
		Tsunami elevation tool	*app
Regenerateion/urban	India	Unequal Mumbai	info
Globalisation	UK		
Development in UK			
Global issues		UNHCR Population of Concern per country	*refugees and asylum seekers
		Commonwealth countries	*app

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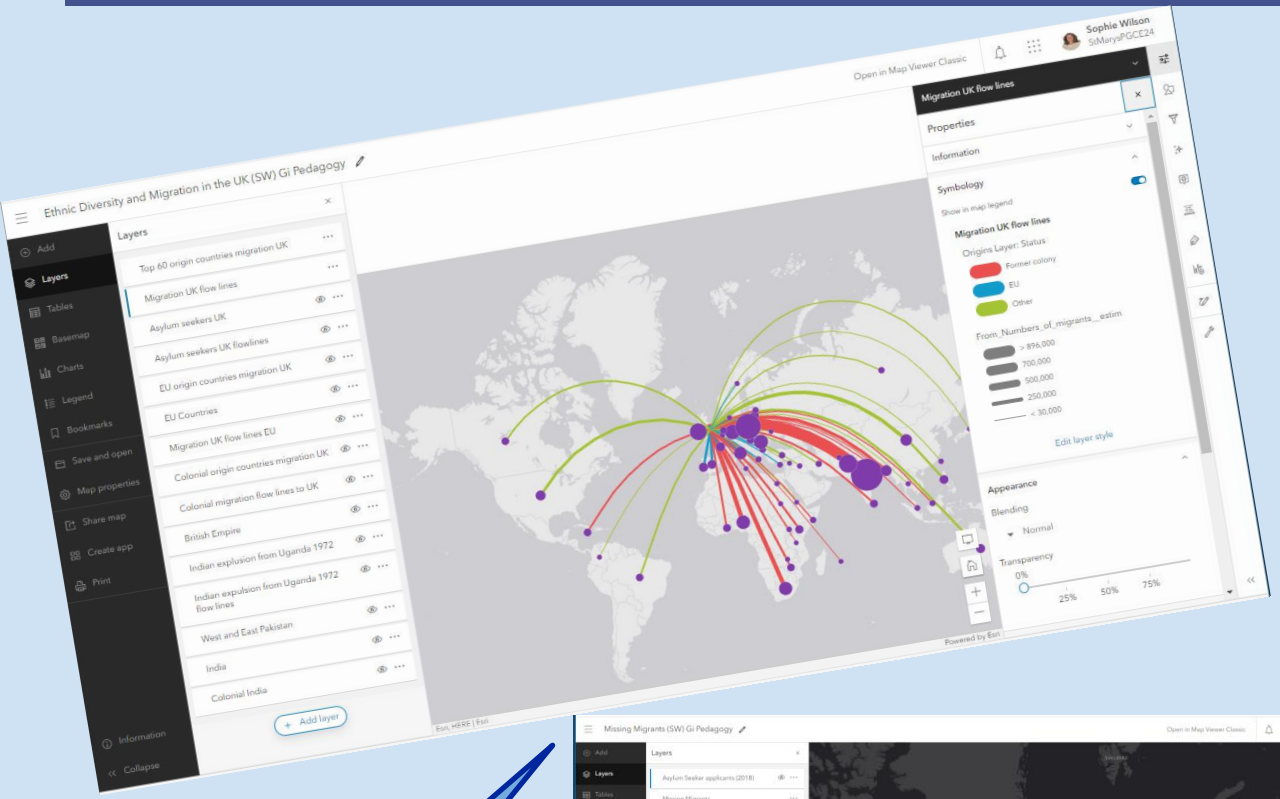
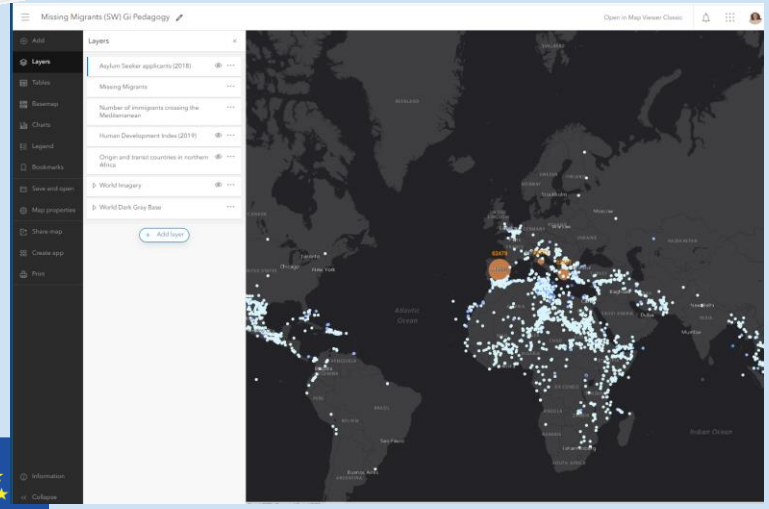
English Curriculum: Year 10-13





Working with more GIS layers

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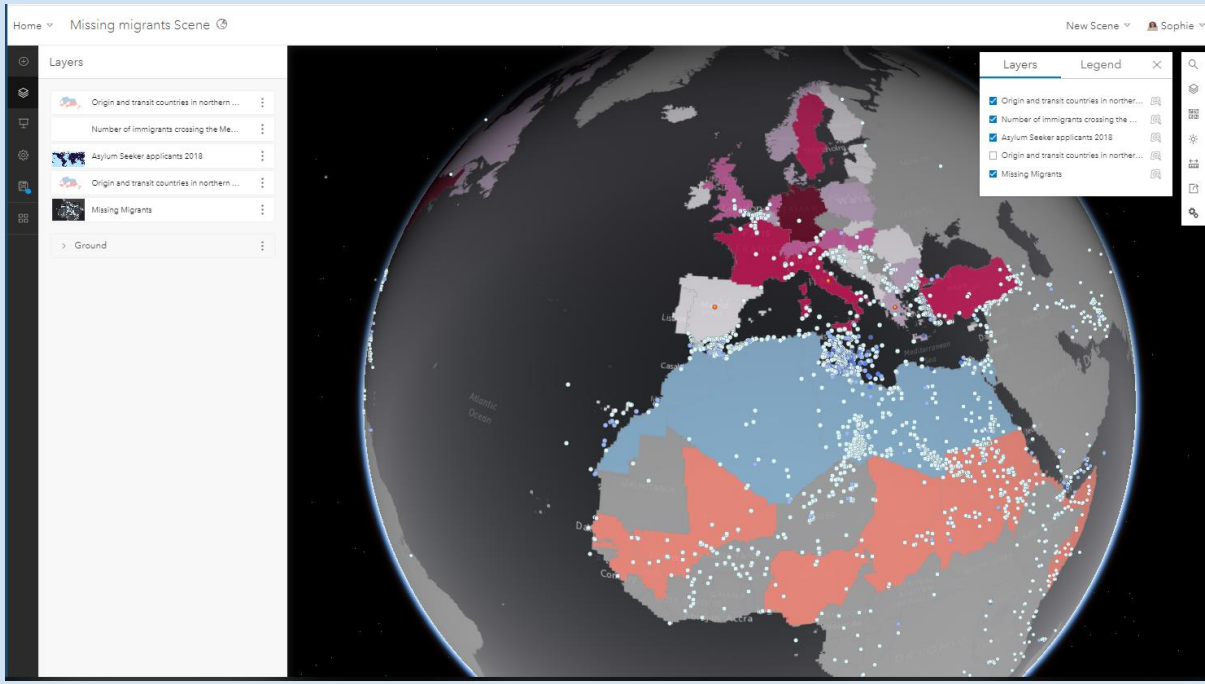
2021-22



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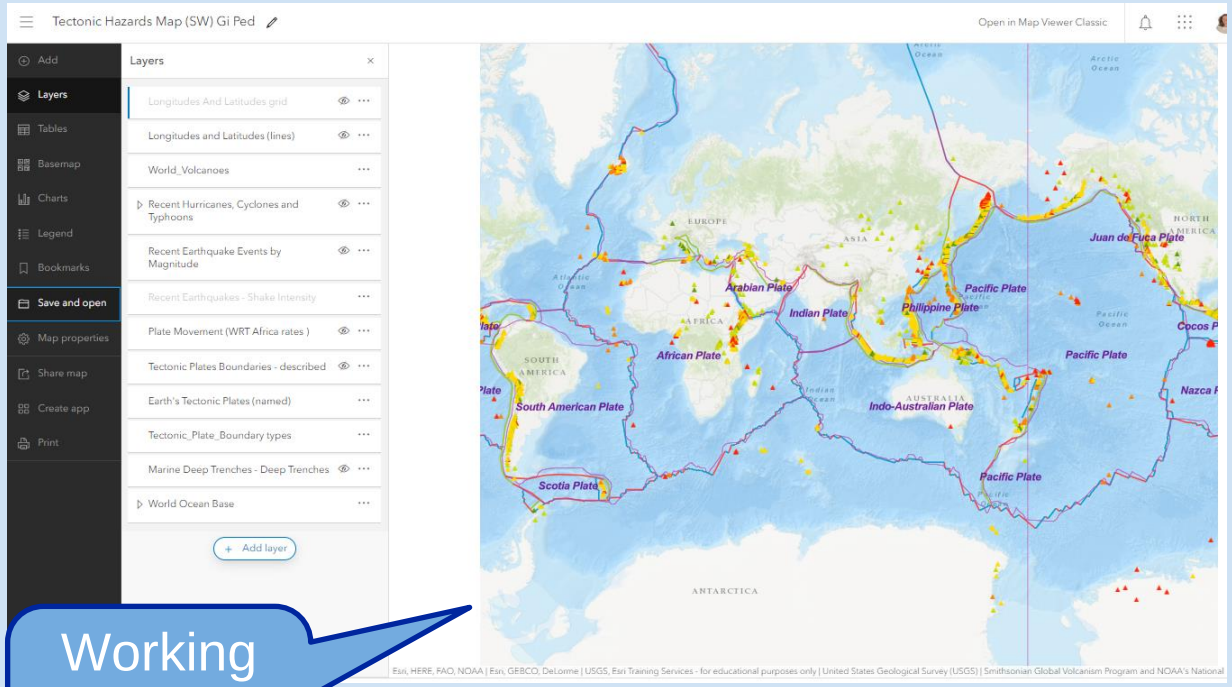
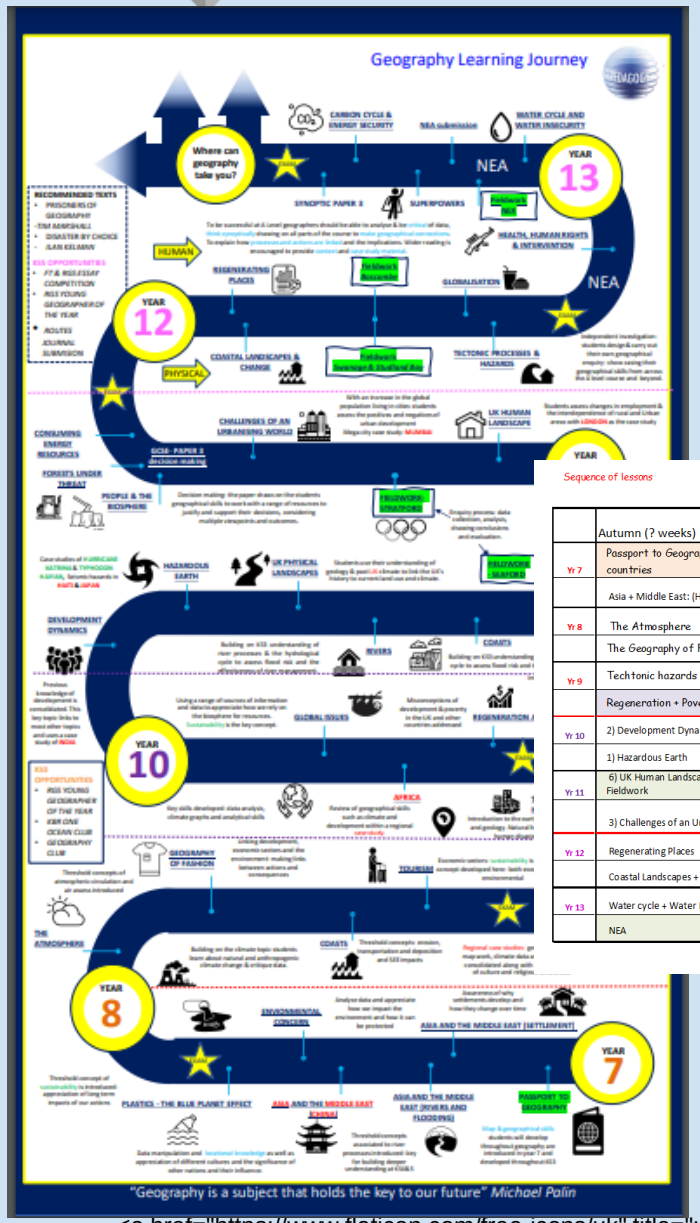
English Curriculum: Year 7-9



Working with GIS layers



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2021-22

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Development in UK				
Global issues			UNHCR Population of Concern per country	*refugees and asylum seekers
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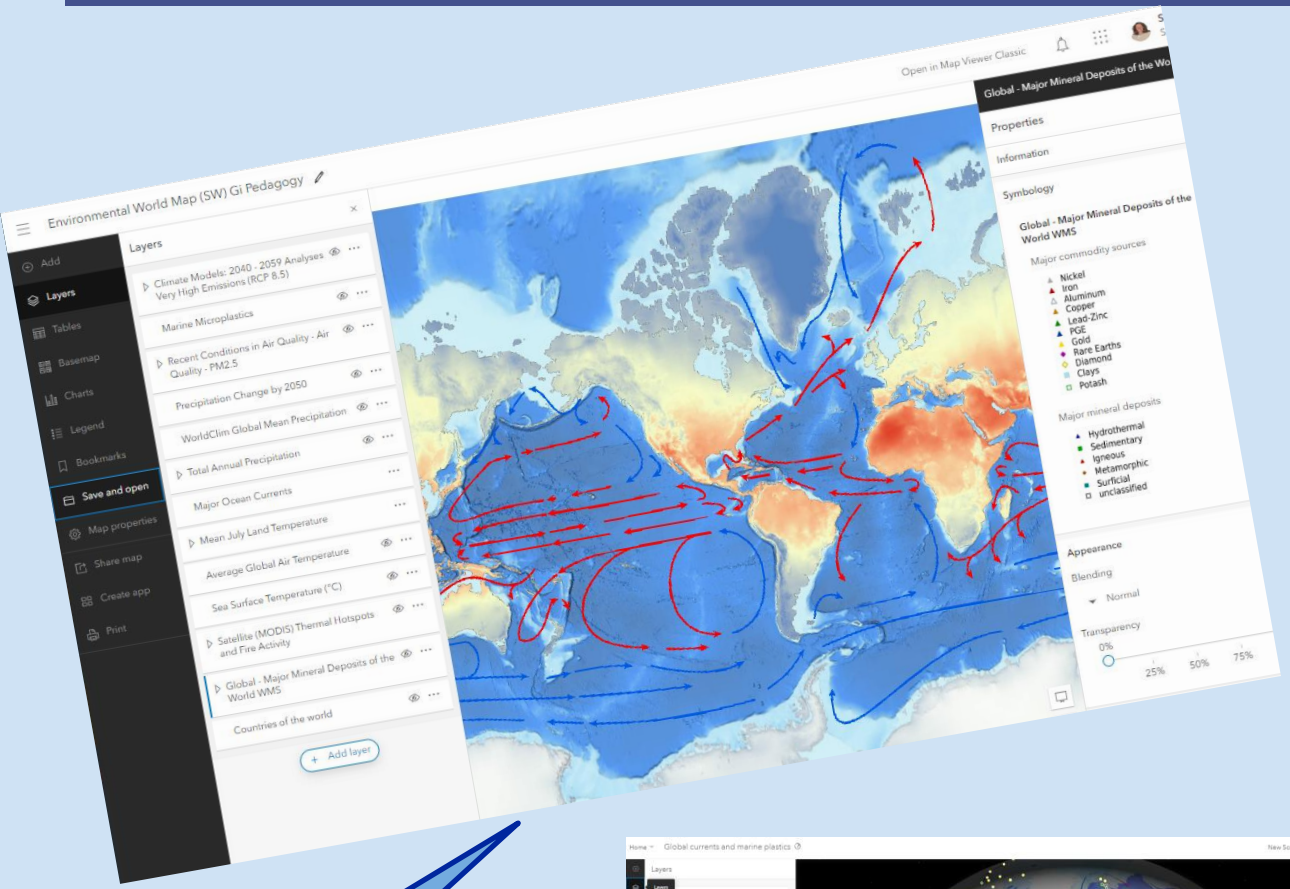
English Curriculum: Year 10-13



Working with GIS layers

Sequence of lessons — Geography Department

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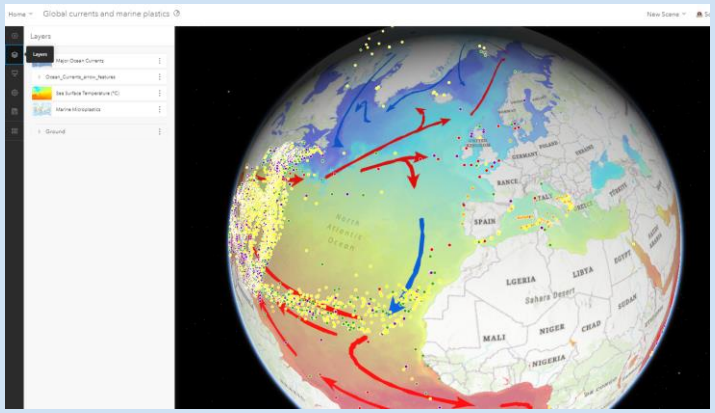
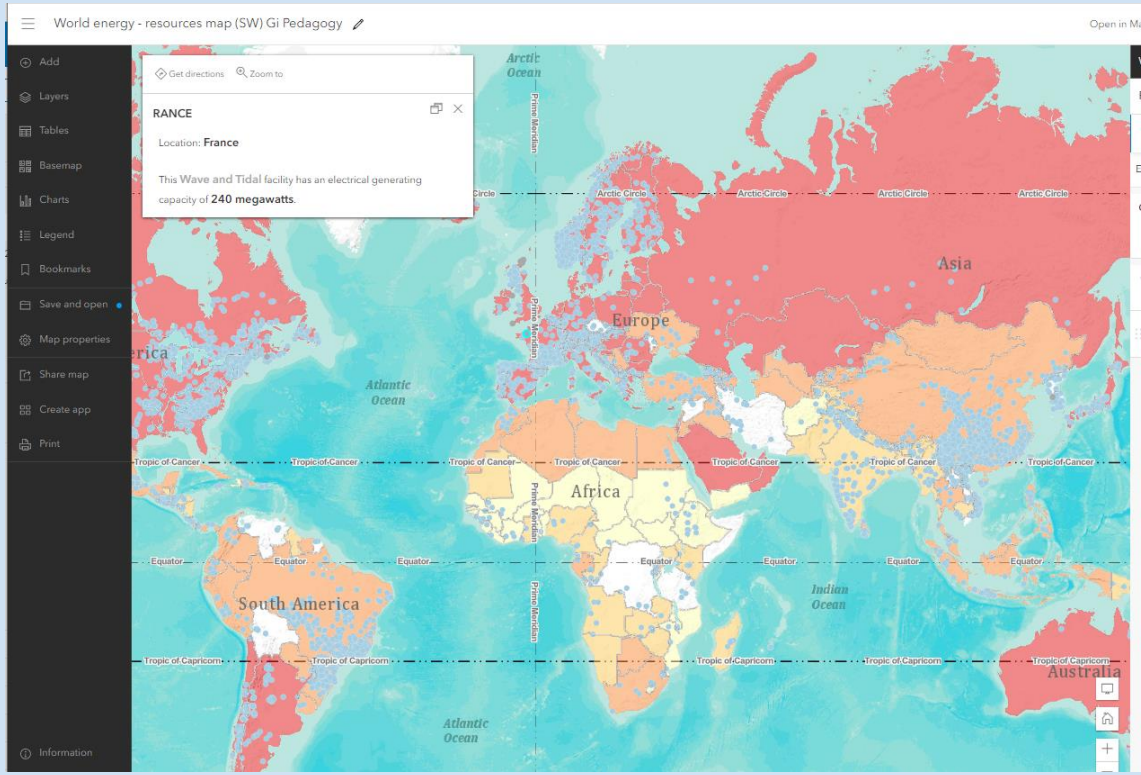
2021-22





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Conclusion: Locational knowledge and developing a sense of place

- Importance of lesson planning
- Geography Department Teamwork
- Importance of sharing best practice and ideas

Engage with the Geography community of practice:

Different levels and commitment:

- ❑ Subject Associations:
  - Geographical Association
  - Royal Geographical Society
- ❑ Twitter - #geography teacher #GIS
- ❑ Teacher Blogs-websites…

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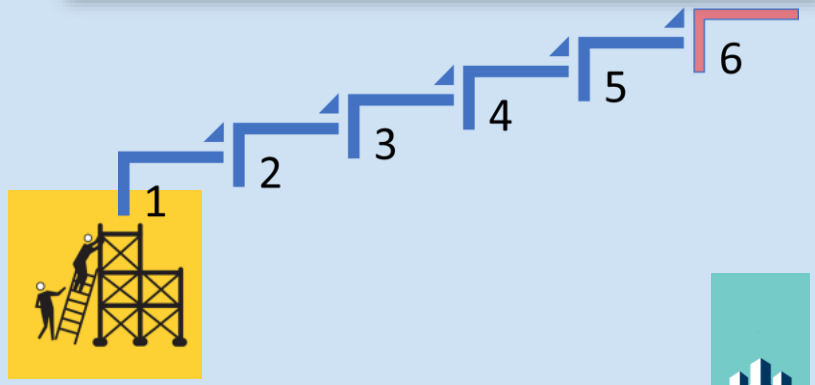
Module 3: Sequencing/integrating GIS into the curriculum

Sophie Wilson, Miguel A. Puertas



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