ACET Junior Academies'

Scheme of Work for geography

What can we do to protect the future?

About this unit:
This unit covers potential solutions to many of the problems explored in the previous unit and other pressing global concerns. The lessons make use of resources from various conservation and activist organisations and the activities are focussed squarely on the students 'planning' and 'doing' to help solidify the idea of direct action as a solution to global problems.
Climate change is the framing device for the entire unit as each of the issues is exacerbated, or linked to global warming. Each lesson explores a different way for students to fight climate change, which should aid in students understanding that no geographical issue can be studied in a vacuum, and that they must develop linked thinking leading into KS3.

Unit structure
This unit is structured around the following geographical enquiries:

How can we protect coral reefs?

How can we reduce plastic in the ocean?

What can I do to prevent water shortages?

How can we protect the world's forests?

How are people adapting to climate change?

The big debate?

What future do we want?

National Curriculum unit:

Describe and understand key aspects of:

- physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
- human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water
- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied

<table>
<tr><th colspan="5">Enquiry 1: How can we protect coral reefs?</th></tr>
<tr><th>Links to previous learning</th><th>Knowledge and second order concepts</th><th>Geographical skills:</th><th>Assessment criteria:</th><th>Curriculum Links:</th></tr>
<tr><td>Coral Reefs ecology</td><td>Substantive knowledge:
(What the children should know.)

Why are Coral Reefs important to conserve?

What methods are there to protect reefs?

Which methods are effective?</td><td>Locational Knowledge

Place Knowledge:</td><td>Can your children:

Explain how they might help the cause of coral reef conservation

Explain how larger scale efforts to protect reefs work.</td><td>Horizontal:

Vertical:</td></tr>
<tr><td colspan="2">Suggested activities:</td><td>Resources:</td><td colspan="2">Useful links:</td></tr>
<tr><td colspan="2">Begin he overall unit with a video or other framing device that students understand the scope of the topic:
https://www.ourplanet.com/en/video/how-to-save-our-planet/

Students can begin with a series of images, videos and other material to remind them about the diversity and beauty of Coral Reefs.
This initial poetry activity may be used to reactive previous learning about coral reefs.
Arrange students to work individually, in pairs, or in small groups. 4. Using words from the brainstorming session as well as additional words of their own choice, students will work individually or in groups to compose short poems. (See poem formulas on the following page.) Once the poems are complete, students should recopy the poems onto construction paper. 5. Each person in the group now adds a picture on the construction paper to illustrate the poem. 6. Each poem is now shared with the whole group.</td><td>https://sanctuaries.noaa.gov/vr/florida-keys/coral-restoration/</td><td colspan="2">https://www.reefdoctor.org/projects/conservation/coral-reefs/reef-restoration/

https://reefrestorationfoundation.org/

https://reefrestorationfoundation.org/pages/how-we-do-it

Vocabulary:

Conservation
Sustainability
Reef Restoration
Sustainable Tourism
Indirect
Long term
Short term
achievable</td></tr>
</table>

POEM FORMULAS: Haiku First line of 5 syllables Second line of 7 syllables Third line of 5 syllables Cinquain First line — 1 word title Second line — description of title in 2 words Third line — 3 words that describe an action related to the title Fourth line — 4 words that describe a feeling related to the title Fifth line — 1 word that is a synonym of line 1 (means the same as the word in line 1). Diamante This is a poem formed in the shape of a diamond. noun adjective adjective participle participle participle noun noun noun noun participle participle participle adjective adjective noun (Beginning and ending nouns are opposites; the four nouns in the middle are related to the beginning and ending nouns.) Students should be reminded of how reefs are damaged and introduced to three methods of protecting them. 1) Reef Restoration 2) Sustainable Tourism and Fishing 3) Fighting Climate Change Reef restoration is explained in this 3d video: https://sanctuaries.noaa.gov/vr/florida-keys/coral-restoration/ https://reefrestorationfoundation.org/pages/how-we-do-it Sustainable tourism – Students revisit their understanding of sustainability from previous units. Explain that countries, and local people rely on the fishing, and tourism that Reefs provide. Task students with creating a “sustainability pledge”, a list of rules and regulations that tourists and fishing boats/divers must sign to have legal access to the Reef. Students are introduced to the importance of reducing emissions of Greenhouse gasses, particularly CO2 which drive ocean acidification as well as temperature rise. Student could perform a site audit of the school to determine where bike storage could be added and then design a petition to the school to provide more space for bike storage, to initiate a programme to reduce CO2 by encouraging cycling to school. Students could undertake a travel survey of how other students arrive to school as part of this (example in folder).		

Students should reflect, in verbal or written response which of these three methods will have the most immediate impact, which will matter most in the long term, and which is most achievable for them as school children.		

Enquiry 2: How can we reduce plastic in the ocean?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
Plastic Pollution	**Substantive knowledge:** ***(What the children should know.)*** What methods are there to preventing plastic pollution of the ocean? Can we remove what is already there? Can I personally make a difference?	**Locational Knowledge** **Place Knowledge:**	**Can your children:** Explain that there are multiple solutions to plastic pollution in the ocean Explain their part in causing plastic pollution as consumers Design appropriate sustainable and biodegradable packaging as a creative solution to	**Horizontal:** **Vertical:**
Suggested activities:		**Resources:**	**Useful links:**	
Remind students of the extent of micro and macro plastic pollution in the oceans, and prompt them to recall and explain how plastic affects ocean ecosystems and food chains. Explain that there are several methods that can be used of reduce plastic pollution of the oceans. 1) Massive reduction of plastic packaging and disposable plastics.		collection of packaged products such as pump toothpaste container, lipstick, toy (unopened), laundry soap, disposable pens, and cereal box • Trash collected from student lunches or around the school to	https://www.youtube.com/watch?v=XWxtlqHjxvo https://www.youtube.com/watch?v=TLQN2Y4v1bI **Vocabulary:**	

2) Combing the ocean to remove existing waste. 3) Intercepting plastic in rivers before it reaches the ocean Introduce the company "The Ocean Clean Up" and use these videos to explain what is being done at an industrial scale: https://www.youtube.com/watch?v=bm1rH70wfJo – River intercept https://www.youtube.com/watch?v=O1EAeNdTFHU – ocean cleanup Explain that no mater how impressive these solutions are they do not fix the original problem, which is out overuse of plastic in packaging and disposable items. Students are then tasked to design a product packaging that uses less/no plastic. Details included in resources folder. Introduce students to the three "Rs" of sustainability. Explain how this will help fight plastic pollution, but also global warming. Ask students to pledge to make a change to their habits, e.g. keep a recycling diary, take charge of recycling at home and make a record of it to share with the class. Ask students what they use in daily life that is disposable (e.g. water bottles) that can be replaced with something permanent, or fully recyclable.	display what kind of trash ends up outside, as litter (or, if your group has done a beach or shoreline cleanup recently, trash from the cleanup to show what ends up on our shores) • Materials for design and construction of improved prototype packages (non toxic markers, cardboard, newspaper, crayons, construction paper, white glue or paste, tape and/or staplers, and paperboard, like old cereal boxes) • One copy per group of the "packaging" handout	Disposable Biodegradable Pollution Interception Recyclable

Enquiry 3: What can I do to save water?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
Water Cycle **Water Security**	**Substantive knowledge:** ***(What the children should know.)*** Am I at threat of a water shortage? What is being done to combat water scarcity worldwide? How could I contribute?	**Locational Knowledge** **Place Knowledge:**	**Can your children:** Explain that although their area may not be at threat of water shortages, the UK in the near future will face water shortages	**Horizontal:** **Vertical:**

			Explain the objectives of social enterprises and decisions they would make in a similar organisation.	

Suggested activities:	**Resources:**	**Useful links:**
Reintroduce students to the issues of water shortage worldwide. Show them a rainfall map of the UK and ask them if they think they live in an area likely to be affected by a drought. Explain that the UK will face water shortages if climate change continues. Share the infographic of how UK households use water and ask them if there are any reductions or efficiency ideas they can provide. How might they implement them in their own home? Remind students that there are already millions of people who face water shortages every year and that it is an urgent problem. Follow the water and entrepreneurship action aid lesson plan and activities (in folder) Explain to students that water shortages in the UK will get worse unless climate change if combatted. Explain the benefits of a "low carbon" diet. Challenge students to eat a low carbon diet e.g. no meat, for a week.	Rainfall map of uk (in folder) UK household water usage (in folder) Water and entrepreneurship resource (in folder) https://www.bbc.co.uk/news/uk-47620228	http://www.eatlowcarbon.org/ **Vocabulary:** Social entrepreneur / enterprise

Enquiry 4: How can we protect the World's forests?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
Rainforest biomes from Y4	**Substantive knowledge:** ***(What the children should know.)*** Why are forests under threat? What are the potential solutions? How do forests help fight climate change?	**Locational Knowledge** **Place Knowledge:**	**Can your children:** Explain why forests are threatened Explain the impacts of deforestation, including habitat loss and climate change	**Horizontal:** **Vertical:**

	What is forest stewardship and sustainable management?		Design and plan a forest conservation scheme	

Suggested activities:	**Resources:**	**Useful links:**
Reintroduce the issues affecting Forests using the “our forest slides” (in folder) Conduct a classroom debate using rainforest solutions ideas (in folder) Explain the concept of sustainable forest management and follow the resources in the “forest stewardship” pack (in folder)	**Sustainable forest management UK** https://www.youtube.com/watch?v=hrCpAE-lIq8 Forest Stewardship pack (in folder) Video from that pack: https://www.youtube.com/watch?v=ktlxc6qtXns&feature=emb_title	https://www.fsc-uk.org/en-uk/about-fsc/what-is-fsc/fsc_videos https://www.woodlandtrust.org.uk/blog/2018/07/what-is-a-sustainable-forest/ **Vocabulary:** Sustainable forest management

Enquiry 5: Are we all equally responsible for climate change?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
Y5 Unit on trading, links to child labour and the idea of personal responsibility	**Substantive knowledge:** ***(What the children should know.)*** How are people in areas affected by climate change adapting to an uncertain future? Are all people equally responsible for climate change?	**Locational Knowledge** **Place Knowledge:**	**Can your children:** Explain that climate change will impact the people who are least responsible for it Identify that climate change is already happening	**Horizontal:** **Vertical:**

Suggested activities:	**Resources:**	**Useful links:**

Use adaptation videos to show how people in lower income countries already have to find personal adaptations to climate change. Ask students to imagine a line from one side of the space to the other. Explain that standing at one end of the learning space means strongly agreeing with a statement, and standing at the other side means strongly disagreeing with the statement. The space in between is graduated between these views. Explain that everyone's view will fall somewhere along the line, and that there are not necessarily any 'right' or 'wrong' answers. You might like to label one side of the space 'strongly agree' and the other 'strongly disagree'. You may want to introduce a practice statement such as 'Football is brilliant' to warm learners up and familiarise them with using an agreement line. Read out each of the statements below and allow learners to move into place. 1) Agreement line statements: 2) Climate change won't really affect people. 3) Everyone is equally responsible for climate change. Everyone will be impacted by climate change in the same way. Encourage individual learners in different positions to say a few words about why they have taken that position. Try to draw out what learners think about the following principles Fairness – the impacts of climate change will be felt more by those who are poorest and ironically the least responsible. Understanding of the issue – climate change is having an impact on people right now. Complete activity 2.1 and 2.3 in the Oxfam activities resources (in folder)	Adaptation videos https://www.youtube.com/watch?v=vbpKR1bwVcg https://www.youtube.com/watch?v=3jfxgaiJawk&feature=emb_title Oxfam education resources (in folder)	**Vocabulary:** Adaptation

Enquiry 6: The Big debate?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
	Substantive knowledge: ***(What the children should know.)***	**Locational Knowledge**	**Can your children:**	**Horizontal:**

	Who is responsible for tackling climate change? Who are the stakeholders and what are their perspectives? Can we work towards a common goal?	**Place Knowledge:**	I identify different local, national and international actors in fighting climate change Understand how conflicting interests might be managed for a common goal	**Vertical:**
Suggested activities:		**Resources:**	**Useful links:**	
Follow the activities in the "envisaging the future" resource (in folder)		"envisaging the future" resource (in folder)	**Vocabulary:**	

Enquiry 7: What future do we want?				
Links to previous learning	**Knowledge and second order concepts**	**Geographical skills:**	**Assessment criteria:**	**Curriculum Links:**
	Substantive knowledge: ***(What the children should know.)*** What kind of future do I want? How might this be achieved? Can I consolidate and link my learning from this year?	**Locational Knowledge** **Place Knowledge:**	**Can your children:** Produce an end of year project that address climate change as a complex challenge	**Horizontal:** **Vertical:**
Suggested activities:		**Resources:**	**Useful links:**	

Students/teacher or class representative can calculate their personal ecological impact using https://footprint.wwf.org.uk/ Students should reflect on this and the need for action. Follow the suggested activities in “the Future we want” resource in folder. Encourage students to incorporate everything they have learned this year: an end of year project. Use the “good life goals” resources (in folder) to take students back to the UN sustainable development goals they were introduced to at the beginning of the year. Ask them to reflect on these good life goals, which ones they are working towards and which they can see themselves incorporating into their own life goals. Students could complete a report, or action plan for how to help achieve their choice of “good life goal”	https://footprint.wwf.org.uk/ The future we want resources (in folder) Good life goals resources (in folder)	**Vocabulary:**