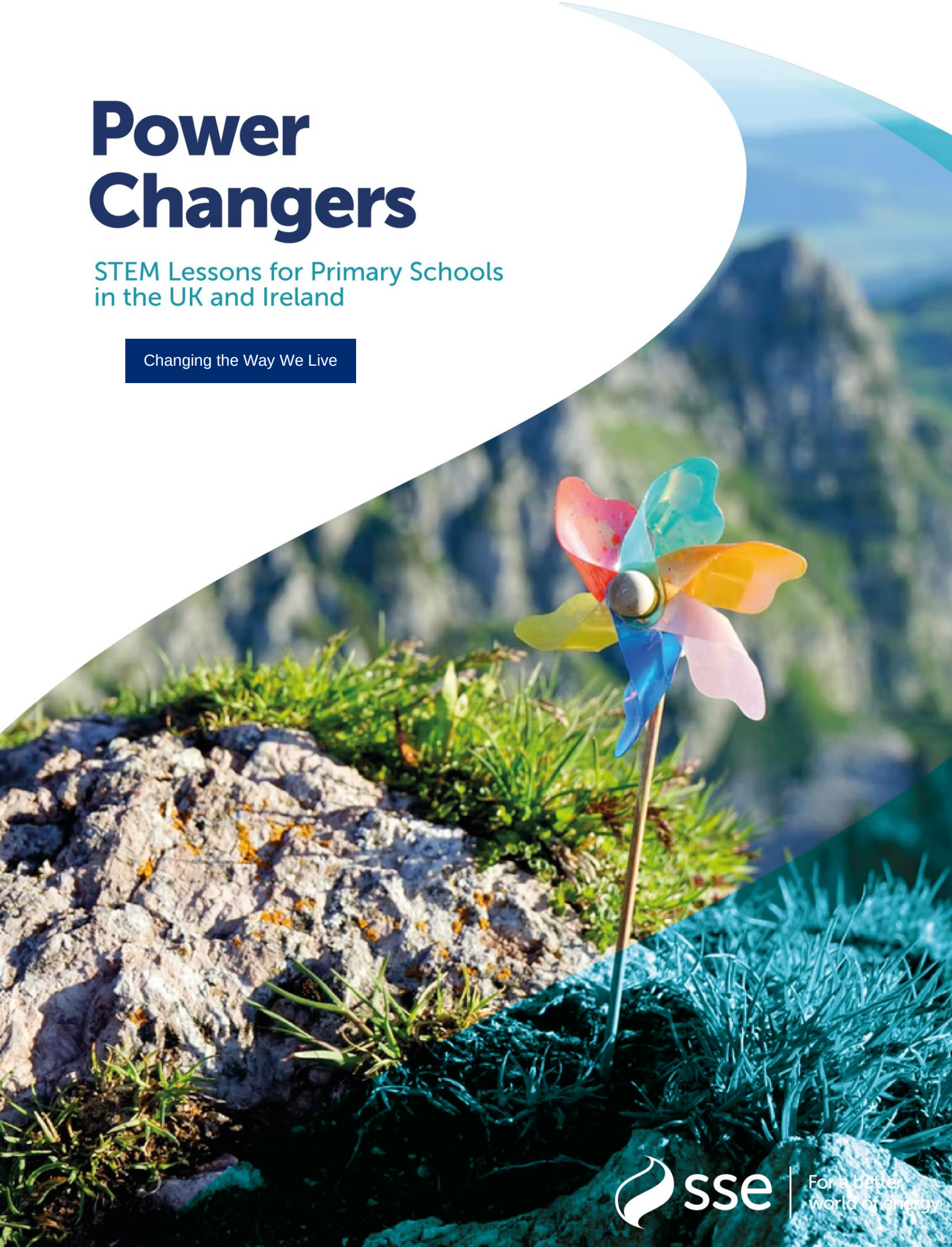
Power Changers

STEM Lessons for Primary Schools in the UK and Ireland

Changing the Way We Live



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INTRODUCTION

Welcome to SSE's 'Power Changers' suite of STEM lessons for primary aged pupils across the United Kingdom and Ireland.

We are delighted to align our primary school suite with some of the key elements which our future workforce and consumers can influence and shape on our journey to supporting net zero. We hope these vibrant lessons help pupils understand their role and the exciting possibilities available to them in their future. As an inclusive employer, SSE understands the benefits of inspiring everyone to consider the energy sector and the wide range of green skills we will require.

The change of the scale and nature needed to achieve net zero brings social consequences, impacting people – employees, consumers, communities, suppliers, and wider society – in many different ways. Our Just Transition Strategy provides a framework of 20 principles, helping to guide our decision-making and influence greater fairness for those impacted by the decline of high-carbon economic activity and increase the opportunities of climate action.

We know that STEM-based education for pupils at the primary phase is incredibly important. The lessons found in this booklet teach children much more than science, technology, engineering and mathematical concepts; they also focus on hands-on learning and real-world application, building the essential skills such as Creativity and Teamwork in order for them to effectively apply these concepts.

We truly hope you will enjoy delivering these interactive lessons and together we can inspire a whole new generation of innovative and inquiring minds.

Sam Greer, Education & Employability Manager, SSE

Facilitators should be aware of the following pieces of information before delivering these lessons:

All lessons in this suite are designed to be delivered in a normal classroom setting, although facilitators could adapt them for use in an assembly.

Each lesson plan contains information about how it can be adapted to suit pupils with SEND provision.

Each lesson plan builds one essential skill step from the Skills Builder Framework for essential skills. This Framework provides a common language for defining and developing eight essential skills. You can explore the Framework here.

Lesson slide decks, worksheets and knowledge organisers for each lesson can all be found in the appendix ready for download at SSE's STEM website.

The lessons can be delivered by an in-class teacher or delivered by SSE volunteers. To contact SSE about this opportunity, please email stem@sse.com. It is suggested that if only one lesson is to be delivered, that this is the first lesson in the topic.

Please share your pupils' work on social media, tagging @SSE on Twitter or @SSEplc on Instagram and using the #STEMatSSE tag.

KS1 CHANGING THE WAY WE LIVE

AGE 5 – 7 YEARS

Title	Length	Subject Links	Essential Skills
Consumption City	1 hour	Science / PSHE / Sustainability	**Step 0** – I listen to others without interrupting
Making My Change	1 hour	Science / Consumption / Sustainability	**Step 1** – I imagine different situations and can say what I imagine
Net-positive City	50 mins	Science / Consumption / Sustainability	**Step 0** – I work with others in a positive way

OVERVIEW OF LESSON SET

The 'Changing The Way We Live' lesson set contains three lessons that introduce pupils to the notion of consumption and the impact it has on the world. Pupils will learn about different types of consumption in their everyday lives and understand that consuming things uses up energy. Pupils will make collective and individual pledges to consume less and think of practical ways that they can make greener choices and have a net-positive impact on their environment.

OVERVIEW OF RESOURCES REQUIRED

Consumption City	- Interactive whiteboard - Pre-printed plate worksheet - Optional paper plates - Old / recycled magazines or newspapers
Making My Change	- Pre-printed pledge worksheet - Colouring and writing pencils - Smartboard to make collective whole-class pledge on DoNation website link
Net-positive City	- Pre-printed city outline worksheet - Sugar paper / large paper - Junk modelling materials (recycled plastics) - Scrap coloured paper - Scissors and glue

Delivery materials can be found in the appendix.

Remember to share your pupils' work with SSE and schools across the country on social media!

@SSE

@SSEplc

#STEMatSSE

Would you like a volunteer at SSE to facilitate these lessons? Contact **stem@sse.com** to request delivery support. More information about SSE's Just Transition programme can be found at https://careers.sse.com/homepage

CONSUMPTION CITY

Consumption City	Key Stage 1 (Year 1-2)	Science, PSHE, Consumption and waste, Sustainable development

Curriculum Links:

English NC

Science

- Looking more closely at the natural and humanly-constructed world around pupils.
- Describing how animals and humans depend on each other

Republic of Ireland:

Science

- Developing a sense of responsibility to take care of an improve the environment.
- Identifying, discussing and implementing simple strategies for improving and caring for the environment.

Scottish NC

Science

- Being fascinated by new discoveries and technologies.
- Becoming increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and the health of the environment.
- Observing living things in the environment over time and am becoming aware of how they depend on each other.
- Taking appropriate action to ensure conservation of materials and resources.
- Considering the impact of my actions on the environment.

Welsh Foundation phase:

Consumption and waste:

- Learners taking care of their belongings
- Using resources carefully
- Disposing of used resources responsibly
- Understanding that natural resources can run out
- Knowing that some things can be recycled and others reused

Northern Ireland Foundation phase:

Sustainable development:

- Understanding how actions can affect the environment.

Contributors to society:

- Becoming aware of some of the issues and problems in society."

Big Picture:

'Consumption City' is the first lesson in the sequence. The pupils should already be familiar with the notion of protecting the environment and planet. This first lesson will introduce pupils to the notion of consumption and the impacts that this has on the world around us. They will learn about different types of consumption; from transport, diets, water to how we heat our rooms. They will learn this through a story named 'Consumption City' and they will reflect on their own consumption in their everyday lives. They will be creating a consumption collage on a dinner plate, identifying the activities they do that consume electricity, fuel, water and gas.

Lesson Objective:

To understand the impact of consumption on the world.

To listen to others without interrupting (Listening – Step 0)

Assessment:

Exit tickets will show an area of consumption that each pupil feels they can limit to limit consumption.

Resources:

Educators will need to have an interactive whiteboard to present the slide deck.

Magazines and internet sources for pictures. Alternatively, pupils may use the pre-selected images provided. These can be replaced with PECS images for inclusivity.

Pupils may use the provided worksheet or optional paper plates to complete the independent activity.

Knowledge organiser

Lesson Plan

Key vocabulary for the lesson: *Consumption, consume, fuel, electricity, water, transport, environment, fast fashion, listening*

Additional Adult Role: An additional adult can be deployed to support children with finding images connected to consumption. Additional adults can promote discussion with pupils about the impact of their consumption. They can assist pupils with understanding technical vocabulary used throughout the lesson, for example those with English as an additional language, special educational needs or a disability.

Timing	Facilitator	Pupil
3-4 mins	**Do Now:** (Leave the image on the board for pupils to engage with. Pupils will be responding to an image of a 'Consumption City'.	Pupils will reflect on how the city in the image makes them feel.
Check	Ask pupils to share their ideas aloud. For questioning techniques, the facilitator can use a show me on a whiteboard technique or tell me technique. The facilitator can encourage children to talk to their partners. The facilitator will ask questions to gauge emotional response to the image: "What do you like about this city?" "What do you not like about this city? Why do you not like this?"	
10 mins	**Introduction**:	
	Introduce term 'consumption' and link it to the notion of eating. When we consume something, we eat something and we can't see it anymore but it goes somewhere. Introduce concept that you can consume things that you cannot see. "You consume the **fuel** that goes into cars. You consume the **electricity** that powers your TV. You consume the **water** that comes out of the tap." Facilitator will introduce image as a front cover of a book named 'Consumption City' and open the book on the slides. Facilitator will also explain that children are focusing on the essential skill of Listening and explain what is means to listen to others without interrupting.	Pupils will be linking idea of consumption to eating food. This will aid understanding of consumption producing something that we can use. E.g. We consume fuel so we can travel by car. Pupils should listen to the story and learn about how consumption happens in every action of our lives. They should reflect on how consumption can negatively impact the world.
Check	Ask children what the main character Zahra consumed that day: • How did she travel? • What did she use when she went shopping? • How did she get clothes? • How did she wash? • What did she turn on when cold? Ask children what they consumed that day (facilitator can use hands up technique for participation): • Hands up, if you **came to school in a car** • Hands up, if you **had a shower** • Hands up, if you **left the lights on** • Hands up, if you **used single-use plastics** • Hands up, if you **used a phone or tablet** • Hands up, if you **did anything else that consumed fuel, electricity, water or gas** Recognise children for their Listening skills, explaining the problems that interruptions can cause themselves and others.	
6 mins	**Provide Model:**	
	Model adding pictures to plate template. Just like placing food on a dinner plate, ready to consume.	Pupils will listen to the facilitator go through the necessary steps to identify consumption and to create a consumption dinner plate. They will begin to think about their own consumption areas and share ideas about what could go on the plate.

We make choices about what electricity, fuel and water we consume and these go on our consumption dinner plate.

Model making dinner plate and thinking aloud technique.

Model sticking or drawing relevant images onto plate:

- "In the morning, I woke up and turned on my **light**."
- "Next, I used my **kettle** to make a cup of tea and used the **toaster** to make breakfast."
- "Next, I had a long **shower**."
- "Then, I drove to work in my **car**."

Check

Check for pupil understanding by asking them to share examples of their own consumption verbally before they begin their independent task.

25 mins

Pupil Practise:

Activity will be pre-modelled to ensure understanding of task.

Facilitator will be circulating classroom and checking for understanding on consumption. Facilitator can support children with cutting if they require support.

Suggested questions:

How did you get to school today?

What did you eat for breakfast?

Did you have a shower this morning?

Pupils should reflect on their daily schedule and think about activities they did which consumed fuel, electricity, water or gas.

They should then draw and colour in, or cut and stick pre-selected images for the consumption dinner plate.

Pupils may want to add labels and descriptions.

Check

The facilitator can prompt children to recap their daily schedule and consider how they are consuming electricity, water, gas or fuel.

10 mins

Review of Learning:

The facilitator is encouraged to bring children back to the carpet to share their own consumption dinner plates.

Recognise children for their Listening skills whilst others share their plates.

The facilitator will link back to the story where the character reduced their consumption. They will model sharing what area of consumption they would like to reduce.

E.g., "I can reduce my fuel consumption by not driving to work. I can get the train instead."

The pupils have an opportunity to share what they have consumed so far in their day.

The pupils can share the areas of consumption they feel they can reduce.

Check

The facilitator can gauge pupil understanding when the children are presenting their consumption dinner plate.

The facilitator can assess whether children know what is being consumed in each activity. For example, when I take a shower, what do I consume?

Ask the children how they used their Listening skills. Open a class discussion around the questions on screen. This will help children understand and communicate the skill they have built alongside their knowledge.

Considerations for inclusive and adaptive teaching:

Pupils with additional learning needs or learning English as an additional language may benefit from a pre-teach before the lesson using the knowledge organiser to help understand technical vocabulary and key concepts.

Pre-selected images provided for learners who might find it challenging to sift through a large number of pictures.

The pre-selected images could be replaced with PECS images for inclusivity, supporting children

For mixed-age teaching, the facilitator may encourage pupils to add detail such as labels and descriptions to identify what is being consumed for each activity on consumption dinner plate.

Future recommendations – Pupils could ask friends and family members to complete a similar review of their own consumption for home learning.

MAKING MY CHANGE

Making My Change	Key Stage 1 (Year 1-2)	Science, Consumption and waste, Sustainable development

Curriculum Links:

English NC

Science

- Looking more closely at the natural and humanly-constructed world around pupils.
- Identifying that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other"

Republic of Ireland:

Science

- Contributing to strategies that will improve the environment.
- Identifying individual changes such as caring for living and non-living things in the locality, keeping homes, gardens, classrooms and streets clean and tidy.

Scottish NC

Science

- Being fascinated by new discoveries and technologies.
- Becoming increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and the health of the environment.
- Observing living things in the environment over time and am becoming aware of how they depend on each other.
- Taking appropriate action to ensure conservation of materials and resources.
- Considering the impact of my actions on the environment

Welsh Foundation phase:

Consumption and waste:

- Learners taking care of their belongings
- Using resources carefully
- Disposing of used resources responsibly
- Understanding that natural resources can run out
- Knowing that some things can be recycled and others reused

Northern Ireland Foundation phase:

Sustainable development:

- Understanding how actions can affect the environment.
- Appreciating the environment and the individuals role in maintaining and improving it.

Contributors to society:

- Becoming aware of some of their rights and responsibilities.
- Becoming aware of some of the issues and problems in society.
- Contributing to creating a better world for those around them.

Big Picture:

'Making my change' is the second lesson in the sequence. Pupils previously learnt about the impacts of their consumption on the planet. They learnt that consumption is when energy or resources are used in order to perform an action or make something. Pupils have previously identified different areas of consumption such as plastic usage, fast fashion, fuel, water usage and electricity usage. They created a collage of their consuming activities and then identified areas of consumption that they would like to reduce. This next lesson focusses on the 'Good Green Jobs' principle of 'A Just Transition'. This lesson builds on the areas of consumption the pupils wanted to reduce and showcase how this is possible, through individual changes and green technologies.

Lesson Objective:

To reduce consumption and work towards a greener future.

To imagine different situations and say what I imagine (Creativity – Step 1)

Assessment:

Pupils will be making their own pledge to reduce consumption and elaborating on how they will reduce this. Pupils will be thinking about greener alternatives for their lifestyles.

Resources:

Pre-printed pledge worksheet

Colouring and writing pencils

Smartboard to make whole-class pledge

Knowledge organiser

DoNation website link:

Lesson Plan

Key vocabulary for the lesson: *Consumption, reduce, pledge, green jobs, creativity*

Additional Adult Role: An additional adult can be deployed to support children identifying area to reduce from their previous consumption plate. Additional adults can promote discussion with pupils about what greener alternatives they will be integrating into their lives.

Timing	Facilitator	Pupil
3-4 mins	**Do Now:** Facilitator to prompt pupils to think about something that they did that day that consumed energy, electricity, gas or fuel. Model an example using pictures on the whiteboard. For example: "Today, I came to school in a car. This consumed fuel." "I had a shower, this consumed water." Recommended questioning techniques are lollypop sticks, talking to partners and sharing, show me on a whiteboard.	Pupils will be utilising knowledge from previous lesson about what consumes electricity, gas or fuel. They will be sharing their actions that consumed energy, electricity, gas or fuel.
Check	The facilitator will encourage pupils to share what they have consumed. Check for understanding if children know what resource is being consumed for each action. For example, if showering is the action, water is being consumed. "What actions did you do today?" "Who came to school by **car?** Who had a **shower** this morning? Who had **toast** for breakfast?" "Did this consume electricity, gas or fuel?"	
5 mins	**Introduction**: Recap the definition of consumption. Consumption is "when our actions use up **energy.** This energy can be electricity, water, fuel or gas." Link definition of consumption to the notion of eating. When we consume something, we eat something and it is no longer there.	Pupils will be responding to four images on the slides. These images display different forms of consumption: transport, clothing, food intake and disposable materials.
	Reveal image of city that is affected by over-consumption and resultant pollution. Encourage pupils to share emotional responses to image. "What can you see? Why is there lots of smoke? Can you see any green spaces?" Recommended questioning technique – cold calling (no hands up).	Pupils will be reflecting again on a city impacted by over-consumption. They will be sharing their emotional responses to this picture.
	Imagination task: Facilitator to encourage pupils to imagine a **greener,** perfect world. Explain that children will need to use their Creativity skills. Read the definition of Creativity. Explain that throughout the task, children will be focusing on imagining different situations and saying what they imagine. What would this look like? "Would there be lots of smoke?" "How do you get to school" "Are there trees and parks? Are there only buildings?" As pupils describe what they imagine, the facilitator will be drawing the **green** world that is described. Alternatively, a member of support staff or even a child may want to draw on the smart board as the children share their ideas.	Pupils will be imagining a **green,** perfect world. Many will be unfamiliar with the term **green** but will be imagining a planet that makes them feel happy.

Check	The facilitator may question if we can achieve a green world like the one drawn, even if we continue to over-consume fuel, plastics, water and gas. Use this as an opportunity to reinforce that over-consumption is preventing a greener world and elaborate on key themes: fuel, fast fashion, plastics and energy wastage.	
7-8 mins	**Provide Model:** Elaborate on key themes that cause over-consumption:	
	Fuel - Fuel is used to power cars for transport. It causes air pollution. Encourage pupils to consider alternatives. "If we don't travel by car, how else can we travel to school? How did you travel to school today?" *Model alternative, greener choices - riding a bike, public transport, walking.*	Pupils to brainstorm alternatives for travelling by car.
	Fast fashion - Fast fashion means we are making too many clothes and throwing quality clothes away. Encourage pupils to consider alternatives. "What could you do instead of buying new clothes?" *Model alternative, greener choices - making your own clothes, recycling clothes and materials, sharing clothes.*	Pupils to brainstorm alternatives for buying new clothes frequently. They will be drawing on their own experiences to consider alternatives.
	Plastics- The increasing production of single-use plastics and disposal of them. Encourage pupils to consider alternatives. "What could we use instead of carrier bags? What could we do instead of throwing away water bottles?" *Model alternative, greener choices - reusable bags, reusable water bottles, recycling.*	Pupils to brainstorm alternatives for single use plastics. They will be drawing on their own experiences to consider alternatives. They may share their experience of recycling plastics or using re-usable bottles.
	Explore how these are smaller, everyday changes, but bigger changes can be made across the whole country too. This section relates to SSE 'Good Green Jobs' from A Just Transition. Explore that there are different ways to create electricity. This includes: • Wind energy • Hydro-energy • People are also making greener choices by boosting biodiversity through Apiary projects. • Whilst people, like those that work at SSE, are making big changes, small, individual changes are powerful too.	Pupils will be introduced to a greener method of producing electricity. They may have pre-existing experiences seeing wind turbines and dams and can share these experiences.
	Model drawing and writing a pledge. **Example pledge:** "I pledge to reduce [using a car]. I will reduce this by walking to school. When I reduce using fuel. The world will be greener and there will be less pollution" There are 3 differentiated worksheets; a blank one,	Children will be shown how to write a promise or a pledge. They will be using a sentence scaffold to support them. The pupils may share ideas for the modelled pledge.

one with sentence scaffolds and one with just space for an image.

Check

Facilitator may check what pupils will be pledging to do. They will be pledging to reduce an area of their consumption and work towards a greener world. How did you consume today? Could you reduce using a car? What could you use instead? Did you take a long shower? How could you reduce this time?

25 mins

Pupil Practise:

The facilitator will be circulating the room and supporting pupils when they are considering with area of consumption to reduce.

The facilitator may use consumption dinner plates as a visual resource to support thinking.

The facilitator may leave the sentence scaffolds or images on the board to support pupil practice.

Facilitator to remind children to use their Creativity skills to imagine a greener future and describe what this might look like through their pledge. Recognise when children demonstrate this.

Children will be shown how to write a promise or a pledge. They will be using a sentence scaffold to support them.

I pledge to reduce _____

I will reduce this by _____

When I reduce _____ the world will be _____

_____

Pupils may use consumption dinner plate from previous lesson to support them.

Check

Facilitator may ask the following questions when circulating:

What did you consume today?

What do you think you could reduce?

How could you reduce ***this***?

What would the world look like if you reduced ***that****?*

10 mins

Review of Learning:

Facilitator is encouraged to bring children back to the carpet to share their own pledges with the class.

Facilitator and pupils can make their own pledge on DoNation and track progress. See instructions on PowerPoint slides.

Link - https://www.wearedonation.com/

The pupils have an opportunity to share what they will reduce.

Check

What are you going to reduce? How will you reduce this? What will we reduce as a class? How will this help the environment?

Ask the children how they used their Creativity skills. Open a class discussion around the questions on screen. This will help children understand and communicate the skill they have built alongside their knowledge.

Considerations for inclusive and adaptive teaching:

Pupils with additional learning needs or learning English as an additional language may benefit from a pre-teach before the lesson using the knowledge organiser to help understand technical vocabulary and key concepts.

This activity offers a range of depth; three differentiated versions of the worksheet offer pupils to opportunities for challenge and support, whilst reaching the same objective. For mixed-age teaching, the facilitator may want to assign these sheets accordingly.

Pupils may also refer to sentence scaffolds when writing their own pledges.

Children who do not wish to present their pledge can participate in the audience and may want to present alongside another child.

NET-POSITIVE CITY

Net-Positive City	Key Stage 1 (Year 1-2)	Science, Consumption and waste, Sustainable development

Curriculum Links:

English NC

Science

- Having knowledge about diverse places, people, resources and natural and human environments.
- Looking more closely at the natural and humanly-constructed world around them. They should be encouraged to be curious and ask questions about what they notice.
- Identifying that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

Republic of Ireland:

Science

- Developing a sense of responsibility for taking care of and improving the environment.
- Using a variety of materials

Scottish NC

Science

- Being fascinated by new discoveries and technologies and become increasingly aware of, and passionate about, the impact of science on their own health and wellbeing, the health of society and the health of the environment.
- Exploring different materials and sharing reasoning for selecting materials for different purposes.
- Caring for the environment by starting to reduce, re-use and recycle resources.
- Exploring ways to design and construct models.
- Ensuring conservation of materials and resources, considering the impact of actions on the environment.

Welsh Foundation phase:

Climate change:

- Recognising the importance of saving energy.
- Pupils believing that they can make a difference through their actions and behaviour.

Northern Ireland Foundation phase:

Sustainable development:

- Understanding how actions can affect the environment.
- Appreciating the environment and the individuals role in maintaining and improving it.

Contributors to society:

- Becoming aware of some of their rights and responsibilities.
- Becoming aware of some of the issues and problems in society.
- Contributing to creating a better world for those around them.

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Big Picture:

'Net-positive city' is the third and final lesson in the sequence. Pupils previously learnt about the impacts of consumption on the planet and the different forms in which this consumption takes place. They learnt that people can consume fuel, water, electricity, gas, plastics and fashion. The pupils then reflected on the areas of consumption in their everyday lives. Following this reflection, pupils pledged to reduce an area of their consumption and explained the alternatives they would use. They have made individual and class pledges. This lesson builds on the alternative, greener choices that pupils were introduced to in the prior lesson. The pupils will be learning about net-positive impact, which means putting more back into the environment than taking. They will be learning about net-positive strategies and the lesson culminates in an activity that involves designing a net-positive city (one that progressively becomes greener).

Lesson Objective:

To design a net-positive city.

To work with others in a positive way (Teamwork – Step 0)

Assessment:

Pupils will be working in groups or individually to design a net-positive city. They will be considering greener alternatives and integrating this in their city designs.

Resources:

Educators will need to have an interactive whiteboard to present the slide deck

Pre-printed city outline worksheets

Colouring and writing pencils

Knowledge organiser

Optional creative approach:

- Sugar paper / large paper
- Marker pens
- Junk modelling materials (recycled plastics)
- Scrap coloured paper
- Scissors
- Glue

Lesson Plan

Key vocabulary for the lesson:

Wind farms, solar panels, hydro-dams, net-positive, green jobs, biodiversity, teamwork

Additional Adult Role:

An additional adult can be deployed to support team dynamics with the children working together. They can support children to come up with net-positive strategies to include within their city. An additional adult can assist pupils with understanding technical vocabulary used throughout the lesson, for example those with English as an additional language, special educational needs or a disability.

Timing	Facilitator	Pupil
5 mins	**Do Now:**	
	Pupils to recap their pledge and review any barriers that they have faced. Facilitator is encouraged to ask the following questions through a hands up technique: - What did you pledge to reduce? - Have you reduced it? Has it been easy or difficult? - Have you helped anybody else to reduce their consumption?	Pupils will be reflecting on the pledge they made in the previous lesson. They will be considering how much progress they made and any barriers they have faced. Pupils may talk through these questions with their talking partners and then share with the facilitator.
Check	The facilitator may ask the following questions: What did you pledge to reduce? What does it mean to reduce something? Was it easy or difficult? Why was it difficult?	
6 mins	**Introduction**:	
	Introduce purpose of lesson - to design a **net-positive city.** Introduce this concept as being a reversal of the consumption explored earlier. "We can reduce using cars, single use plastics and fast fashion to work towards a greener future."	
	Net-positive city- Facilitator will introduce this concept as a place that gives more than it takes. It creates energy in a greener and cleaner way. Example: You cut down 1 tree, and plant 2 trees.	Pupils will be introduced to the concept of net-positivity. This is when more is put back into the environment than what is taken.
	Explain that children will be developing their Teamwork skills throughout the lesson. Reveal definition of Teamwork and explain that they will be focussing on working positively together. Explain that there are lots of different strategies to achieving a net-positive city. Showcase SSE'S net-positive aims through integrated video.	Pupils will be watching a video that showcases SSE'S net-positive impact targets. They will have the opportunity to feedback what they saw in the video.
Check	Facilitator to question pupils following video of SSE's work. "What did you see in the video?' "How are SSE making greener choices?" What does working positively with others mean?	
7 mins	**Provide Model:**	
	Elaborate on SSE initiatives, which are an example of how businesses are attempting to reduce the impact of over-consumption:	

	Wind farms: On-land and off-shore farms. Explain these to take power from the wind and turn it into electricity for houses. These are net-positive as we won't run out of wind. Solar panels: Explain these as panels on building rooves. They take power from the sun and turn it into electricity for homes.	Pupils will be sharing what they can see on each of the Net-Positive city examples. They will be drawing on their own experience of seeing or knowing about these.
	Recap other green choices that can work towards a net-positive society. Facilitator can use cold calling or quick questions to recap different choices.	Pupils will be recapping green choices from prior lesson. These may include:
	Model how to design a net-positive city: Bring together ideas of small, individual changes and large corporate initiatives such as SSE'S targets.	
	Small, individual changes: Reducing plastics Reducing fast fashion Taking public transport Reducing energy usage in the house	**Small, individual changes:** Reducing plastics Reducing fast fashion Taking public transport Reducing energy usage in the house
	Large, corporate initiatives: Wind energy Hydro-dams Bee farm projects Solar energy Education	**Large, corporate initiatives:** Wind energy Hydro-dams Bee farm projects Solar energy Education
	Show examples of net-positive city designs, both 3D and 2D and explore different elements.	
Check	Check for understanding on the elements of the net-positive cities. "Can you remember what a wind turbine creates?" "Why is it important to have cycle paths / less cars on the road?"	
25 mins	**Pupil Practise:**	
	Activity will be pre-modelled to ensure understanding of task. Facilitator is encouraged to circulate classroom to prompt ideas, as well as recognise when children are demonstrating good Teamwork skills and working positively together. If pupils are making 3D net-positive cities using materials, encourage pupils to bring in recycled materials.	Pupils will be working in teams to create a 3D net-positive city. They will be considering both small, individual changes and larger corporate changes. They will be either drawing this city on the varied worksheet templates or making 3D models.
Check	Suggested questions for the facilitator whilst circulating: What did you put in your net-positive city?	

How are you creating electricity in your city?

What transport will you have in your city?

10 mins **Review of Learning:**

Facilitator is encouraged to bring pupils back to the carpet individually and in teams to share their net-positive cities with their peers.

The pupils have an opportunity to share their net-positive city with their peers.

Check

Ask pupils to compare consumption city from the story and their own net-positive cities.

Recommended questions:

"Are consumption city and net-positive city the same? Why are they different? Which is better for the environment?"

"What does net-positive mean?"

Ask the children how they used their Teamwork skills. Open a class discussion around the questions on screen. This will help children understand and communicate the skill they have built alongside their knowledge.

Considerations for inclusive and adaptive teaching:

Pupils with additional learning needs or learning English as an additional language may benefit from a pre-teach before the lesson using the knowledge organiser to help understand technical vocabulary and key concepts.

This activity offers a range of depth; there are pre-designed templates for children who may prefer a more structured and independent drawing approach.

For mixed-age teaching, the facilitator may want to consider groupings of children to include a range of abilities, ages and personalities to optimise teamwork.

There is also a visual checklist to remain on the PowerPoint whilst the children are creating their Net-Positive cities.

APPENDIX

LESSON MATERIALS

You can access all lesson materials, including PowerPoint presentations, worksheets, and knowledge organisers at SSE's careers website below or by scanning the QR code.

https://careers.sse.com/sse-stem-primary