



BUILDING A SUSTAINABLE BUSINESS

SUSTAINABLE DESIGN FOR THE FUTURE >

Session plan



**START
SOMETHING**

In partnership with:

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Holdings**

AT A GLANCE >

This is the final session in the 'Building a Sustainable Business' unit. In this session, you will explore eco-innovations. Eco-innovation represents an opportunity for many small businesses and is an important area of growth for the green economy.

Eco-innovation can be an idea for a new start-up, such as new types of technologies; perhaps a portable solar power phone charger, or a product, like rapidly biodegradable plastic, or the creation of new services, such as a food waste collection facility to make compost. In this session, learners will be presented with the opportunity to design a new product or service that seeks to be as sustainable as possible.

Please note: The emerging nature of this topic means new evidence and information is being released every day. While we strive to keep this content up-to-date, we actively encourage you to incorporate any new and evidenced information that may arise.



CURRICULUM LINKS

- ✓ SMSC: values and ethics
- ✓ PSHE and citizenship: personal values



MATERIALS

- ✓ Green innovation video
- ✓ Materials for windmill making
- ✓ [Windmill assembly instructions](#)
- ✓ Pens and paper
- ✓ Computers (optional)

LEARNING OUTCOMES >

- ✓ Identify what makes an eco-innovation
- ✓ Understand how product design can help address an environmental impact, such as creating energy from wind
- ✓ Design a product that addresses an environmental impact

ACTIVITIES >

ACTIVITY	TIME	PAGE
Design in innovation: Windmill making	25-30 minutes	03
Products for the planet	35-40 minutes	04
Dragons' den	Dependent	06
Wrap up	10-15 minutes	07

WHO CREATED THIS SESSION PLAN?

This session plan was co-created with Justine Oakes. Justine Oakes CEnv, MIEnvSc, MIEMA is an environmental professional with over 25 years experience in both the public and private sector. She is currently the Sustainability Manager at the University of Suffolk and Business and Research lead for the Suffolk Sustainability Institute. Working in partnership with local and national sustainability initiatives, the University of Suffolk is a transformational university, absorbing the best of UK University traditions and aligning them with a modern world of employment and entrepreneurship.



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DESIGN IN INNOVATION: WINDMILL MAKING



TIME REQUIRED

25-30 minutes



MATERIALS

- ✓ Windmill assembly instructions - <https://www.idealhome.co.uk/diy-and-decorating/how-to-make-a-paper-windmill-easy-step-by-step-instructions-51144> (or something similar)
- ✓ Heavy paper or card
- ✓ Hairdryer (optional)
- ✓ Sticky tape
- ✓ Flat ended map pin, or push pin

ACTIVITY STEPS

1. Explain to the group that energy can be created using renewable power, from sources found in nature, such as the sun, water and wind. This energy is renewable because it is made naturally and always available, it also doesn't create any environmental impacts so it is clean and doesn't cause pollution or add to climate change.
2. Put the learners into small groups and tell them that they are going to be making a windmill that will demonstrate renewable energy.
3. Hand out the windmill assembly instructions (like [this](#) or something similar) and heavy paper and card to each group. Encourage the learners to follow the instructions carefully to build their windmill.
4. Once the learners have been given sufficient time to create their windmills, they can either blow or use a hairdryer to propel the windmills. Explain that this demonstrates how force from the air (wind) can move an object.

You can explain this further by sharing that the force created by the wind into movement can be used on a much greater scale and turned into power by wind turbines. Wind turbines turn this force into electricity, which can be used by buildings or stored in large batteries to be used when needed.

5. Ask the learners what they think the challenges of using wind power as the only means of making electricity might be. See the Adviser's tip below for the correct response.

ADVISER'S TIP

The wind doesn't blow all the time, we would need a lot of wind turbines to generate enough consistent power for reliable energy generation. This is why many wind farms are located in the sea, where there is a reliable source of wind.



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PRODUCTS FOR THE PLANET



TIME REQUIRED

35-40 minutes



MATERIALS

- ✓ Green innovations video
- ✓ Pens and paper

ACTIVITY STEPS

1. Tell the learners that they are going to be looking at eco-innovations today. Play the green innovations video and then discuss what they learnt from it or found interesting.
2. Place learners into small groups and inform them that they have just been awarded some 'funding' to set up a new business that has been invited to design a new eco product or service idea. This invention can be anything that they like, but must try to solve an environmental impact problem. For example it might:
 - Remove plastic from the sea
 - Collect food waste thrown away by restaurants and turn it into compost
 - Or it could even be a piece of technology that turns off electrical equipment automatically when it realises you're not using it
3. In their groups, learners can come up with their own ideas or choose to design a product from one of the following industries:
 - The clothing industry
 - The beauty industry
 - The footwear industry

EXISTING SUSTAINABLE PRODUCTS

- 'Leather' made from pineapple fibres
- Plant jewellery
- Sustainable tents that collect rain water
- Sustainable homes made from plastic bottles
- Boats powered by solar energy
- Electric cars
- Wooden toothbrushes
- Spoons you can eat (made from food)

Note: you may want to find images of some of these products to share with your group



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4. To help learners come up with ideas, you could play them any of the following videos or share some of the existing sustainable product ideas listed in the box below:
 - Making beauty more sustainable: <https://youtu.be/4Yrv4ssyLXg>
 - Fast fashion: <https://youtu.be/ZoiU8sprXpQ>
 - Sustainable footwear: https://youtu.be/boV_TkmBtho
5. Give the groups enough time to come up with some initial ideas for what they might like to design. They could discuss this or write their ideas down in a spider diagram or on paper or post-it notes.
6. Once the learners have some ideas, they can choose which one they would like to develop. Encourage them to think about and note down the following:
 - What is our product or service?
 - What environmental problem is it looking to solve?
 - How will it do this?
7. Gather the group together and ask learners to share their initial ideas for their product or service. Encourage learners from the other groups to share some feedback:
 - What do they like about the product so far?
 - What do they think works well?
 - What could the group improve?



DRAGONS' DEN



TIME REQUIRED

Dependent



MATERIALS

- ✓ Computers (optional)
- ✓ Materials to create a presentation

ACTIVITY STEPS

1. Now the groups have their innovation idea, you will inform them that they have been chosen to go on a 'Dragons Den Sustainability Special' to present their idea to a panel of 'investors' (this could be you and some other adults), who will choose a winning product or service to 'invest' in. Or if you don't feel comfortable choosing a winner, you could have a group vote.
2. Explain to the learners that they have around 3-5 minutes to talk and can present their ideas in a poster, website design, PowerPoint presentation or any other method that works best. Encourage them to answer the three questions from the previous activity and to be as creative as possible!
3. Once learners have had enough time to put their presentation together, get them to take it in turns pitching to the 'Dragons Den'. Make sure you and the other young people ask questions and provide positive feedback.
4. Either choose a winner or have a group vote for the best and most sustainable product/service. You may like to think of different awards for different groups, e.g. 'Best speakers', 'Most creative', etc.



WRAP UP >



TIME REQUIRED

10-15 minutes

ACTIVITY STEPS >

1. This is the final session in the 'Building a Sustainable Business' unit and the collection of sustainability sessions sponsored by Howden. You may want to have a final reflective discussion to wrap up. You could discuss:
 - Do you feel more confident in your understanding of sustainability?
 - Will you look at your, others' and businesses' actions differently? In what ways?
 - What do you think big organisations and governments could do to help look after the environment more?
 - What hopes do you have for the future of the environment?
2. You may want to schedule in time every few weeks or month to come back to the topic of sustainability. This could take the form of having discussions about anything topical in the news regarding sustainability, or you could put together a Sustainability Club which is responsible for keeping the group informed and sustainable.

FEEDBACK

If you would like to share your feedback on this session plan or the entire unit, please complete our survey [here](#).



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