

# EPISODE FIVE

# HOMES

## TEACHER'S NOTES



Age Suitability 8-12 years ( 2nd – 6th Class)

### Focus:

In this episode, we look at how homes contribute to climate change, and how this contribution can be reduced. In Ireland, the average home emits around 4.6 tonnes of Carbon Dioxide (CO<sub>2</sub>) per year. This CO<sub>2</sub> mainly comes from the fuels we use for heating and the electricity we consume. The residential sector is responsible for close to 10% of Ireland's greenhouse gas emissions. Greenhouse gases are the leading cause of human-induced global warming, so it's important to reduce the amount of CO<sub>2</sub> that our homes produce. We can do this by switching to greener energy sources, insulating our homes to reduce the energy needed for heating, and using more sustainable building materials, like timber instead of concrete.

In this episode the Researchers and the Disruptors come up with innovative ideas to lower the carbon footprint of our homes.

### Points for Discussion:

- What are some of the ways in which we use energy in our homes?
- How can the energy we use at home contribute to climate change?
- What are some of the ways in which we can heat our homes?
- What does insulating a home mean? How does insulating a home help reduce energy consumption?
- Why do you think it's important to reduce the amount of energy we use in our homes?
- What are some changes you could make at home to save energy?
- Can you name some materials used to build houses?
- Why do you think timber might be better than concrete for building homes?
- In this episode Demi visited a tiny home. In what ways are smaller homes more sustainable? Would you like to live in a tiny home?
- If you were designing a new home, what sustainable features would you include, and why?
- What are some challenges people might face when trying to make their homes more sustainable? How could they overcome these challenges?
- Do you think all homes should be required to use renewable energy? Why or why not?

Teaching materials written by Claire Romito

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## Suggested Activities:

- Home Energy Research- Students could split into groups and each research a different source of home energy including pros and cons and environmental impact. Groups could then present their findings to the class. A poll could be carried out on which form of energy students feel is best.
- Home Energy Audit – Students could conduct a simple energy audit of their homes by checking how much energy is used for heating, lighting, and appliances. They could identify areas where energy is wasted and make a list of ways to reduce consumption.
- Insulation Experiment – Students could compare two containers, one insulated and one not, by filling them with warm water and measuring the temperature over time. They can observe how insulation helps retain heat and discuss its importance in reducing energy use at home.
- Building Materials Investigation – The students could investigate different building materials (e.g., wood, concrete, brick, cob) and rate each material in terms of its sustainability.
- Eco-friendly Model Home Construction – The students could use recycled materials (e.g., cardboard, plastic packaging) to construct a model of an eco-friendly home. They may include features like insulation, solar panels, and eco-friendly building materials, explaining how these features reduce energy use.
- Sustainable Homes Debate – The students could participate in a debate on the topic: “Should all new homes be built using sustainable energy and materials?” One team argues for the idea, and the other against, with a class discussion afterwards.
- Investigating solar heat – The students could build a simple solar oven using materials like a cardboard box, aluminium foil, and plastic wrap. They could use the oven to melt chocolate or heat a snack and compare this to how solar energy can be used to heat homes.

## Curriculum Links:

This programme and resource support the teaching of Social, Environmental, and Scientific Education (SESE) and Social, Personal, and Health Education (SPHE) from the Irish Primary School Curriculum (1999). It aligns with the "Environmental Awareness and Care" strand of both the Science and Geography curricula. In SPHE, it relates to the "Environmental Care" sub-unit of the "Myself and the Wider World" strand.

Additionally, the topic of homes is addressed within the “Human Environments” strand of the Geography curriculum, and the “Local Studies” strand of the History curriculum. Investigating sustainable building materials is covered under the “Materials” strand of the Science curriculum.



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