

Learning experience and season	
Season: Summer	
Curricular Area- STEM	
CfE Level	
FIRST	
Experiences and Outcomes and associated benchmarks	
E&Os I can design and construct models and explain my solutions. TCH 1-09a I am developing and using problem solving strategies to meet challenges with a food or textile focus. TCH 1-04c I am aware of different types of energy around me and can show their importance to everyday life and my survival. SCN 1-04a	BMs Creates and justifies a solution to a given design challenge considering who is it for, where and how will it be used. Uses appropriate tools and joining methods to construct a model. Investigates a simple problem / challenge which includes given criteria. Explores and identifies a range of ideas to solve the challenge / problem. Identifies and talks about types of energy that we get from different energy sources, for example, light, sound, heat and electrical. Uses knowledge of different energy sources, for example, sun, food, fuel, wind and waves, to discuss the importance of different types of energy for everyday life and survival.
Overview of learning experience	
Can you build a solar oven which melts the marshmallow	
Outline of learning	
LI/SC LI – We are learning to build a solar oven SC- I can build a model and say how it works. I can use my knowledge of insulators and reflectors to choose appropriate materials.	Resources • Tin foil • Cardboard • White office paper • Tape • Newspaper • Black construction paper • Plastic Wrap • Glue

Description of learning experience and assessment opportunities

Where would we be without the sun? It warms the planet and lights our way. Did you know you can cook with the sun? In many parts of the globe, solar cooking is a vital and sustainable option.

You can turn solar cooking into an engineering design challenges for your class. The most important rule for this activity is: DO NOT look up how to build a solar oven on the internet! Your class will have more fun and really put their thinking caps on if they are challenged to build an oven on their own.

Ask your class to consider ideas like insulation and reflection. What might they use to hold in heat?

After the oven is built, test it out. Place the oven out in a sunny spot and you can try to melt the marshmallow (or make a snack – melting cheese for nachos etc)

Consideration of risk

For safety reasons, you might want to ban the use of glass and magnifying glasses.

Taking it further – what else could you do?

Food Technology- Research recipes that could be used in their solar oven.

Science- Solar powered cars/heating- use this as a stimulus to start Solar Power investigations.

Numeracy and Maths- measure weight of ingredients, measure sizes of model for sharing with others.

Literacy- Create a set of instructions for someone else to build their own solar oven and share sizes and recipes.