



LESSON PLAN

Season 2/Episode 2

Making a Mini Wind Turbine (Investigating 'Wind')

Let's Find Out features Captain Zoom and her crew of scientists with exciting experiments, curious kids and a trip to a faraway place. Produced with support from Science Foundation Ireland.

Class Level: First/Second Class
Strand: Energy and Forces
Strand Unit: Forces
Content Objective:
• Become aware of and explore how moving air can make things move

Class Level: Third/Fourth Class
Strand: Energy and Forces
Strand Unit: Magnetism and Electricity
Content Objective:
• Learn about electrical energy
• Investigate current electricity by constructing simple circuits

Class Level: Fifth/Sixth Class
Strand: Energy and Forces
Strand Unit: Magnetism and Electricity
Content Objective:
• Learn about electrical energy
• Investigate current electricity by constructing simple circuits

Assessment Method(s):

- Teacher observation
- Teacher designed tasks and tests
- Work samples
- Self-assessment
- Conferencing
- Portfolio assessment
- Concept mapping
- Questioning

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

Let's Find Out is made with the support of Science Foundation Ireland.



Lesson: Making a Mini Wind Turbine

Lesson Introduction

- The teacher will begin the lesson using WALT and WILF.
- Question the children on their prior knowledge of wind.
- Click [HERE](#) for a whole class demonstration on how a mini turbine can make enough electricity to power a light.
(https://www.youtube.com/watch?v=ayk18sc6adQ&list=PLer4jkNChuybHYhU-YSs5LW-TuLKz_SQk&index=4)

Lesson Development

- The firefly mini turbine should already be assembled as follows; the generator and LED light are inserted into the green handle.
- Firstly, try the blue plastic wind wheel, push the blade onto the end of the generator.
- Hold the wind wheel facing a wind source, like a hair dryer or fan and turn it on.
- Does the LED bulb light up? If not, increase the wind source or try another one.
- Next try the yellow wind wheel provided... remove the blue blade and replace it with the red adaptor and white cap.
- Remove the white cap, push the yellow wind wheel onto the red adaptor and replace the white screw cap.
- Make sure that each right-hand corner is folded upwards (see step 5, page 9, link 2 in resource section, for reference).
- Hold the firefly directly in the line of the air source (a hair dryer or fan) and turn on the air source.
- Does the LED light come on?
- If the LED Light doesn't come on you may need to modify the blades on the wind wheel, this time fold the left-hand corners down.
- Now try it again. Does it work this time?
- Once you get this working you can make your own blades from the coloured card provided. You can make them bigger or smaller or different shapes. Use the pen, ruler and scissors to help make your wind wheels.

Lesson Conclusion

- Talk and Discussion
- Discuss children's observations

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

Let's Find Out is made with the support of Science Foundation Ireland.

Lesson: Making a Mini Wind Turbine

Resources	Methodologies	Linkage/Integration
<p>1 mini wind turbine kit. <i>The ones in the show belong to Learn Renewables. They can be purchased here but there are others like this also available to buy and this one here</i> Coloured card Scissors Pen Ruler A strong hair dryer or fan*</p>	<p>Talk and Discussion Active Learning Skills through Content Use of the Local Environment Problem Solving</p>	<p>Add in at teacher's discretion</p>

Inclusion and Diversity/Differentiation (Differentiate at teacher's discretion)

Content:

Product:

Activities:

Environment:

Resources:

Teaching Strategies:

Scientific Explanation:

These fireflies use wind power to generate electricity that powers the LED light bulb. You can provide the wind power from a hair dryer or fan.

With enough wind power, and just the right shape of blade, the wind wheel starts turning really fast. This turning turns a rod inside the generator and this movement is converted into electrical power inside the generator, which is used to light the light bulb.

**NOTE: If you can't get enough rotation from your wind source, see if you can try another one or change the wind wheel.*

Watch full episodes of **Let's Find Out** on RTÉjr and RTÉ Player.

Let's Find Out is made with the support of Science Foundation Ireland.