

4-H Training Topics - *The Power of the Wind*

Background:

The *Power of the Wind* curriculum is designed to introduce middle school youth, ages 11-13, to the wind as a source of electrical energy. One of the project's goals is to increase literacy and improve abilities in science, engineering and technology (SET) for today's youth and tomorrow's workforce.

Resource:

How Can We Design a Better Pinwheel?,
The Power of the Wind Youth Guide, pages 16-17

Facilitator's Guide, pages 16-17

Materials Needed:

- Copies of the pinwheel template,
- **Youth Guide, Appendix C, page 45,**
- **How Can We Design a Better Pinwheel?**, Youth Guide, pages 16-17,
- **Engineering Notebook, Youth Guide, page 55,**
- scissors,
- straight pins,
- pencils with erasers,
- and different weights of paper.

All the materials should be available at a Middle School/ Teen Center. This 4-H curriculum costs \$4.95 each for the Youth and Facilitator's Guides.

Preparation:

Review the activity in both guides, make copies of the activity and the template for each staff member, gather materials, and make a sample pinwheel.

Arrange the tables, chairs and materials.

Allow 30 minutes for preparation and set up.



1 Welcome and Introductions

What to Do	What to Say	Minutes
Introduce yourself and have staff briefly introduce themselves.	We are going to spend the next 30 minutes learning about <i>The Power of the Wind</i> project and doing an activity that will help middle school youth learn about using wind as a source of electrical energy. First, please introduce yourself and where you work.	4

2 Curriculum

What to Do	What to Say	Minutes
Show the guides and pass them around.	<i>The Power of the Wind</i> project includes a Youth Guide and a Facilitator's Guide that uses hands-on activities for exploring how wind can be used to create electricity.	2

3 Doing an Activity

What to Do	What to Say	Minutes
Ask the group to design a pinwheel using the template provided. Make sure all the items on the Materials Needed list are readily available.	In this activity each person should make a pinwheel using the instructions and template provided. After completing the pinwheel use the engineering notebook sheet provided to make notes on how to improve the design when making other pinwheels. Usually youth are encouraged to design their own pinwheel but since this is a SET based activity everyone should follow the same pattern for the first pinwheel.	10

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4 Sharing Ideas

What to Do	What to Say	Minutes
Ask everyone to show and talk about their pinwheels. Be sure everyone participates in the discussion.	Let's look at each other's work. Which pinwheel seems to be turning fastest? What modifications are planned for future designs? Why? How did you decide what to change?	5

5 Applying the Experience

What to Do	What to Say	Minutes
Facilitate discussion.	How can this design process be used in other situations? Is it hard to change one thing at a time? What are the benefits of keeping a notebook? Is this something youth would enjoy doing?	4

6 Making a Plan

What to Do	What to Say	Minutes
Make a plan for starting <i>The Power of the Wind</i> project.	Now it's time to work as a group and set some dates for project meetings. When should the project meetings start with the youth? What ideas from this training will be used? What materials are needed? Who will be the adult project leader?	5

7 Close

What to Do	What to Say	Minutes
Summarize and close.	Today we briefly talked about <i>The Power of the Wind</i> project and the many possibilities available for youth. Work with youth to plan 8-10 activities for this project. Thanks for coming. Do you have any other questions?	1

