



## An Energy Playground—Using Human Power

People expend a lot of energy walking, running, riding bicycles and lifting things. In playgrounds children run around, climb, jump and move pieces of equipment like swings, see-saws and merry-go-rounds. Some people go to a gym where they lift weights, run on treadmills and ride bicycles that don't go anywhere.

What if all this energy could be harnessed to do work that is now being done by using conventional sources of energy? Could we

- Connect a bicycle to an electric generator?
- Use a see-saw to lift something?
- Use a merry-go-round to power a ventilation system?



Energy created from this see-saw drives a water pump in a village in Thailand.



The water is drawn from the pond and delivered to a terraced garden nearby where it is used to water plants.

### **The Energy Playground**

Design a playground or gym where human energy is captured and used to do work.  
Build a working prototype based on your design.

Or, design any device that captures human energy – motion or heat – and uses it for some purpose.

### **Here are some web sites with information and ideas that may help you with your project:**

Bicycle-powered electrical generators

[http://www.otherpower.com/otherpower\\_experiments\\_bicycle.html](http://www.otherpower.com/otherpower_experiments_bicycle.html)

<http://users.erols.com/mshaver/bikegen.htm>

An electricity-generating backpack

[http://www.thinkcycle.org/tc-notes/?topic\\_id=3161&type\\_id=3](http://www.thinkcycle.org/tc-notes/?topic_id=3161&type_id=3)

Some playground equipment

<http://www.kompan.com/>

And look at the Energy Park Project developed by students and teachers in Malaysia.

([http://www.seed.slb.com/en/things\\_to\\_do/projects/energy\\_efficiency/SMK\\_Ismail2\\_SI2Heavan.pdf](http://www.seed.slb.com/en/things_to_do/projects/energy_efficiency/SMK_Ismail2_SI2Heavan.pdf))