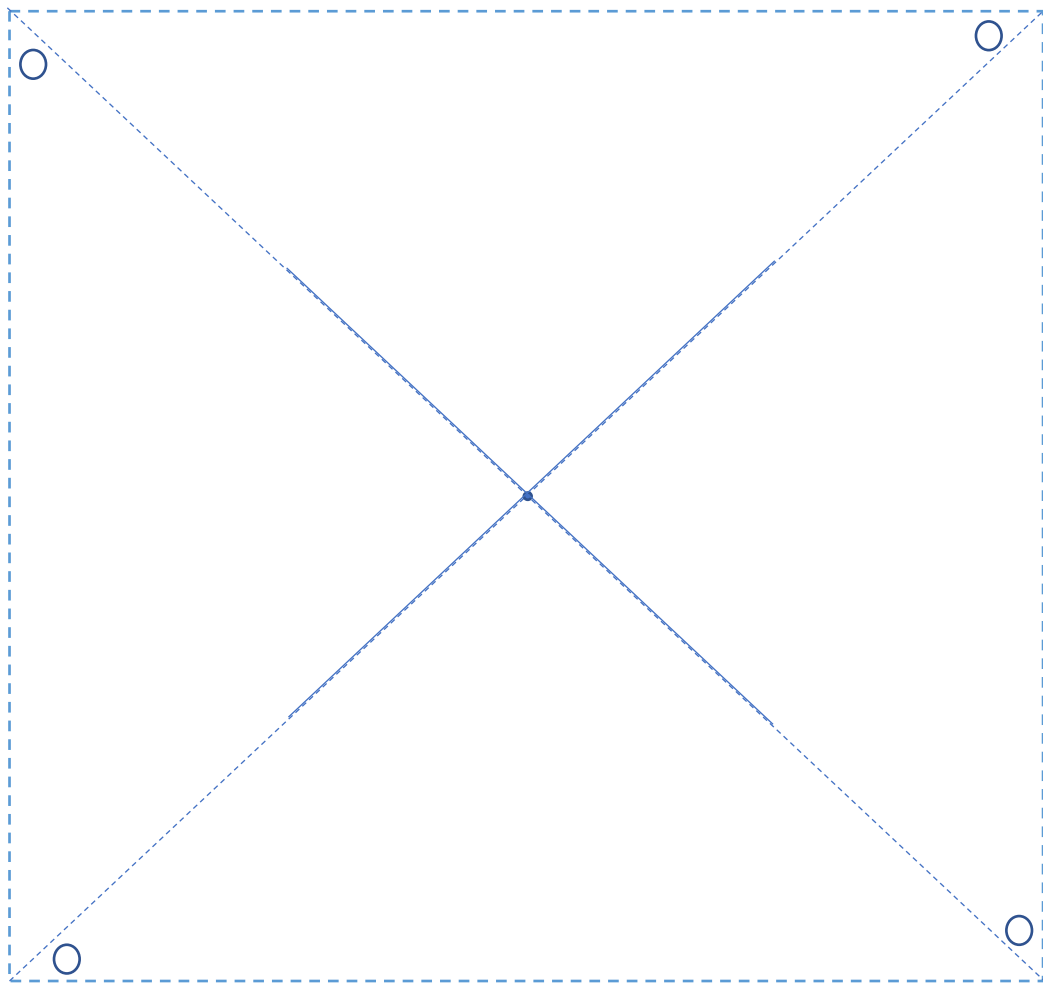


Windmill Wings Template



Activity Overview:

This activity aims to give a clear understanding of the mechanisms behind electricity generating tiles. The key concept students are expected to understand is how mechanical energy is converted to electrical energy in a tile. The windmill in this activity demonstrates generator motors, and the act of stepping on the string represents the mechanical energy of stepping on the tiles.

Materials:

Material	Quantity (per group)
String	160cm
Template Sheet (for windmill wings)	2
Tape	1
Disposable Wooden Chopsticks	1 pair
Push Pins	2
Scissors	1

Instructions:

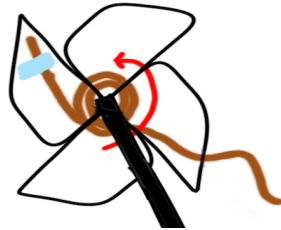
1. Cut out the dotted lines on the windmill wings template sheet.
2. Place all the corners with "O" on the center of the paper by slightly folding the wings. (Do not completely fold the paper.)
3. Use tapes to tape down the corners in step 2 in place.
4. Puncture a hole in the middle of the windmill with a push pin. (Do so carefully to avoid injuries.) Keep the push pin punctured through the paper.
5. Separate a pair of disposable wooden chopstick.
6. Take the structure made in Step 4 and attach it to one of the wooden chopsticks. This is done by pushing the pin against the wooden chopstick. Attach it as high on the chopstick as possible. Leave around 5-6mm of space between the paper and the chopstick (ie. Do not push the pin all the way into the chopstick)



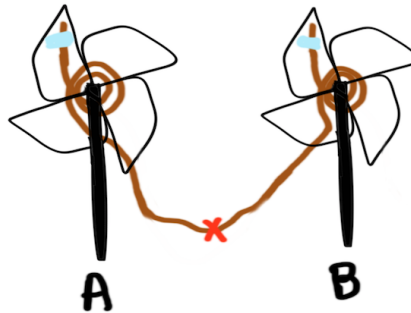
7. Repeat steps 1-6 to make one more windmill. Now we have windmill A and windmill B.
8. Attach one end of the 160cm string to windmill A by pasting the end of the string to the back of any **one** of the wings using tape. Attach the other end of the string to windmill B using the same method.



9. Wind the string around each chopstick. Make sure not to wind them too tightly.



10. After the two windmills are linked to each other, step on the middle of the string, marked with an "X" on the diagram.



11. Observe how the windmills start to turn.