



Challenging Energy Students with Hands on Projects

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Why Challenge Energy Students with Extra Hands-on Projects ?



CTE STUDENTS NEED HANDS ON PROJECTS TO STAY IN ENGAGED WITH EIF.



DIFFERENT CONCEPTS OF ENERGY CAN BE INTRODUCED AND USED



USE OF PROPER TOOLS IS INTRODUCED AND USED ON PROJECTS



DIFFERENT RESEARCH TECHNIQUES AND GROUP DYNAMICS CAN BE EXPERIENCED.



CREATIVITY AND THINKING OUTSIDE THE BOX CAN BE EXPLORED

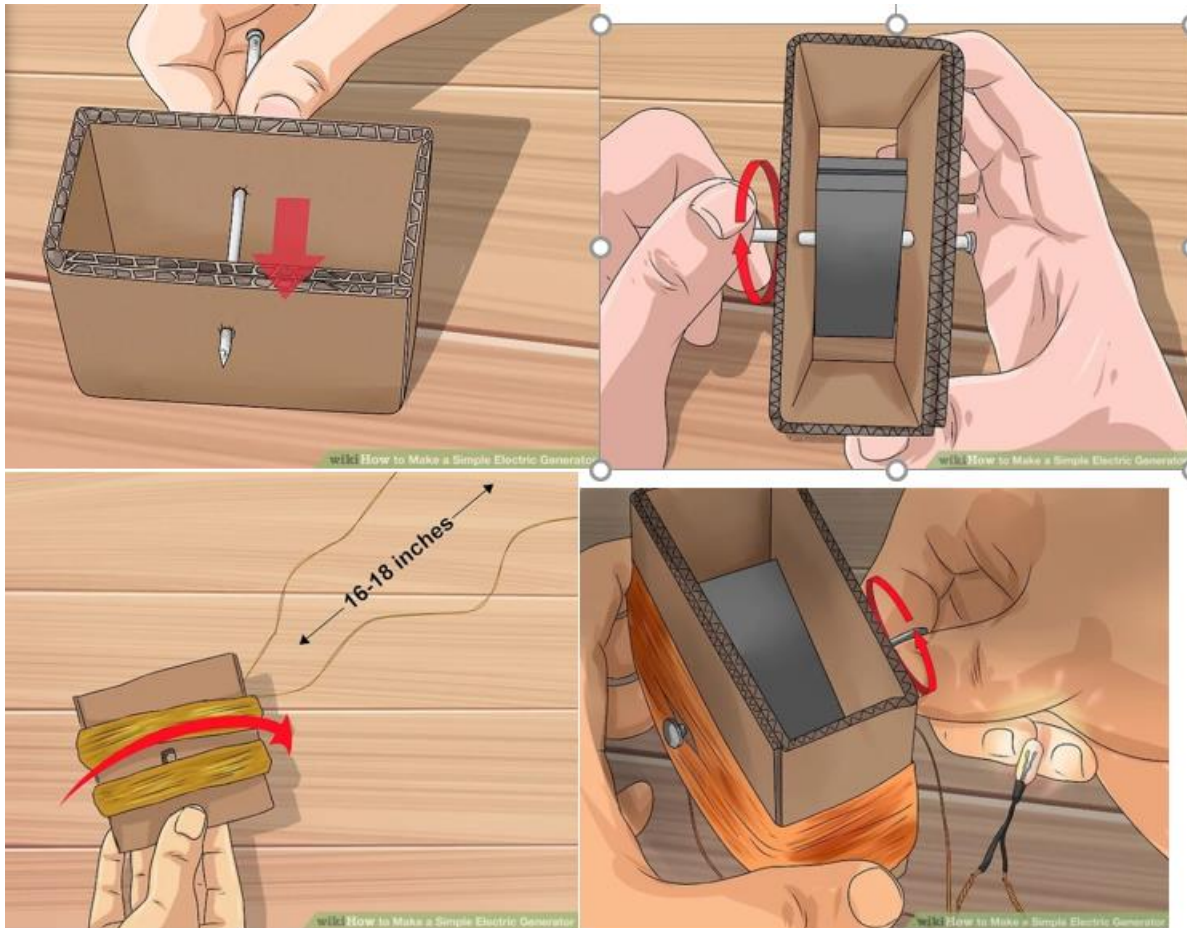


LEADERSHIP QUALITIES CAN BE PRACTICED

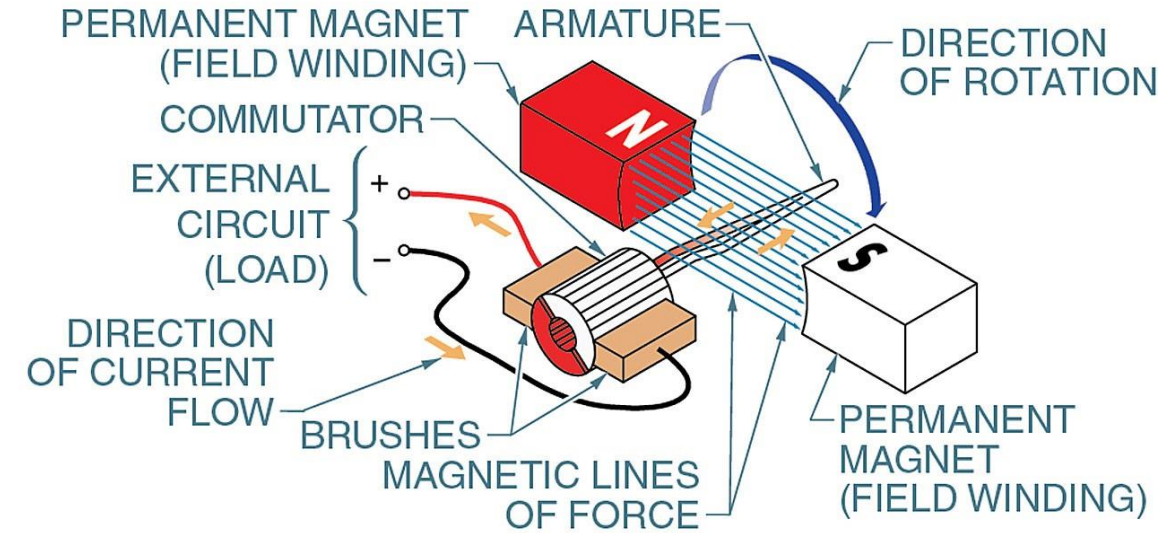


ENGINEERING DESIGN PROCESS IS INTRODUCED

Making Current



DC GENERATORS



A generator is a device that convert Mechanical energy into electrical energy using electromagnetic induction.

A DC generator produces direct power based on fundamental principle of Faraday's laws of electromagnetic induction.

According to this laws, Whenever a conductor is moved within a magnetic field in such a way that the conductor cuts across magnetic lines of flux, voltage is generated in the conductor.

Making DC

Materials

2X

A Lot

Some

1X

Magnets

Copper Wire

Cardboard

Lightbulb

Tape

Alligator Clips

Nail

Wire Cutters



Problem Solving Activity, Design /Build and Competition

1. Rescue Drop and Sail Away (One Day, Material Choices)
2. Mouse Trap and Balloon Car (Design/Build, Competition)
3. Motor and Generator Build (Single build then Combine)
4. Hydro Project (Application of knowledge, Creativity)
5. Go for a Ride (Group Dynamics, Generation Concepts)
6. Home/School Energy Audit (Real Life Application of Saving)
7. Electrical Trainor and Energize Small Structure

(Application of knowledge, Leadership and Advanced Studies opportunities)

*Kidwind, Careersafe Safety Video and
SMART Competition





<https://www.mitalent.org/elearning-soft-skills-program>

These 14 eLearning modules on Lifelong Soft Skills are to provide a universally accessible soft skills training resource for the Michigan workforce for basic and foundational skills for the workplace, to help ensure the workforce is ready to succeed in the 21st century.

Communication

- 1. [Humility](#)→
- 2. [Communication](#)→.
- 3. [Conflict](#)→

Critical Thinking

- 4. [Ethical Character](#)→
- 5. [Personal Judgment](#)→
- 6. [Problem Solving](#)→
- 7. [Time Management](#)→

Collaboration

- 8. [Diversity and Inclusion](#)→
- 9. [Self-Confidence](#)→
- 10. [Teamwork](#)→

Creativity

- 11. [Positive Attitude](#)→.
- 12. [Initiative](#)→
- 13. [Flexibility](#)→
- 14. [Work Ethic](#)→