

8.2.1 Extension- Kinetic Energy and Circuits

Directions - There are different forms of kinetic energy like **sound, heat, electrical, mechanical,** and **light**. For this activity, you will build a variety of different circuits to demonstrate different forms of energy. You will need the Instruction manual to help you build each of the projects. Complete the questions for each project before moving on to the next project. When you are finished, place all circuit parts back into the storage box raise your hand to have the teacher verify all parts are in the original location, then clean up area.

1 – Open the instruction manual to create circuit **project #1**.

1. How is project 1 an example of an open circuit (read the directions in the manual)?
2. List all forms of kinetic energy this project demonstrates.

Diagram of Project #1

2 – Open the instruction manual to create circuit **project #3**

3. What form(s) of kinetic energy does this project create?
4. Why did the sound restart when you clapped your hands?
5. List all forms of kinetic energy this project demonstrates.

Diagram of Project #3

3 – Open the Instruction manual to create circuit **project #11**

6. What is locking the propeller in place (read the directions in the manual)?
7. What causes the propeller to fly (read the directions in the manual)?
8. List all forms of kinetic energy this project demonstrates

Diagram of Project #11

4 – Open the instruction manual to create the circuit for project **#19**

9. What kind of circuit is this project (read the directions in the manual)?
10. How do they use this type of circuit in filmmaking (read the directions in the manual)?
11. List all forms of kinetic energy this project demonstrates

Diagram of Project #19

5 – You choose any project from **#22 - #34** to create a circuit and answer the following questions.

12. List all forms of kinetic energy this project demonstrates.
13. Explain how this project works (Read the directions in the manual).

Diagram of Project # _____

6 – You choose any project from **#36 - #48** to create a circuit and answer the following questions.

14. List all forms of kinetic energy this project demonstrates.
15. Explain how this project works (Read the directions in the manual).

Diagram of Project # _____

7 – You choose any project from **#49 - #60** to create a circuit and answer the following questions.

16. List all forms of kinetic energy this project demonstrates.
17. Explain how this project works (Read the directions in the manual).

Diagram of Project # _____

8 – You choose any project from **#80 - #93** to create a circuit and answer the following questions.

18. List all forms of kinetic energy does this project demonstrates.
19. Explain how this project works (Read the directions in the manual).

Diagram of Project # _____

Analysis Questions

1. What was easy about creating the different circuits?
2. What was difficult about creating the different circuits?
3. How were you able to do different things with the circuit board with the same parts in the circuit board kit?
4. How does this activity demonstrate the different forms of kinetic energy?