

Rectifiers

1. Select *Circuits - Diodes - Half Wave Rectifiers*
2. What do you notice about the voltage across the resistor in comparison to the voltage of the power supply?
3. What do you notice about the flow of the current through the resistor?
4. Based on your observations, why do you think this is called a half wave rectifier?
5. Now select *Circuits - Diodes - Full Wave Rectifiers*
6. What do you notice about the voltage across the resistor in comparison to the voltage of the power supply?
7. What do you notice about the flow of the current through the resistor?
8. Based on your observations, why do you think this is called a full wave rectifier?
9. What practical applications do you think half and full wave rectifiers have?
10. Describe a rectifier in your own words

Transformers

1. Select *Circuits - Other Passive Circuits - Transformers - Transformer*
2. What do you notice about the current on either side of the transformer?
3. Based on your observations, sketch what you think the physical setup of the transformer is.
4. Go to <http://hyperphysics.phy-astr.gsu.edu/hbase/magnetic/tracir.html> and compare this diagram to your sketch.
5. Now hover over the transformer. What do you think the ratio stat tells you?
6. Select *Circuits - Other Passive Circuits - Transformers - Step-Up Transformer*
7. What do you notice about the current on either side of the transformer?
8. Now hover over the transformer. How do you think this ratio affects the circuit's behavior?
9. Select *Circuits - Other Passive Circuits - Transformers - Step-Down Transformer*
10. What do you notice about the current on either side of the transformer?
11. Now hover over the transformer. How do you think this ratio affects the circuit's behavior?

