

TP n°1 : How does a bicycle alternator produce electrical energy?

Experiment n°1 : How does a bicycle alternator produce electrical energy?

- **Purpose:** Using the equipment at your disposal , try to understand the energy process' taking place in the alternator conversion
- **Material :** alternator, bicycle lamp, multimeter, connecting wires.
- Follow : the instructions and answer the questions with full sentences



1. Examine a stripped down alternator. Name the part which rotates and the fixed part. Do this in English, German and French.

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2. Connect the lamp to the alternator and make it light.
 3. Describe, in one sentence, how you managed to light the lamp:

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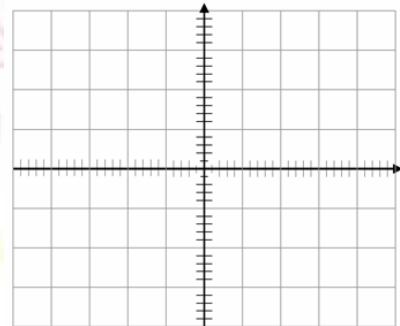
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4. Connect the LED model to the alternator and explain you observations.

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4. Does the alternator generate a.c. or d.c. voltage?
 Connect the alternator to the oscilloscope and sketch the trace observed.



5. **Conclusion:** The mechanical energy supplied by the student is converted into electrical energy by the generator.

What energy conversion takes place in an alternator?

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What is the common requirement for all power plants?

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What must be provided for the plant to operate? In what form can we do this?

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