

Electricity-Watts, Wire, & What It's Worth

Materials per Student: Student Handout, colored pencils, calculator

Procedure:

Day 1-

Give students the handout. Assign the homework of collecting the Wattages of 10 things from around their house that plug in. Explain using the PowerPoint.

Day 2-

1. Begin with class discussion on the Wattages they collected. Record on your board under the columns "Low", "Mid", and "High".
2. Cover the 3 trends that cause appliances to use more electricity- *heat, moving parts, and size*.
3. Move into circuits- what they are, and the load each can typically carry. Ask students if anyone has ever "overdrawn" a circuit, and what the result was.
4. Have students calculate the exact load you should not exceed on a 20 amp circuit (1,920 Watts).
5. Give each student the small handout with a listing of all appliances and their Wattages.
6. Get them started furnishing their home in 10 years, starting with the "Essentials". Do a few more with them, until they get the hang of it.
7. When most/all are done, show them how to wire their home- shade in a breaker to the right, and draw a line (representing the wire) of the same color going to/from the appliance. Anything over 2,400 Watts gets a double breaker.

Day 3-

Calculate the yearly cost of the 10 appliances students brought in for homework:

- estimate the # of hours/day each runs
- times the # of days/yr. it's on
- divided by 1,000
- times .085 (the cost of 1 kilowatt of electricity)