Name of Unit: **Electrical DC, Soldering, and Battery Power**	
Grade	**11 & 12**
Unit of Study	**Electronics and Small Power, Gears, and Pulleys**
Length of Unit	**15 Days**

Missouri Learning Standards

G11 Identify variable drive motors (i.e. DC, AC, frequency, and servos) © **H3** Identify symbols used in electronics © **H4** Draw wiring diagrams (i.e. pictorial, schematic, and ladder) (C**)**	**H17** . Demonstrate basic electronic connection techniques (i.e. soldering, crimping, and cable repair) © **H18** Perform logical steps of troubleshooting on electronic systems © **F8** Perform mechanical alignments (i.e. belts, chains, couplings, shafts, pulleys, housings, balancing, bearings, gauging, adjustments, alignment, loading, tensioning, dimensioning, and tolerancing) ©

Learning Targets

I can use the electrical laws to calculate the battery power needed to move my DC-powered car.
I can calculate which pulley or gear ratio will give me the greatest efficiency
I can solder all my connections properly to complete my circuit.

Intervention and Enrichment

If a student requires additional help with the lesson, I will meet with the students to discuss a plan going forward.

Assessments

MLS (Learning Goal)	Description or Location
● Electric Motor Test	Electrical File Folder
● Battery-powered race car project	Electrical File Folder

Vocabulary			
AC DC Battery	Electro-Magnet Copper Aluminum	Servo Belt Pulley	Amps Ohms Volts

Instructional Materials

DC power worksheet
DC and Battery Power notes
Gear & Pulley Notes

Additional Instructional Resources

Reflections for Future Revisions