

<b>LESSON PLAN</b>	Topic: <b>Motors</b>	Date/Time: <b>Mar 1, 2022</b>
		Teacher: <b>Daniel Strang</b>
This Lesson: <b>Common Electric Motors</b>		
LEARNING GOAL (GLO): <b>Understand how common electric motors work</b>		
LEARNING OUTCOMES (5 to 8 SLO's): By the end of this lesson, students should be able to: <ol style="list-style-type: none"> <li><b>1. Understand the wide range of uses for electric motors</b></li> <li><b>2. Understand permanent magnets and electromagnets</b></li> <li><b>3. Understand how DC brushed and DC brushless function</b></li> <li><b>4. Determine which type of motor is appropriate for which application</b></li> </ol>		
RATIONALE: <b>As industrial arts teachers we will encounter several types of electric motors, no matter what content area we teach. Brushed motors are found in servos and power tools. Brushless motors are becoming more common</b>		
SUPPLIES/ TOOLS: <b>Computer/projector for PowerPoint</b>	REFERENCES/RESOURCES:	
Introduction/Focusing Event: <b>Pretend to be talking about some diesel engine because my topic is technically only "motors"</b>		
Lesson/points to cover: <b>What are some ways we use electric motors in everyday life?</b> <b>What is the fundamental goal of an electric motor?</b> <b>Permanent vs electromagnets (reversible)</b> <b>"Build" a DC brushed motor</b> <b>Define rotor and stator</b> <b>Explain servos – risks of moving servos/electric motors are generators</b> <b>Explain how a brushless motor works</b> <b>Explain how we increase efficiency by using two sets of coils</b> <b>Brushless motors are controlled by a microcontroller</b> <b>Compare brushed and brushless motors</b>		
Conclusion/Summary/Evaluation: <b>Remind me what a permanent magnet is? What about an electromagnet?</b> <b>Explain how a brushed motor works?</b> <b>Explain how a brushless motor works?</b> <b>Activity where students will choose which type of motor to use on which type of application.</b>		
Post Lesson Reflection:		