

**RCPS Curriculum Pacing Guide  
2013-2014  
Subject: Power transportation**

Week of:	SOL #	Unit	Bloom's	Objectives
1 Aug 12-16-13	1,2,35,36,46,40	Measuring, Electric motor	Creating Evaluating Analyzing Applying Understanding Remembering	1. <a href="#">Demonstrate positive work ethic.</a> 2. <a href="#">Demonstrate integrity.</a>  35. <a href="#">Select and use instruments to collect quantitative data related to power systems.</a>  36. <a href="#">Demonstrate safe work practices while participating in lab activities.</a>  40. <a href="#">Differentiate among the methods of generating power.</a>  46. <a href="#">Utilize electricity to transmit power.</a>
2	3,4,35,36,40,46,44	Electric motor, pneumatics	Creating Evaluating Analyzing Applying Understanding Remembering	3. <a href="#">Demonstrate teamwork skills.</a> 4. <a href="#">Demonstrate self-representation skills.</a>  35. <a href="#">Select and use instruments to collect quantitative data related to power systems.</a>  36. <a href="#">Demonstrate safe work practices while participating in lab activities.</a>  40. <a href="#">Differentiate among the methods of</a>

				<p><u>generating power.</u></p> <p>46 <u>Utilize electricity to transmit power.</u></p> <p>44. <u>Utilize hydraulic and pneumatic fluid systems to transmit power.</u></p>
3	5,6,30,31,43,	Pneumatics, windmill	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>30. <u>Identify the purposes and goals of the student organization.</u></p> <p>31. <u>Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.</u></p> <p>5 <u>Demonstrate diversity awareness skills.</u></p> <p>6 <u>Demonstrate conflict</u> resolution skills</p> <p>43 <u>Research methods of energy conversion (e.g., electrical, fluid, mechanical).</u></p>
4	7,8,43,44	Windmills, alt fuels, pneumatics	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p>	<p>7 <u>Demonstrate creativity and resourcefulness.</u></p> <p>8 Demonstrate effective speaking and</p>

			Remembering	<p>listening skills</p> <p>44. <a href="#">Utilize hydraulic and pneumatic fluid systems to transmit power.</a></p> <p>43 <a href="#">Research methods of energy conversion (e.g., electrical, fluid, mechanical).</a></p>
5	9,10,34,43,44	Pneumatics, hydraulics, alt fuels	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>9. <a href="#">Demonstrate effective reading and writing skills.</a></p> <p>10. <a href="#">Demonstrate critical-thinking and problem-solving skills.</a></p> <p>43 <a href="#">Research methods of energy conversion (e.g., electrical, fluid, mechanical).</a></p> <p>34. <a href="#">Define "power and transportation."</a></p> <p>44. <a href="#">Utilize hydraulic and pneumatic fluid systems to transmit power.</a></p>
6	11,12,44,43	Hydraulic robot	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>11 <a href="#">Demonstrate healthy behaviors and safety skills.</a></p> <p>12 <a href="#">Demonstrate an understanding of workplace organizations, systems, and climates.</a></p>

				<p>44. <a href="#">Utilize hydraulic and pneumatic fluid systems to transmit power.</a></p> <p>43 <a href="#">Research methods of energy conversion (e.g., electrical, fluid, mechanical).</a></p>
7	13,14,37,50-52	Robot, CO2 cars	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remebering</p>	<p>13. <a href="#">Demonstrate lifelong-learning skills.</a></p> <p>14. <a href="#">Demonstrate job-acquisition and advancement skills.</a></p> <p>37 <a href="#">Explain careers related to power and transportation and their educational requirements.</a></p> <p>50 <a href="#">Use technical manuals and Internet resources to research vehicle design and service specifications.</a></p> <p>51 <a href="#">Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</a></p> <p>52 <a href="#">Evaluate vehicle design considering ergonomics, safety, comfort, efficiency, and capacity.</a></p>
8	14, 37,50-52	Robot/CO2 car	<p>Creating</p> <p>Evaluating</p>	<p>14. <a href="#">Demonstrate job-acquisition and</a></p>

			Analyzing Applying Understanding Remebering	<p><a href="#">advancement skills.</a></p> <p>34. <a href="#">materials and processes technology.</a></p> <p>37<a href="#">Explain careers related to power and transportation and their educational requirements.</a></p> <p>50<a href="#">Use technical manuals and Internet resources to research vehicle design and service specifications.</a></p> <p>51<a href="#">Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</a></p> <p>52<a href="#">Evaluate vehicle design considering ergonomics, safety, comfort, efficiency, and capacity.</a></p>
9	15,38,50-52	CO2 car	Creating Evaluating Analyzing Applying Understanding Remebering	<p>15.<a href="#">Demonstrate time-, task-, and resource-management skills.</a></p> <p>50<a href="#">Use technical manuals and Internet resources to research vehicle design and service specifications.</a></p> <p>51<a href="#">Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</a></p> <p>52<a href="#">Evaluate vehicle design considering</a></p>

				<p><a href="#">ergonomics, safety, comfort, efficiency, and capacity.</a></p> <p>38<a href="#">Describe the development of power and transportation systems throughout the world.</a></p>
10	16, 50-52,54,55,42	CO2 car	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>50<a href="#">Use technical manuals and Internet resources to research vehicle design and service specifications.</a></p> <p>51<a href="#">Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</a></p> <p>52<a href="#">Evaluate vehicle design considering ergonomics, safety, comfort, efficiency, and capacity.</a></p> <p>54<a href="#">Design, construct, and test a working model of a transportation vehicle.</a></p> <p>42.<a href="#">Compare and contrast energy sources.</a></p> <p>55.<a href="#">Diagnose and repair vehicle systems.</a></p>
11	17,18, 50-55	Monster Truck	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p>	<p>17<a href="#">Demonstrate customer-service skills.</a></p> <p>18. <a href="#">Demonstrate proficiency with technologies common to a specific</a></p>

			Understanding Remembering	<p><u>occupation.</u></p> <p>50 <u>Use technical manuals and Internet resources to research vehicle design and service specifications.</u></p> <p>51 <u>Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</u></p> <p>52 <u>Evaluate vehicle design considering ergonomics, safety, comfort, efficiency, and capacity.</u></p> <p>53 <u>Using history as a reference, discuss the future of power and transportation systems.</u></p> <p>54 <u>Design, construct, and test a working model of a transportation vehicle.</u></p> <p>55 <u>Diagnose and repair vehicle systems.</u></p>
12	19,20,33,49,50-55	Monster trucks	Creating Evaluating Analyzing Applying Understanding Remembering	<p>19 <u>Demonstrate information technology skills.</u></p> <p>20 <u>Demonstrate an understanding of Internet use and security issues.</u></p> <p>33 <u>Identify Internet safety issues and procedures for complying with acceptable use standards.</u></p>

				<p>50 <u>Use technical manuals and Internet resources to research vehicle design and service specifications.</u></p> <p>51 <u>Evaluate vehicle control systems (i.e., navigation, suspension, steering, and braking).</u></p> <p>52 <u>Evaluate vehicle design considering ergonomics, safety, comfort, efficiency, and capacity.</u></p> <p>53 <u>Using history as a reference, discuss the future of power and transportation systems.</u></p> <p>54 <u>Design, construct, and test a working model of a transportation vehicle.</u></p> <p>35. <u>Differentiate between modes of transportation and their effects on society.</u></p>
13	21,43,45,47	Mechanical Challenge	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remebering</p>	<p>21 <u>Demonstrate telecommunications skills.</u></p> <p>43 <u>Research methods of energy conversion (e.g., electrical, fluid, mechanical).</u></p> <p>45. <u>Demonstrate principles of mechanical systems as they relate to</u></p>



				<p><a href="#">power transmission.</a></p> <p>47.<a href="#">Work with a design team to design a power transmission system, using a systems approach .</a></p>
14	43,45,47,41	Mechanical challenge, Balsa Bridge	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>43 <a href="#">Research methods of energy conversion (e.g., electrical, fluid, mechanical).</a></p> <p>45.<a href="#">Demonstrate principles of mechanical systems as they relate to power transmission.</a></p> <p>47.<a href="#">Work with a design team to design a power transmission system, using a systems approach .</a></p> <p>41<a href="#">Describe the relationship between transportation and other technologies.</a></p>
15	48,35,36,47	Bridge, multi hull boats	<p>Creating</p> <p>Evaluating</p> <p>Analyzing</p> <p>Applying</p> <p>Understanding</p> <p>Remembering</p>	<p>47<a href="#">Describe the relationship between transportation and other technologies.</a></p> <p>35<a href="#">Select and use instruments to collect quantitative data related to power systems.</a></p> <p>36. <a href="#">Demonstrate safe work practices while participating in lab activities.</a></p>

				48. <a href="#">Make a presentation related to a research project.</a>
16	22,39,48,	Multi hull boats, presentation	Creating Evaluating Analyzing Applying Understanding Remembering	48. <a href="#">Make a presentation related to a research project.</a>  39. <a href="#">Research the contributions of individuals and groups related to power and transportation.</a>  22. <a href="#">Examine aspects of planning within an industry/organization.</a>
17	23-26, 39,48,35,36,54	Multihull boats, presentations, styrofoam planes	Creating Evaluating Analyzing Applying Understanding Remembering	See week 8 for other supporting objectives  23. <a href="#">Examine aspects of management within an industry/organization.</a>  24 <a href="#">Examine aspects of financial responsibility within an industry/organization.</a>  25 <a href="#">Examine technical and production skills required of workers within an industry/organization.</a>  26 <a href="#">Examine principles of technology that</a>

