

# Scarecrow



## The Assignment





A local organic farmer has a lot of problems with birds eating his crops. He knows from experience that when he runs into his field waving his arms wildly and jumping up and down the birds fly away. Shouting at the birds without the movement, however, has little effect. He has tried using a conventional scarecrow, which does not move. Although it frightened the birds away in the beginning, they soon became used to it and it no longer makes any difference.

Your task is to design and make a pneumatic scarecrow model that moves in a way that will scare off the birds that are trying to eat the farmer's crops.

## Problem Solving Activity: \_\_\_\_\_

Name(s): \_\_\_\_\_

Date: \_\_\_\_\_

	 <b>BRONZE</b>	 <b>SILVER</b>	 <b>GOLD</b>	 <b>PLATINUM</b>
<p><b>GOALS</b></p>				
<p><b>Design Brief:</b> Understand the problem, develop prototypes to solve it, test those prototypes and revise your design to make it better.</p>	<ul style="list-style-type: none"> <li>• Our design met the goals or criteria defined by the activity.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We met Bronze</li> <li>• We tested our prototype multiple times.</li> <li>• We made at least one improvement.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We met Silver</li> <li>• We made at least two improvements.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We met Gold</li> <li>• We tested at least two different designs.</li> <li>• We picked the best design, tested it, and made several improvements.</li> </ul> <input type="checkbox"/>
<p><b>Creativity:</b> Come up with inventive and creative solutions to problems. Consider multiple solutions.</p>	<ul style="list-style-type: none"> <li>• We started the activity and have at least one possible solution that looks reasonable.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We brainstormed two to three ideas.</li> <li>• We built a working model to solve the problem.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We brainstormed more than three ideas.</li> <li>• We built an effective model to solve the problem.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We brainstormed many ideas.</li> <li>• We built and tested prototypes for at least two ideas.</li> <li>• We built an original and effective model that solves the problem.</li> </ul> <input type="checkbox"/>
<p><b>Collaboration:</b> Work is shared effectively and the team encourages and helps each other.</p>	<ul style="list-style-type: none"> <li>• We sometimes worked together well but some team members did more work than others or we needed help from the teacher to resolve some disagreements.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We generally worked together well, providing help and support to each other.</li> <li>• The work was shared fairly evenly among the group members.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We worked together well, providing help and support to each other.</li> <li>• The work tasks were shared evenly.</li> <li>• We addressed issues that arose.</li> </ul> <input type="checkbox"/>	<ul style="list-style-type: none"> <li>• We worked together unusually well, overcoming unexpected obstacles by working together as a team.</li> <li>• We actively helped and supported each other.</li> <li>• We addressed issues that arose with honest, constructive feedback.</li> </ul> <input type="checkbox"/>

Notes: