



H20. Ping Pong Ball Launcher Engineering Designer Challenge

Worksheet

Traditionally, prescribed burns on the prairie have been lit using a drip torch by persons on foot. This poses some risks to people and also limits access to locations where fire might be ignited. In recent years, fire experts have been exploring the use of aerial ignition of fires. First used for forested prescribed burns and in firefighting (fight fire with fire) with the use of helicopters plastic sphere dispensers. These plastic spheres are filled with chemicals that when combined will combust, allowing the spheres to be dropped and ignite where they drop. The use of a helicopter for burning prairies would be too cost prohibitive. However, with advancements in drone capabilities, some researchers are conducting trials of a small scale plastic sphere dispenser for controlled burns:

<https://youtu.be/vIZgQfJNoN8> and <https://fireaviation.com/2015/10/30/aerial-ignition-by-drone/>.

Engineering Design Challenge: In your team and using only the materials provided, design a ping pong ball launcher that will land reliably and accurately in the targeted area.

Criteria:

Constraints:

Design Solution Ideas:

