

PHET Lab

Go to Phet and find the projectile motion lab.

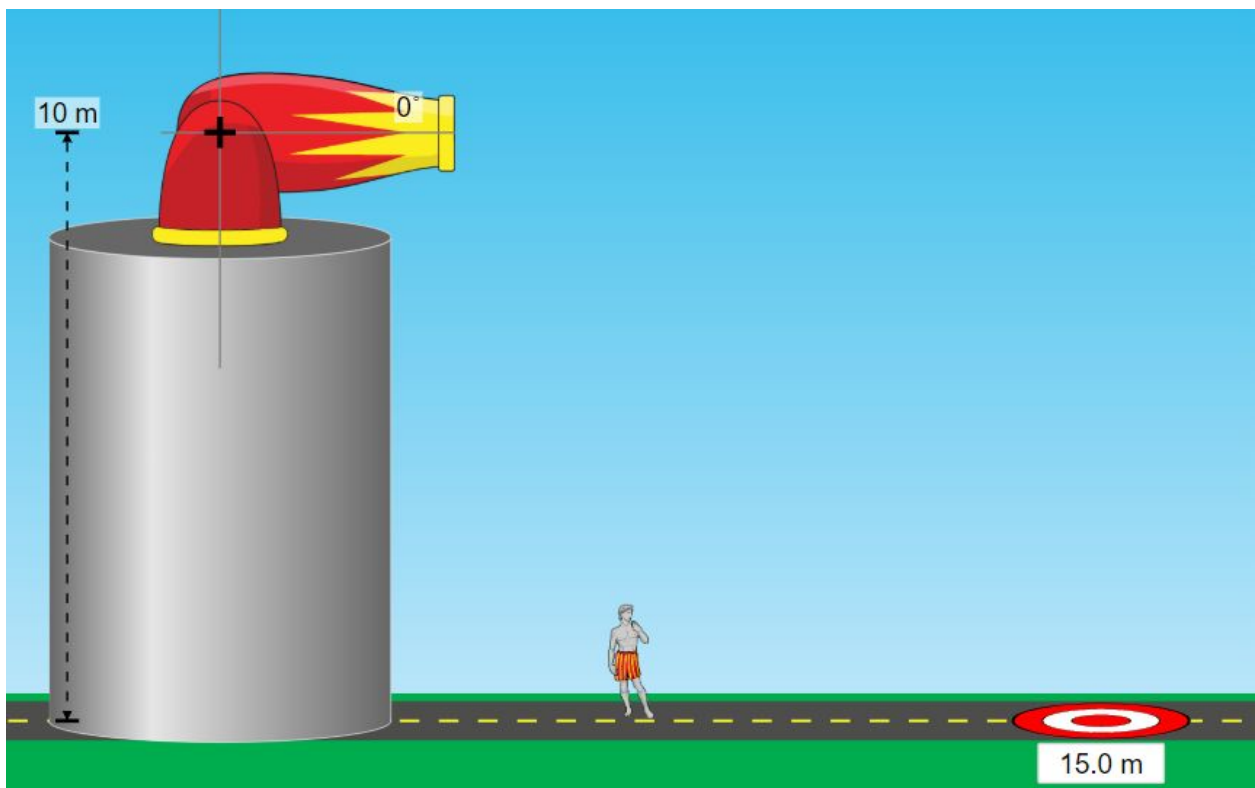
https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_en.html

Part 1:

Play with this app for awhile and try some things out. Have fun. In your lab book, write 3 things you learned from the app. Try some creative things.

Part 2:

Go to the lab part and raise the height of the cannon to 10 m as shown.



- A.) Use physics to figure out how long will it take the cannon to fall 10 m, show work in your lab book.
- B.) With this time, use physics to determine how far the projectile will travel. Show work.

- C.) Move the target to the location you found above. Launch and see how close you came.
- D.) Using the same height, test to see how the various variables affect how far the ball travels. For example, how does changing the mass of the ball or changing the diameter affect your answer? Try changing different variables and write how this changes your results in the lab book. Try at least 3 different scenarios.

Part 3:

Change the platform to a height of your choosing. Make up a story that goes along with your scenario and write in your lab book. Use physics to predict how far the projectile will travel. Show all work in your lab book. Run the simulation to see how close you came.