PHYSICS IN MOTION
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Unit 2G

Horizontally Launched Projectiles

Danny Daredevil and the Human Hamster Ball Lab

Name:

Date:

One day while watching his hamsters exercise, Danny devises a great stunt — the Human Hamster Ball. Because he spends all of his money on his pet hamsters, Danny has no funds left to research or plan for the stunt. So, he has asked the local high school students to conduct all research and testing for him to ensure that the stunt goes smoothly.

For the stunt, Danny has built a ramp that he will roll down while inside a giant hamster ball. He is planning to roll across a certain horizontal distance as he approaches the Snake River Canyon. He will then roll off the edge of the canyon, falling onto a special landing pad consisting of egg crates, cotton candy, yoga balls, and a bouncy house. Of course, this landing pad will only work one time — if Danny is lucky.

You are charged with determining where to place the landing pad. Since the device will work only one time, you should allow Danny and the hamster ball to roll completely off the table only ONE TIME during your experimentation. All calculations must be made prior to the big show.

Materials:

- ramp
- marble
- meter stick
- timer
- bull's eye

Procedure:

Devise your own procedure within your group. Think about similar problems you have worked through in this unit.

Based on your measurements, you will make a calculated prediction as to where Danny will land. You can make whatever measurements you like while the "hamster ball" is still on the table!