

TAP 207-1 A thrown ball follows a parabolic path

Demonstration

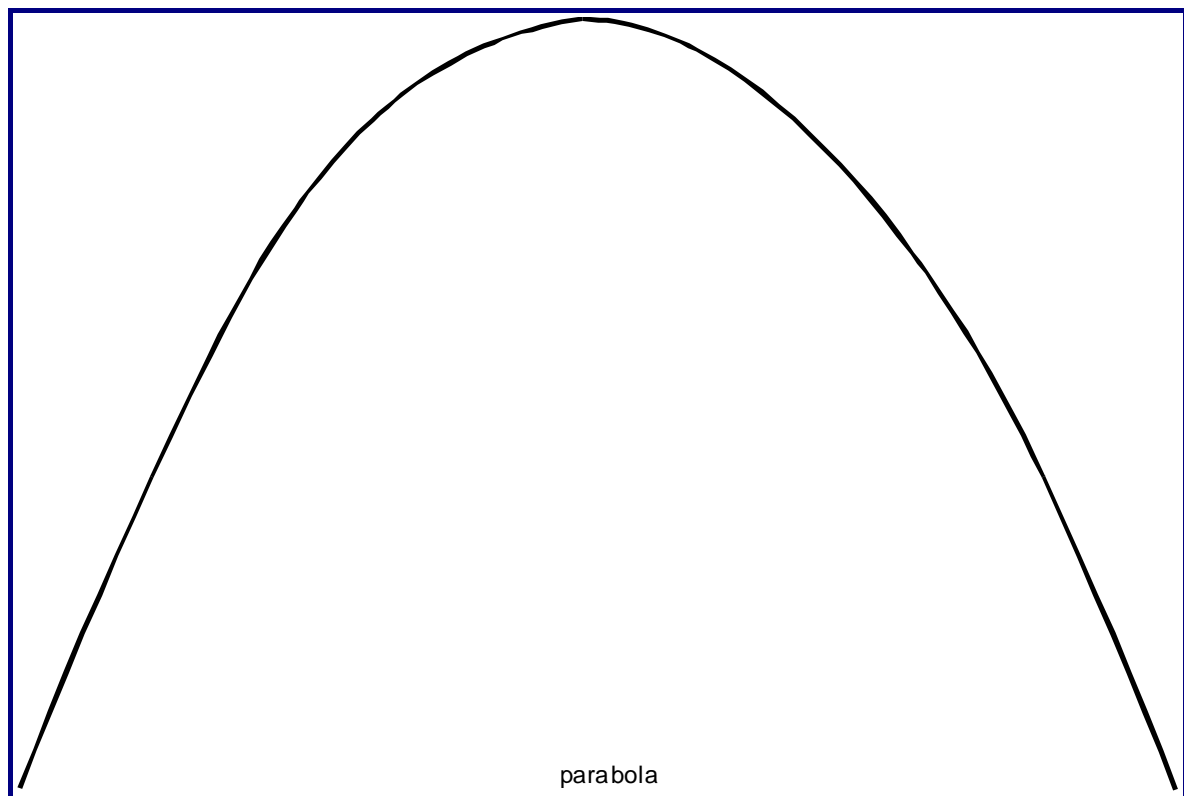
A student or the teacher throws a small ball and matches its flight to a projection of a parabola produced on a screen.

You will need

- ✓ overhead projector transparency of a parabola
- ✓ overhead projector
- ✓ screen
- ✓ small ball
- ✓ some practice

What to do

1. Print out this, or another parabola, onto an OHT.



2. Project the image of a parabola onto a screen and throw the ball so that its shadow follows the same path.

For success, lob the ball as if trying to land it on an imaginary 'shelf' at the top of the parabola.

Practical advice

This demonstration is an eye-catching way to show that the path of a thrown ball really is parabolic. Note that the course does not require students to derive or follow the derivation of a formula for the motion which can be seen to be of the same type as the formula for a parabola.

A good tip to throw the ball successfully is to imagine throwing it to land on a shelf placed at the top of the parabola.

External references

This activity is taken from Advancing Physics Chapter 9, 130D