

Magnetic Field Activity

Introduction

In this activity you will interact with a model. This model involves a particle with mass, velocity, and charge. When the experiment is run, the particle will travel through empty space for some time. Then a magnetic field pointing either into the page (marked with Xs) or out of the page (marked with dots) will appear for some time. Then the field will turn off.

Question 1

Change some parameters and run some experiments. Write down 5 observations that you noticed.

Question 2

Part a

What are some ways that you can get the particle to travel in a straight line?

Part b

For each method you listed, why do you think the particle traveled in a straight line?

Question 3

Sometimes the particle travels along a curve. How can you relate each of the properties given by the model to the radius of that curve?

Question 4

What are two questions you have about the system?