4-2005

Ballistics

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Our projects

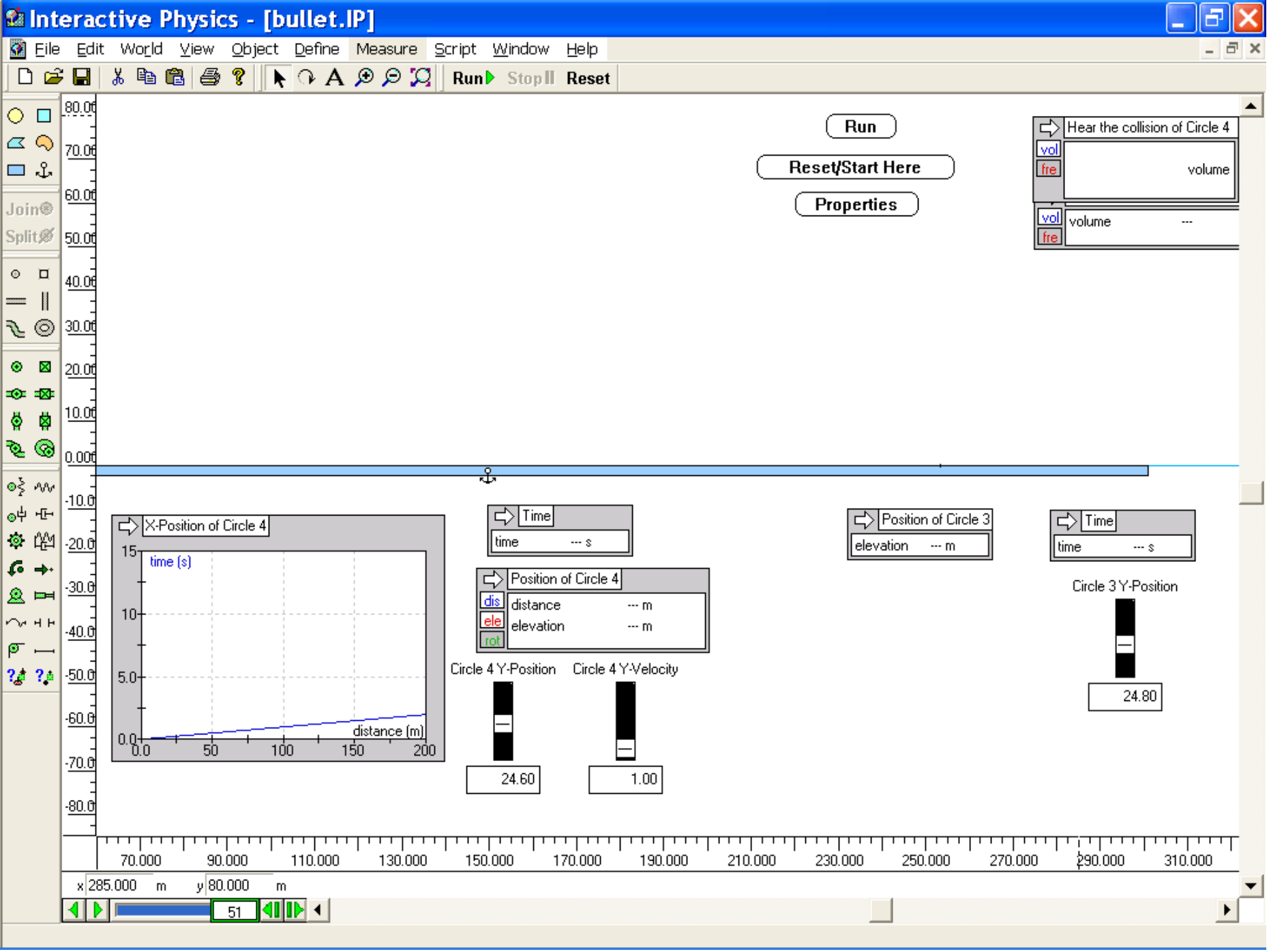
- Match Speed
  - To allow someone to figure out how far a bullet would travel
    - From a certain height
    - On a calm day
    - At a certain speed
- Deadly Scorpion Stings
  - To allow someone to figure out how quickly a poison is removed from a person
    - Who has a certain weight
    - With a certain amount of venom injected

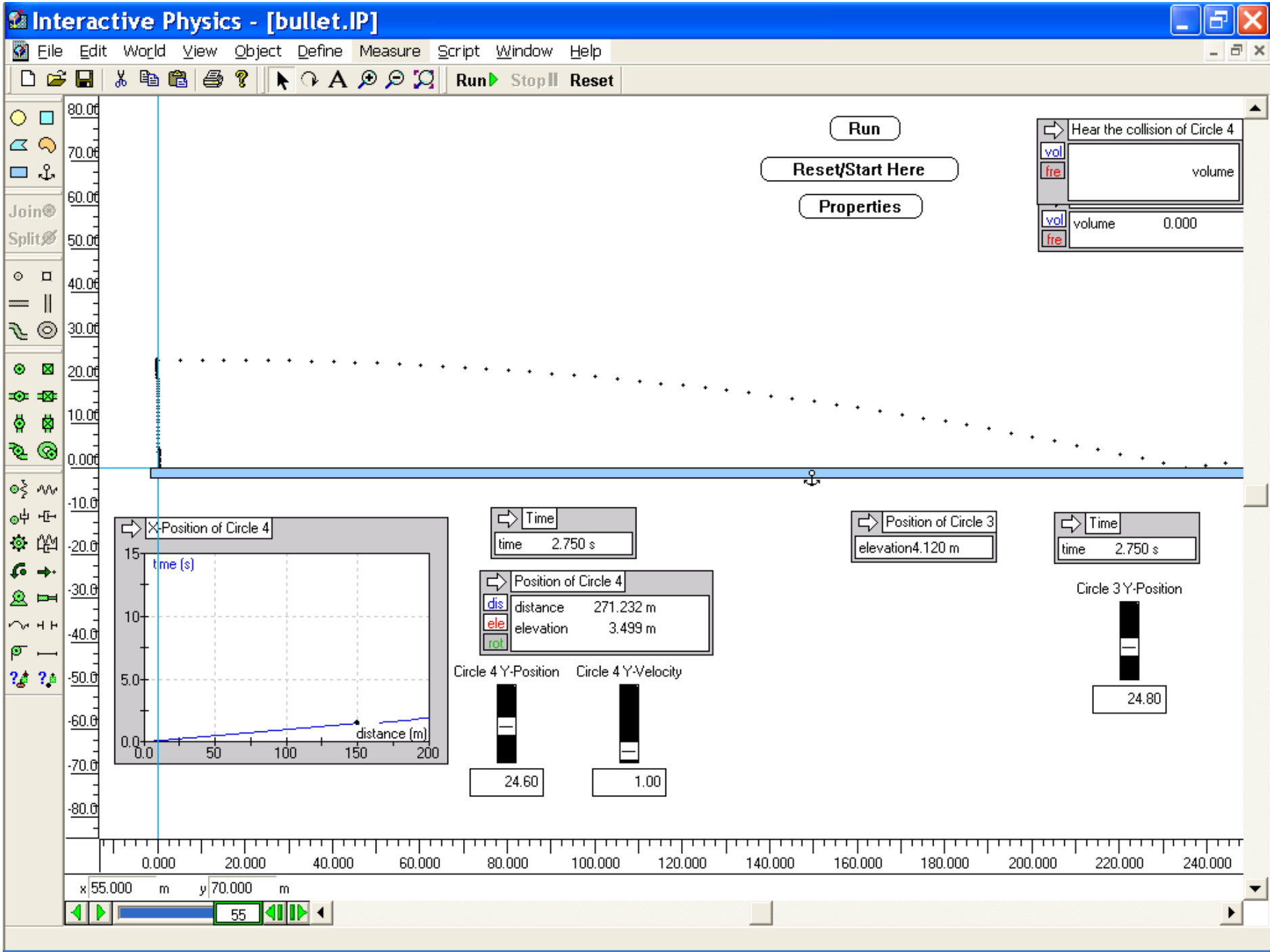
Match Speed

- We used real life demonstrations to double check our model.

Match Speed

- Our model demonstrates real life physics


Interactive Physics - [bullet.IP]
File Edit World View Object Define Measure Script Window Help
Run Stop Reset
Run
Reset/Start Here
Properties
Hear the collision of Circle 4
vol
fre
volume
vol
volume ---
fre
X-Position of Circle 4
time (s)
distance (m)
Time
time --- s
Position of Circle 4
dis
distance --- m
ele
elevation --- m
rot
Circle 4 Y-Position
Circle 4 Y-Velocity
24.60
1.00
Position of Circle 3
elevation --- m
Time
time --- s
Circle 3 Y-Position
24.80
x 285.000 m y 80.000 m
51


Interactive Physics - [bullet.IP]
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Run Stop Reset
Run
Reset/Start Here
Properties
Hear the collision of Circle 4
vol
fre
volume
vol volume 0.000
fre
X-Position of Circle 4
time (s)
distance (m)
Time
time 2.750 s
Position of Circle 4
dis distance 271.232 m
ele elevation 3.499 m
rot
Circle 4 Y-Position
Circle 4 Y-Velocity
24.60
1.00
Position of Circle 3
elevation4.120 m
Time
time 2.750 s
Circle 3 Y-Position
24.80
x 55.000 m y 70.000 m
55

Match speed

- Problems with our model
  - Need to change screen size so that the graphic can be seen better
  - Need to add in factors such as wind direction and speed
  - Need to add in factors such as different bullet calibers so that different speeds would be more accurate

Scorpion Stings

- Our model demonstrates how poison is removed from the human body and how factors can change due to different body weights.

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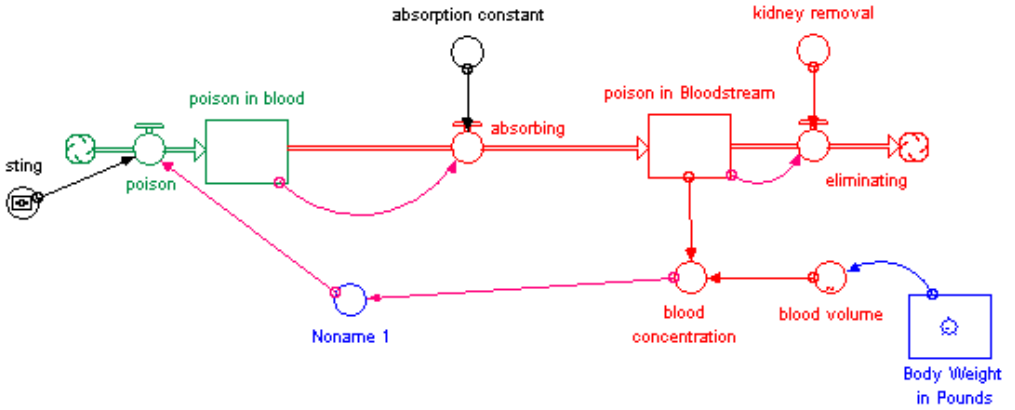
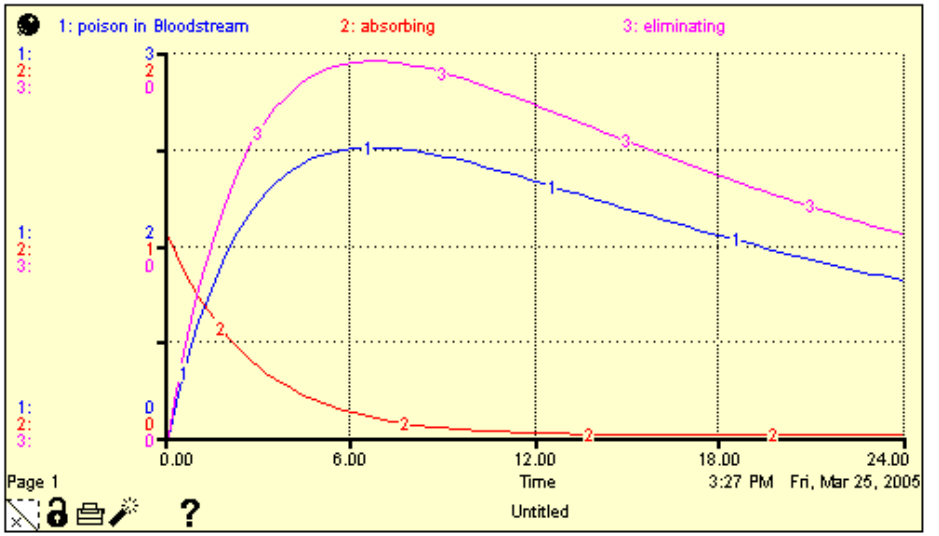
File Edit Model Run Help

scorpionstings.STM





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File Edit Interface Run Help

scorpionstings.STM

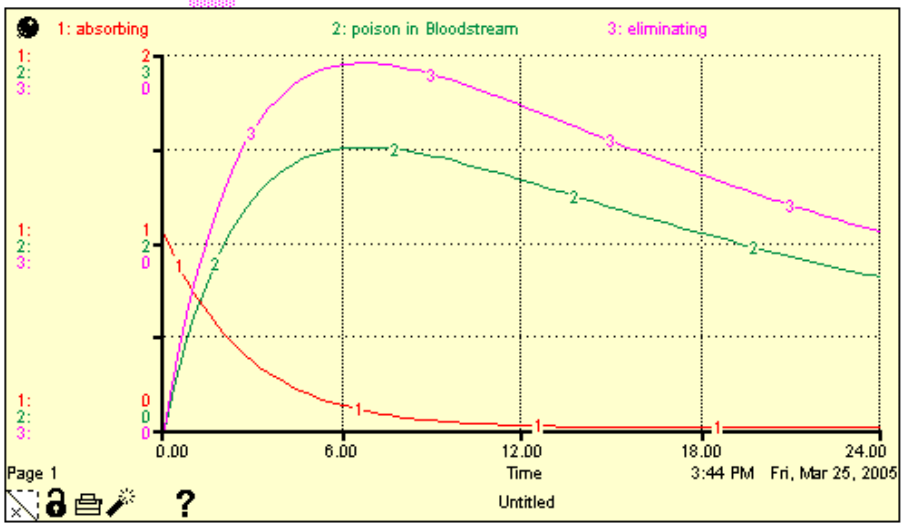
in Pounds

108.500
125.500
100.000 151.000

Run

sting

1.0000 4.0000
1.7500



Deadly Scorpion Stings

- Problems with our model
  - Need to fine tune the control sliders so that actual amounts of venom are represented
  - Need to do more research on the rates that things are taking place
    - Kidney removal
    - The rate that the poison enters the bloodstream