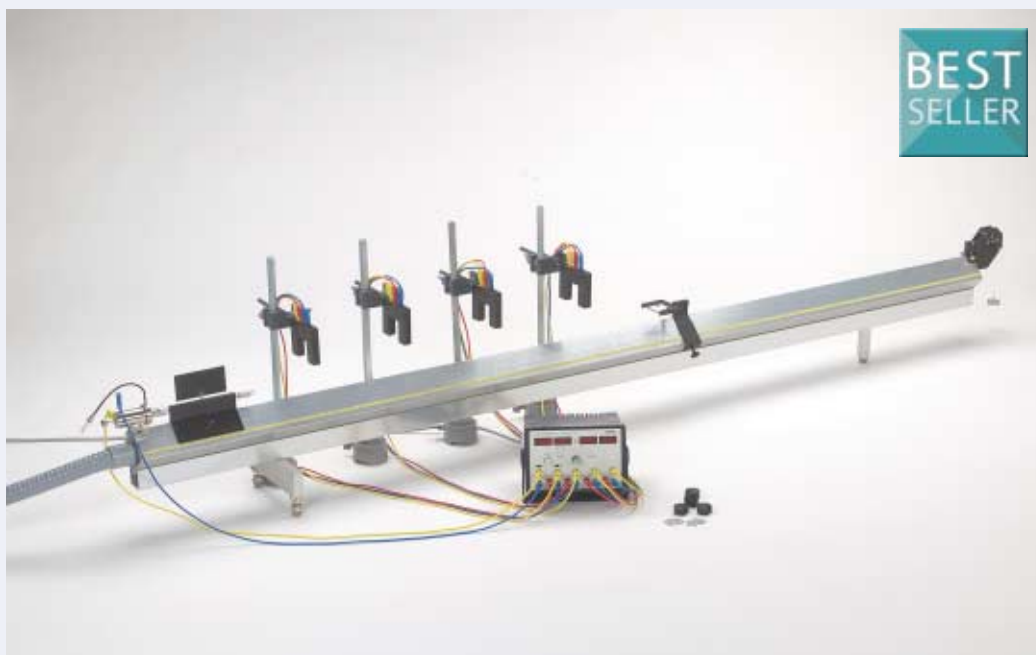


## Newton's 2<sup>nd</sup> Law / Air track 1.3.03-01



### What you can learn about ...

- Velocity
- Acceleration
- Force
- Acceleration of gravity

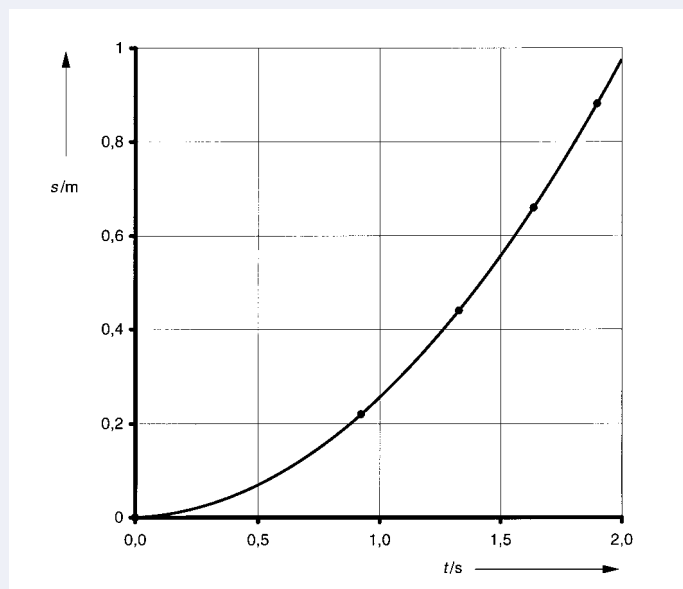
### Principle:

The distance-time law, the velocity-time law, and the relationship between mass, acceleration and force are determined with the aid of the air track rail for uniformly accelerated motion in a straight line.

### What you need:

Air track rail	11202.17	1
Blower	13770.97	1
Pressure tube, $l = 1.5$ m	11205.01	1
Glider f. air track	11202.02	1
Screen with plug, $l = 100$ mm	11202.03	1
Hook with plug	11202.07	1
Starter system	11202.13	1
Magnet w. plug f. starter system	11202.14	1
Precision pulley	11201.02	1
Stop, adjustable	11202.19	1
Fork with plug	11202.08	1
Endholder for air track rail	11202.15	1
Light barrier, compact	11207.20	4
Timer 4-4	13605.99	1
Slotted weight, 10 g, black	02205.01	8
Slotted weight, 50 g, black	02206.01	4
Weight holder 1 g	02407.00	1
Silk thread, 200 m	02412.00	1
Slotted weight, 1 g, natur.colour	03916.00	20
Portable balance Mod. LS2000	46002.93	1
Barrel base	02006.55	4
Support rod -PASS-, square, $l = 400$ mm	02026.55	4
Right angle clamp -PASS-	02040.55	4
Connecting cord, $l = 1000$ mm, red	07363.01	4
Connecting cord, $l = 1000$ mm, yellow	07363.02	4
Connecting cord, $l = 1000$ mm, blue	07363.04	4
Connecting cord, $l = 2000$ mm, yellow	07365.02	4
Connecting cord, $l = 2000$ mm, black	07365.05	4

**Complete Equipment Set, Manual on CD-ROM included**  
**Newton's 2<sup>nd</sup> Law / Air track P2130301**



The distance travelled  $s$  plotted as a function of the time  $t$  ;  
 $m_1 = 10$  g,  $m_2 = 201$  g.

### Tasks:

Determination of:

1. Distance travelled as a function of time
2. Velocity as a function of time
3. Acceleration as a function of the accelerated mass
4. Acceleration as a function of force.