

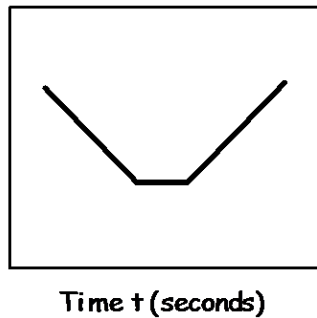
Sonic Ranger [Activity]

To some extent, this is a high-tech version of "Go! Go! Go!" in which the computer plots the graph. Sonic ranging has revolutionized the pedagogy for graph interpretation. Students making real time measurements and seeing the graphical representation of their own motions on a monitor are truly remarkable (where were these when we were students?).

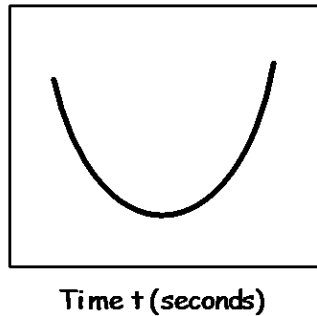
Answers to Procedure Questions

1. Remain at rest.
2. Move away from the sensor (slowly).
3. Move away from the sensor (more quickly).
4. Move toward the sensor, slowing down as you approach it.

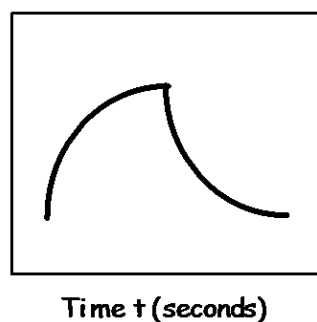
5.



6.



7.



Answers to Summing Up Questions

1. Forward motion results in an upward (positive) sloping graph. Backward motion results in a downward (negative) sloping graph.
2. Slow motion results in a line with a shallow slope, fast motion results in a line with a steep slope.

3. First segment: speeding up, second segment: moving forward with constant speed, third segment: slowing down, fourth segment: at rest, fifth segment: moving backward with constant speed.