$\qquad$ Date: $\qquad$ Period: $\qquad$
Acceleration

- Galileo developed the concept of $\qquad$ in his experiments with inclined planes.
- Galileo defined acceleration as the rate of change of $\qquad$ .
- Acceleration $=$ $\qquad$ $\mathrm{a}=$ $\qquad$

- There are three ways a velocity can change

1) Increase velocity ( $\qquad$ _)
2) Decrease velocity $\qquad$ _)
3) Change directions $\qquad$ _)

- All three of these changes in velocity are forms of $\qquad$

1. A car's speed increases from $30 \mathrm{~km} / \mathrm{hr}$ to $60 \mathrm{~km} / \mathrm{hr}$ in 5 sec . What is its acceleration?
2. A runner starts from rest and reaches a speed of $6 \mathrm{~m} / \mathrm{s}$ in 2 sec . What is his acceleration?
3. A car starting from rest reaches a speed of $40 \mathrm{~km} / \mathrm{hr}$ in 2 sec . What is its acceleration?
4. A car traveling $60 \mathrm{~km} / \mathrm{hr}$ stops in 3 sec . What is its deceleration? (Negative acceleration)
5. A car starts from rest and reaches a speed of $125 \mathrm{~km} / \mathrm{hr}$ in 5 sec . What is its acceleration?
