RUNNING

Terminology:

“Stride” = 1 complete cycle. For instance: left foot takeoff to next left foot takeoff.

“Step” = half a cycle. For instance: left foot takeoff to right foot takeoff.

Goal: How to maintain the fastest possible running speed.

Each step consists of an airborne phase and a ground-support phase:
forces:

velocity (changes have been exaggerated):
Need to:

- 1: minimize braking force
- 2: maximize propulsive force
What to do for optimum results in sprinting:

- active landing → minimizes braking force

- extend support leg fully backward → maximizes propulsive force

- lift knee of non-support leg → maximizes propulsive force

- swing arms hard, in alternation with the legs → maximizes propulsive force

- avoid bouncing too high in each step → maximizes propulsive force and minimizes braking force
Another important factor: “relaxation”