

# 2024 Ph H1 Q2

**Section:** Our Dynamic Universe

**Topic:** Motion, Equations and Graphs

---

## Question Summary

A ball is thrown vertically upwards and returns to its starting position.

Which **s–t graph** (A–E) shows this motion?

Ignore air resistance.

---



**Final Answer:**

**A**

---

## Working

- Displacement increases to a maximum (at the top) then decreases symmetrically.
  - Graph must be a **smooth curve** rising and falling.
  - **A** is the only correct option.
- 

## Quick Tips

- Vertical motion under gravity produces a **parabolic** s–t curve.
  - Highest point = zero slope on s–t graph.
-