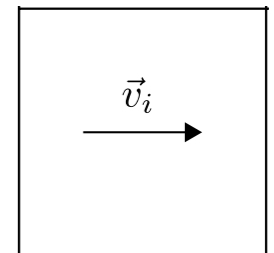
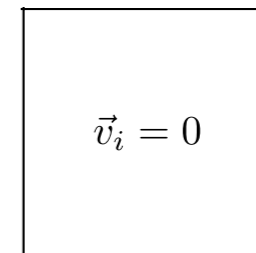
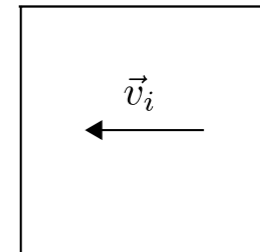
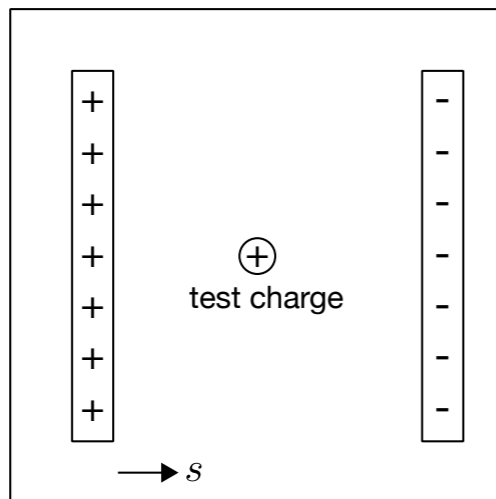


Review - Field & Energy

- For **each** charge setup:

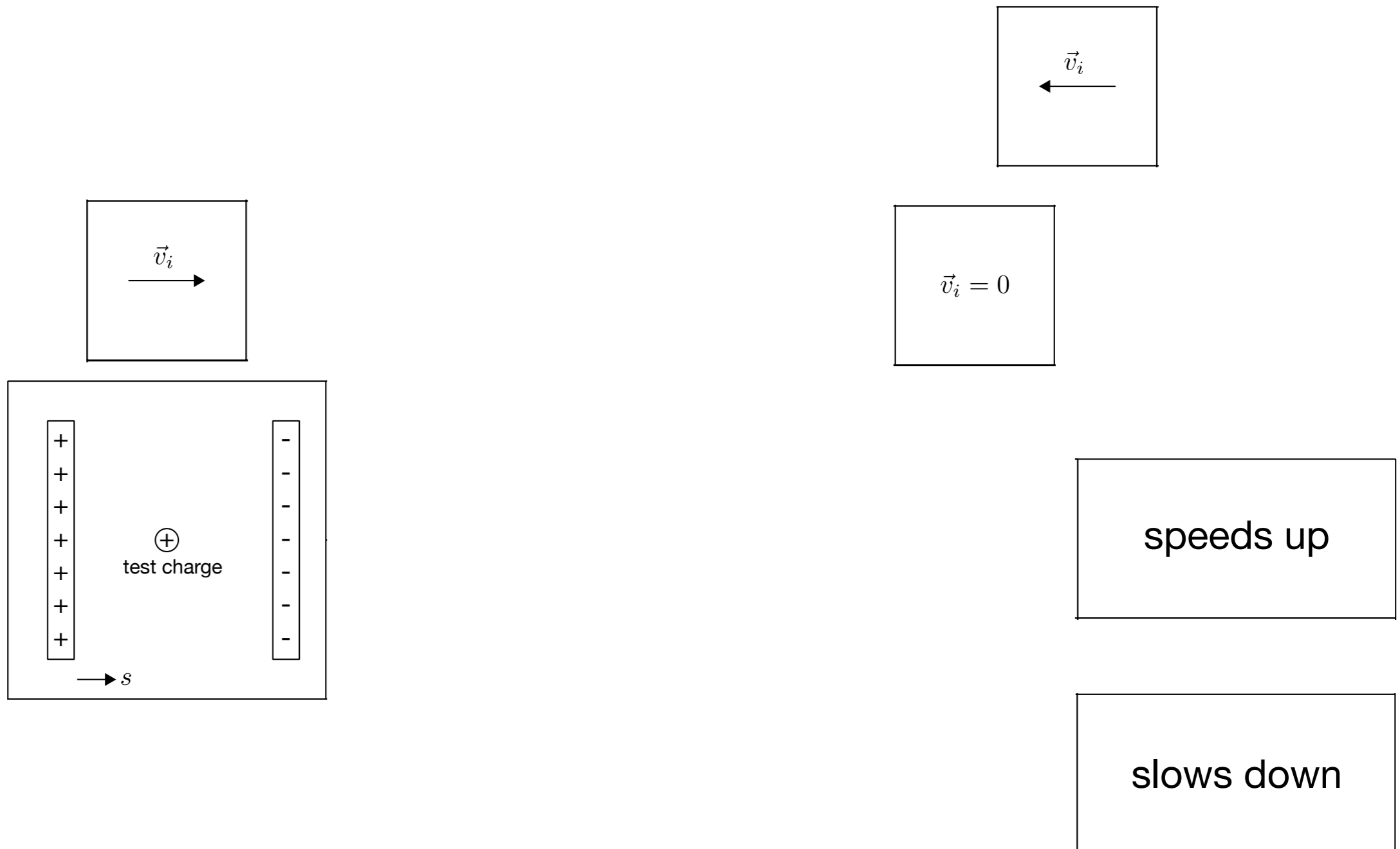


speeds up

slows down

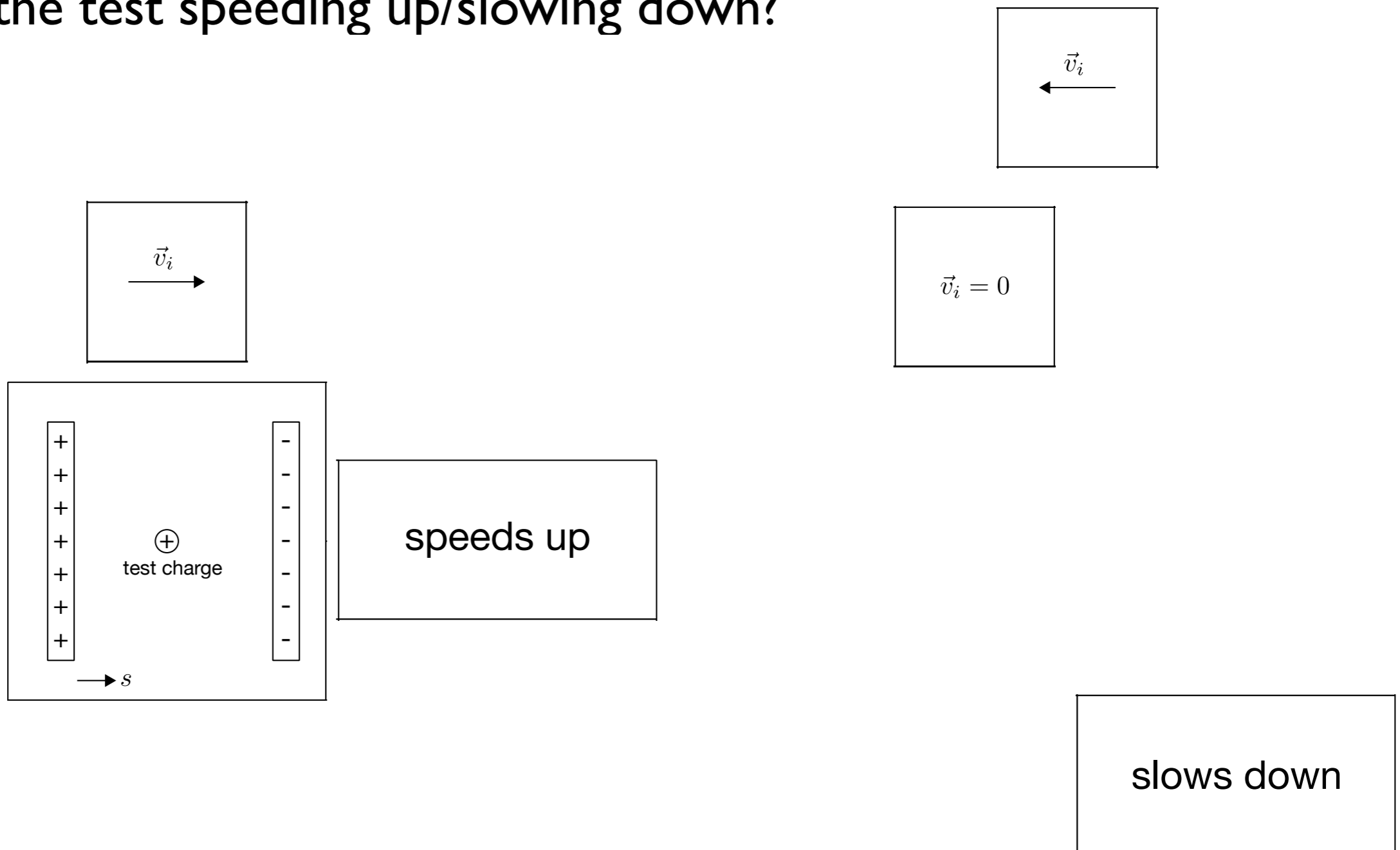
Review - Field & Energy

- For **each** charge setup:
 - Choose **one** initial velocity



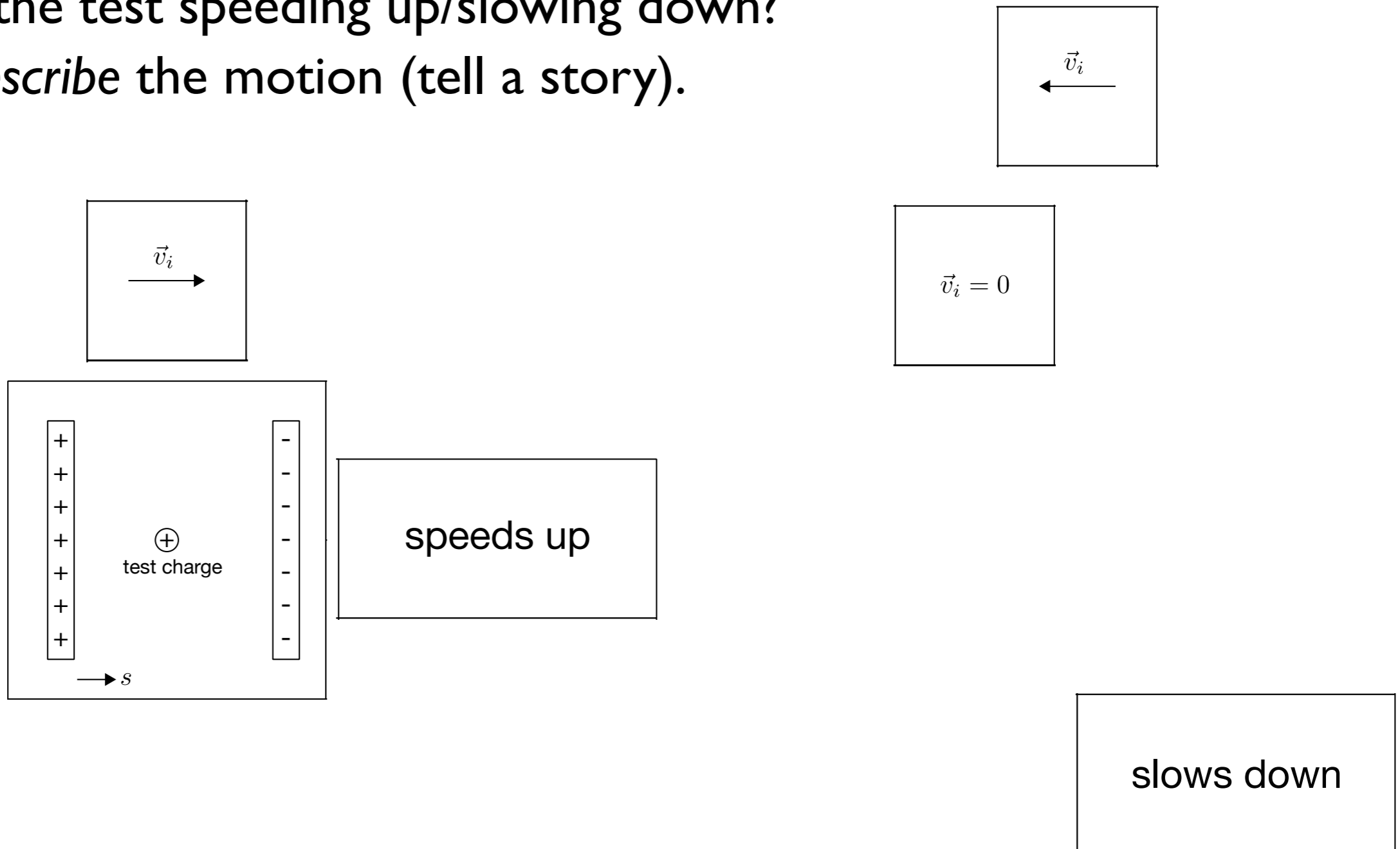
Review - Field & Energy

- For **each** charge setup:
 - Choose **one** initial velocity
 - Is the test speeding up/slowing down?



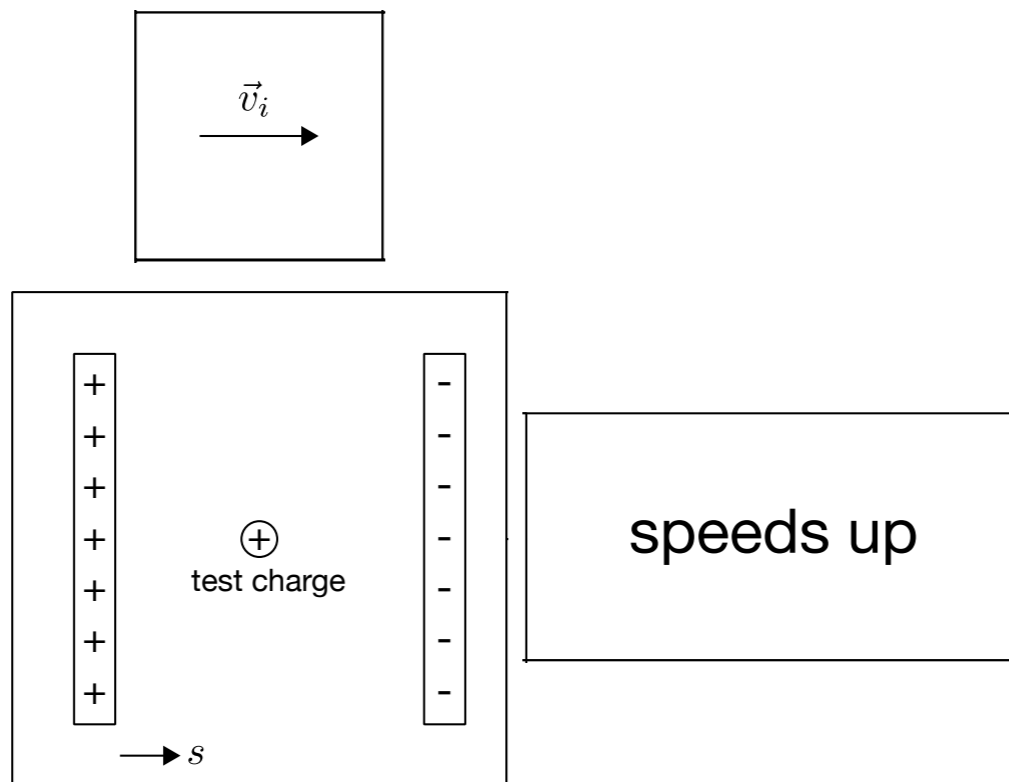
Review - Field & Energy

- For **each** charge setup:
 - Choose **one** initial velocity
 - Is the test speeding up/slowing down?
 - *Describe* the motion (tell a story).



Review - Field & Energy

- For **each** charge setup:
 - Choose **one** initial velocity
 - Is the test speeding up/slowing down?
 - *Describe* the motion (tell a story).

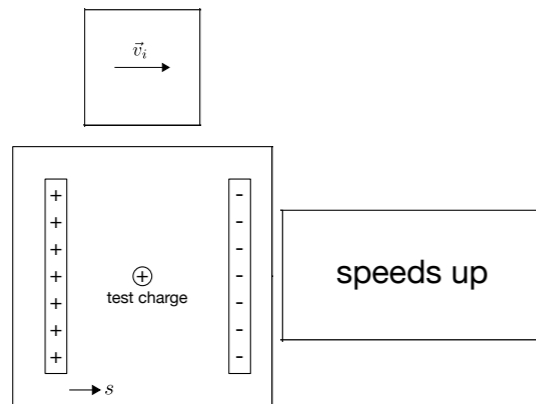


speeds up

A large red-bordered box contains three diagrams of velocity vectors in boxes. The top diagram shows a horizontal arrow pointing to the left, labeled with the vector \vec{v}_i . The middle diagram shows the text $\vec{v}_i = 0$. Below these diagrams is the text "Set aside Extra cards" in bold. At the bottom right of the box is a separate box containing the text "slows down".

Review - Field & Energy

- From your additional cards:
 - Choose the appropriate cards for **each** situation. (there will be cards leftover!)



x 4

Group cards here

Review - Field & Energy

- Switch tables.
 - Look over the cards.
 - Come up with 3 questions for other group.
- Now discuss!

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?
 - What depends on **type** of **test** charge?

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?
 - What depends on **type** of **test** charge?
 - What depends on **initial velocity** of test charge?

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?
 - What depends on **type** of **test** charge?
 - What depends on **initial velocity** of test charge?
 - What are the **connections** between graphs?

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?
 - What depends on **type** of **test** charge?
 - What depends on **initial velocity** of test charge?
 - What are the **connections** between graphs?
- Questions?

Review - Field & Energy

- Wrapup:
 - What depends **only** on **source** charge?
 - What depends on **type** of **test** charge?
 - What depends on **initial velocity** of test charge?
 - What are the **connections** between graphs?
- Questions?
- Put **all** cards (& clips) back in the bag

Review - Field & Energy

The image displays four distinct setups on a wooden surface, each illustrating the relationship between electric fields, potentials, and energy for different charge configurations and test charge motions.

- Setup 1 (Leftmost):** A positive test charge (+Q) moves to the right (s) in the field of another positive charge (+Q). The test charge **speeds up**. The work done by the field is $W_{\text{field}} > 0$. The potential energy U decreases, and kinetic energy K increases. The electric field E is shown as a curve that decreases with distance s . The potential V and potential energy U are also shown as curves that decrease with distance s .
- Setup 2:** A negative test charge (-Q) moves to the right (s) in the field of a positive charge (+Q). The test charge **slows down**. The work done by the field is $W_{\text{field}} < 0$. The potential energy U increases, and kinetic energy K decreases. The electric field E is shown as a curve that decreases with distance s . The potential V and potential energy U are also shown as curves that decrease with distance s .
- Setup 3:** A positive test charge (+Q) moves to the right (s) between two parallel plates (60V on the left, 0V on the right). The test charge **speeds up**. The work done by the field is $W_{\text{field}} > 0$. The potential energy U decreases, and kinetic energy K increases. The electric field E is shown as a constant horizontal line. The potential V and potential energy U are shown as linear functions that decrease with distance s .
- Setup 4 (Rightmost):** A negative test charge (-Q) moves to the right (s) between two parallel plates (60V on the left, 0V on the right). The test charge **slows down**. The work done by the field is $W_{\text{field}} < 0$. The potential energy U increases, and kinetic energy K decreases. The electric field E is shown as a constant horizontal line. The potential V and potential energy U are shown as linear functions that decrease with distance s .