



## ENGINEER A WALKING PAPER HORSE

### PHENOMENON:

Gravity and force can cause objects to change from potential energy into kinetic energy.

### CHALLENGE:

Engineer a paper horse that walks on its own down an incline.

### INSTRUCTIONS:

- On the sheet of construction paper, use the ruler to draw the dimensions of the horse template.
- Cut the around the perimeter of the rectangle and on the dotted lines. Then cut the small triangles off the four corners.
- Bend the 'legs,' 'tail,' and 'head' so that the rectangle looks like a horse.
- Build your ramp and place your horse at the top. Give it a small push and see if it walks!
- If your horse doesn't move, how can you bend the paper so that it starts walking? Is there too much or not enough friction on your ramp?

### BEHIND THE SCENES:

The horse moves by rocking back and forth on the curved feet like a rocking chair. As the horse rocks to the left, the feet on the right are lifted from the ramp and move forward. The same thing happens to the left feet when the horse rocks to the right.

