

Forces in Action with Nova the Owl

Learning objective: To identify and illustrate different types of forces, including friction, air resistance, and gravity, acting on moving objects.

Use your scientific knowledge to complete the scene below. Follow the drawing steps and use the word bank to label the forces acting on the objects.

Draw: Draw a landscape scene featuring a grassy hill. Include a person on a bicycle moving down the hill. Use clear arrows to show the direction of movement and the opposing forces. Use a clean, educational style with space for labels next to the arrows. Include Nova the Owl perched on a nearby branch observing the scene.



Label words: Gravity · Friction · Air Resistance · Surface · Upward Force

Steps:

1. Step 1: Draw a cyclist riding a bike down a small hill. Label the arrow showing the force pulling the cyclist towards the ground.
2. Step 2: Draw an arrow showing the force acting between the bicycle tyres and the road surface. What is this force called?
3. Step 3: Draw an arrow pushing against the cyclist as they move through the air. Label this force.
4. If the cyclist wants to slow down, explain which force they need to increase by using their brakes. How

does this happen?

5. Nova the Owl is watching from a tree. If Nova drops a feather and a stone at the same time, which one will land first and why?