

Forces in Action: The Playground Physics Lab

Learning objective: To identify and illustrate forces such as air resistance, friction, and gravity acting upon objects in motion.

Use your knowledge of forces to create an annotated diagram of Max the monkey playing in the park. Follow the steps below to complete your scientific drawing.

Draw: Create a clear, scientific diagram showing Max the monkey on a playground slide. Use a sharp pencil for clean lines. Include an arrow pointing downwards from Max to represent gravity, and a wavy arrow pointing against his direction of movement to show friction. Ensure the slide is drawn at an angle to demonstrate the effect of a slope on movement.



Label words: Gravity · Air Resistance · Friction · Upthrust · Surface · Acceleration

Steps:

1. Step 1: Draw Max the monkey sliding down a playground slide. Label the force of gravity pulling him towards the ground.
2. Step 2: Draw a rough texture on the slide and label the force of friction that slows Max down as he moves.
3. Step 3: Draw Max jumping from the slide to the ground. Label the air resistance acting against his body as he falls.

4. Step 4: Explain in your own words why Max would slide faster if the surface of the slide was made of polished metal rather than eraser.
5. Step 5: If Max were to land in a shallow puddle, name one additional force that would act on him as he splashes into the water.