

Task:

What is the magnitude of momentum of a 22 g sparrow flying with a speed of 8.1 m/s?

Solution:

$p = mv$, where

p – momentum,

m – mass,

v – velocity

Given:

$$m = 22 \text{ g} = 0.022 \text{ kg},$$

$$v = 8.1 \text{ m/s}$$

$$p = mv = 0.022 \text{ kg} \cdot 8.1 \frac{\text{m}}{\text{s}} = 0.1782 \frac{\text{kg} \cdot \text{m}}{\text{s}}$$

Answer:

$$p = 0.1782 \frac{\text{kg} \cdot \text{m}}{\text{s}}$$