Falling Objects and Terminal Velocity

Apparatus

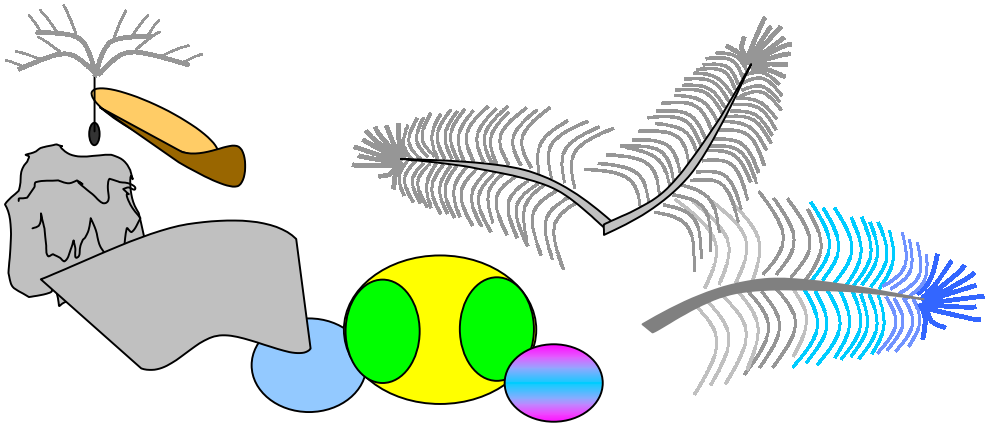
sheets of paper, flat and crumpled into balls, marbles, feathers, interesting seeds, some balls of the same size and surface texture but different masses, e.g. hollow ping pong ball and one filled with sand

Action

The students examine the objects and predict which will fall fastest. They then drop the objects and check their predictions.

The Physics

The greater the drag on the object the sooner it will reach terminal velocity. Greater surface areas give greater drag, for example a piece of paper held flat and dropped will fall more slowly than one held vertically and dropped. The two similar balls with different masses should fall at the same rate, as they have the same surface characteristics and hence should experience a similar air resistance.



Accompanying sheet

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Examine the different objects on display.

Which ones will reach terminal velocity soonest? Why?

Drop the various objects and see what happens.