

Falling

Apparatus

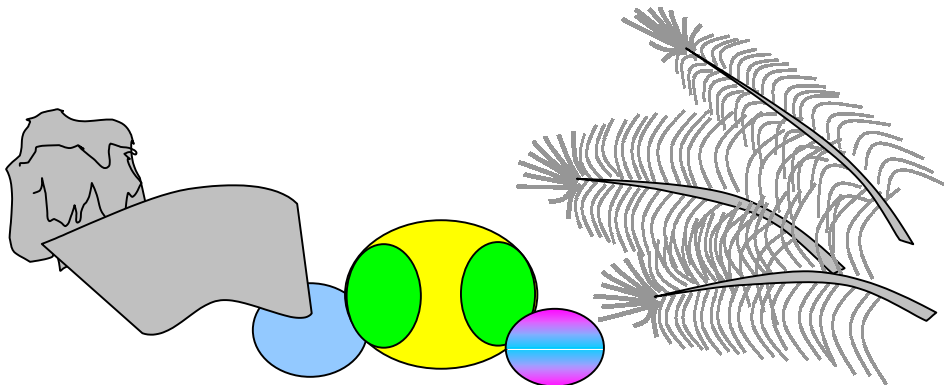
objects, such as marbles, bits of paper, balls, which can be dropped

Action

The students drop the objects and consider what forces are acting, and what work is done on the objects as they fall.

The Physics

As the objects fall they gain kinetic energy and lose potential energy. Work is done on the objects by gravity. Objects which experience a large drag, such as feathers and pieces of paper, fall more slowly. These objects have a large frictional force (air resistance) acting on them, which also does work on the objects, but does negative work – it decreases their kinetic energy. The objects are doing work on the air. The net work done is the sum of the work done by the frictional forces and gravity.



Accompanying sheet

Falling

What energy changes occur when you drop an object?

What work is being done, and on what?

What force or forces are doing the work?