**Conservation of Energy**

Use your understanding of energy conservation to calculate the following.

g = 9.8 ms-2

1. A 2 kg concrete block is dropped from a height of 3 m.
   1. What is its gravitational potential energy just before it is dropped?
   2. What happens to the gravitational potential energy of the block as it falls?
   3. How much kinetic energy does the block have just before it reaches the ground?
2. A 57 g tennis ball is dropped from the height of 5 m.
   1. What is its gravitational potential energy just before it is dropped?
   2. What happens to this gravitational potential energy as the ball falls?
   3. How much kinetic energy does the ball have just before it reaches the ground?
3. A 0.45 kg basket ball is dropped from a height of 3.5 m.
   1. How much kinetic energy does it gain as it falls?
   2. What is its speed just before it hits the ground?
4. A 0.43 kg soccer ball is kicked 9 m into the air. What is its speed just before it hits the ground?
5. A 0.162 kg cricket ball is hit 16 m into the air. What is its speed just before it hits the ground?\

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