Results:

Time taken for 50g weight to fall: (Stopwatch)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total weight of kart (kg) | Trial 1 (sec) | Trial 2 (sec) | Trial 3 (sec) | Average (sec) |
| 0.600 | 1.38 0.005 | 1.38 0.005 | 1.35 0.005 | 1.37 0.015 |
| 0.650 | 1.43 0.005 | 1.44 0.005 | 1.44 0.005 | 1.44 0.015 |
| 0.700 | 1.59 0.005 | 1.65 0.005 | 1.50 0.005 | 1.58 0.015 |
| 0.750 | 1.78 0.005 | 1.75 0.005 | 1.75 0.005 | 1.76 0.015 |
| 0.800 | 1.84 0.005 | 1.85 0.005 | 1.75 0.005 | 1.81 0.015 |
| 0.850 | 1.88 0.005 | 2.03 0.005 | 1.81 0.005 | 1.91 0.015 |

Time taken for 50g weight to fall: (Motion Detector)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total weight of kart (kg) | Trial 1 (sec) | Trial 2 (sec) | Trial 3 (sec) | Average (sec) |
| 0.600 | 1.20 0.005 | 1.00 0.005 | 1.00 0.005 | 1.07 0.015 |
| 0.650 | 1.05 0.005 | 1.10 0.005 | 1.00 0.005 | 1.05 0.015 |
| 0.700 | 1.05 0.005 | 1.25 0.005 | 1.05 0.005 | 1.12 0.015 |
| 0.750 | 1.10 0.005 | 1.25 0.005 | 1.25 0.005 | 1.20 0.015 |
| 0.800 | 1.60 0.005 | 1.05 0.005 | 1.25 0.005 | 1.30 0.015 |
| 0.850 | 1.15 0.005 | 1.35 0.005 | 1.40 0.005 | 1.30 0.015 |

Average Acceleration Table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Total weight of kart (kg) | Trial 1 (m s2) | Trial 2 (m s2) | Trial 3 (m s2) | Average (m s2) |
| 0.600 | 0.539 0.0005 | 0.562 0.0005 | 0.880 0.0005 | 0.660 0.0015 |
| 0.650 | 0.496 0.0005 | 0.765 0.0005 | 0.968 0.0005 | 0.743 0.0015 |
| 0.700 | 0.914 0.0005 | 0.763 0.0005 | 0.767 0.0005 | 0.815 0.0015 |
| 0.750 | 0.461 0.0005 | 0.786 0.0005 | 0.617 0.0005 | 0.621 0.0015 |
| 0.800 | 0.632 0.0005 | 0.794 0.0005 | 0.583 0.0005 | 0.670 0.0015 |
| 0.850 | 0.550 0.0005 | 0.571 0.0005 | 0.482 0.0005 | 0.543 0.0015 |