

## Some Questions to Think About - 1

How tall is the room doorway in meters and centimeters?

What is the approximate weight of the teacher in kg?

What will happen if we simultaneously drop a marble and a book?

What will happen if we simultaneously drop a book and a sheet of paper?

What will happen if we sheet of paper on top of a book?

What will happen if we simultaneously drop two objects, one with no horizontal motion and the other with horizontal motion?

Sketch the path of a cannonball sent at a 45 degree angle?

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Sketch the path of a styrofoam ball sent at a 45 degree angle?

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Why is it OK to jump down 50 cm onto a cement slab, but not 400 cm?

Does the period of a pendulum depend on the mass of the weight?

Does the period of a pendulum depend on the angle of swing for small angles?

Does the period of a pendulum depend on its length?

Why is a pendulum clock particularly useful and what is the purpose of its weights?

What does a child do to pump a swing without being pushed? This is not easy. You may need to go to a playground to really understand it.

As a pendulum on the earth swings at the north pole for 24 hours, what does it appear to do from the point of view of a person sitting on the ground?

As a pendulum on the earth swings at the equator for 24 hours, what does it appear to do from the point of view of a person sitting on the ground?

Coupled pendulums are pendulums of equal length that are weakly connected together. What happens if one is still and the other is started swinging?

What happens if a long line of many coupled pendulums is built, and one in the middle is started swinging?

What happens when rolling objects of identical shape but differing mass roll are raced?

What happens when a rolling large marble is raced against a small marble and a steel ball bearing?

What happens when a solid ball is raced against a hollow ball?