

## Week 9 Mass

### Situations 2 & 3

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**1 kilogram (the stuff) weighs 10 N (pull of gravity)**

#### SITUATION #2

Which way does gravity pull things?



Pick it up the 1 kg and hold it steady in your hand. How much force do you have to use to hold it at rest?

Is that a weight or a mass issue?

Now put it on the table and move it side to side quickly with your hand. Does it feel like nothing or do you feel some resistance?

You are feeling how difficult it is to speed up and slow down the 1 kg. Is that due to its mass or weight? (Remember gravity doesn't act from side to side.)

#### SITUATION #3

If the ISS gets hit by some space junk in free fall orbit (zero-g conditions), does it still do damage? (If you're not sure, check out the "Space Debris" link at [mrmont.com](http://mrmont.com))

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