

# Why do astronauts wear a flying suit ?

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Hypothesis : The suit astronauts wear protects the astronaut against micrometeorites.

Research and justification of the hypothesis :

There are micrometeorites in space but it seems that with their flying suits, astronauts are immune from the danger they represent.

## Experiment

Protocol :

List of materials:

- Tissue
- Sand
- Marbles/Golf ball
- modelling clay
- aluminium
- a ruler

We dropped a ball of 100 grams onto sand. Then observed the impact of the fall on it, which represents the human fibre (that is the control experiment).

Then we dropped the same ball at the same height on the sand covered with a combination of 10 layers of tissue, aluminium and modelling clay. We again observed the impact by measuring the depth in the sand.



Results : On the first throw, the depth of the impact measured 0.5cm. When we placed the “astronaut suit” on the sand we noticed the impact’s depth measured 0.2cm.

Interpretation : Considering the fact that with the “astronaut suit” the impact was divided by two, we can definitely say that the astronauts’ suits protect them against the micrometeorites.

### Conclusion :

Technically, it would be incorrect to say we have proved our hypothesis because the results as satisfying as we hoped: Even with the tissue and the different layers supposed to protect the astronaut, there was still an impact. This is the weakness and the negative point of our experiment : The real astronaut’s suit is made with more than thirteen layers and some were impossible to represent in a classroom due to the material it is made with or even the system. But, in reality yes, of course the astronaut’s suit protects him from micro meteorites because if this was not the case then all astronauts exploring space would die from the impact of these micrometeorites on their bodies.

Bibliography : <http://www.astrosurf.com/luxorion/astronautique-combinaison-spatiale3.htm>  
<http://www.asc-csa.gc.ca/fra/educateurs/ressources/combinaison-spatiale.asp>