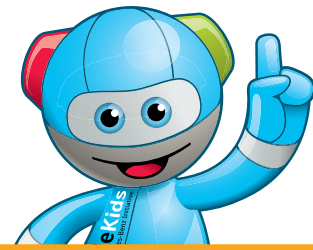


Why is it important to wear a bike helmet? (1)



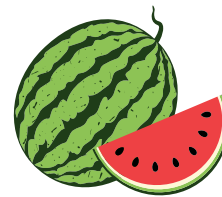
Bike helmet experiments:

We will find out in two experiments what sort of protection a bike helmet gives you. For example, we'll use watermelons or balloons filled with water to represent your head.



You'll need:

- 2 watermelons or balloons and water
- 1 bike helmet
- 1 plastic sheet to protect the floor



1

Experiment 1

You lift the watermelon/balloon up to chest level. This is about the same height as if you fell off your bike. Now you let go of the watermelon/balloon and let it fall onto the spread out plastic sheet.

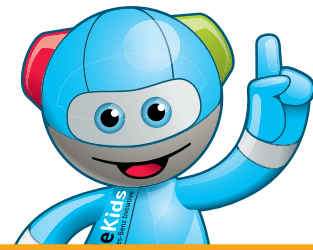
What do you think will happen to the watermelon/balloon?

- Nothing will happen to the watermelon/balloon because it hasn't far to fall.
- The watermelon/balloon will split.
- The melon/balloon will burst apart.

Now run the experiment and see what happens. Write your observation here:



Why is it important to wear a bike helmet? (2)



2

Experiment 2

You place the watermelon/water-filled balloon in the helmet you brought with you and buckle it up tightly. Now you drop it from the same height. Make sure that the watermelon/balloon lands on the helmet side.

What do you think will happen to the watermelon/balloon?

- The watermelon/balloon is sufficiently protected by the helmet and nothing will happen to it.
- The watermelon/balloon will burst.
- The watermelon/balloon will split slightly.


Now run the experiment and see what happens. Write your observation here:

Just like the watermelon/balloon, your head is protected by the bike helmet. Describe here why it is important to always wear a bike helmet:



Why is it important to wear a bike helmet?

- Info for teachers

Time required:  1 lesson

Target group:  Years 4 - 5 (Grade 3 - 4 in Germany) (same time as cycle proficiency training)

Educational background

In Germany, helmets are not mandatory for cyclists. Bike accidents without a helmet, however, can be devastating, especially for children: A considerable proportion of cyclists in an accident suffer serious and fatal injuries to the head area. The helmet helps avoid up to 80% of head injuries for particularly seriously injured people. It is therefore important to make children aware of the importance of wearing a helmet as early as possible. The “watermelon test” demonstrates this particularly impressively. Alternatively, this can be done with e.g. a balloon filled with water.

Possible lesson plan for Years 4 - 5 (Grade 3 - 4 in Germany)

It is also advisable to discuss the topic of bike helmets with the class as part of cycle proficiency training. As a rule, the pupils learn how to put on a bike helmet correctly. The presented experiment fits in at this point. It can be carried out with the whole class or in small groups.

For the experiment, the teacher needs to bring 2 watermelons (or alternative) and 1 bike helmet to school for each group. The size of the watermelon must be chosen in such a way that it fits inside the helmet. It is also advisable to bring a clean plastic sheet for protection. This will prevent the floor from getting dirty and you can still eat the watermelon with the children after the experiment. The children are told that the watermelon can act as a substitute for a head and a fall from a bike is going to be simulated. It is dropped from about chest height. Before conducting the experiment, the children guess what will happen to the watermelon. They can tick their chosen answers on the worksheet. Now their hypotheses are put to the test in the experiment.

They collect their findings on the worksheet. In a second experiment, the watermelon is now protected by the helmet; when the experiment is carried out, care must be taken to ensure that the helmet has the closed side facing downwards and lands like this on the ground, so that the watermelon is protected. Here too, guesses and findings are again collected on the worksheet.

The class then discusses together why it is so important to wear a helmet. Possibly, the teacher should also explain that a child’s head is, of course, not as delicate as a watermelon and will not burst open immediately in the event of a fall. It is nevertheless a sensitive part of the body (and the brain can easily suffer injuries and concussion) which we should absolutely protect as much as possible.

Skills to be acquired

- The pupils realise that the helmet can be a life insurance for them on their bike.
- They acquire methodological skills in scientific work by making and reviewing hypotheses.

Link to the video:

<https://www.mobilekids.net/en/media/1406>



Links to detailed teaching materials:

<https://www.mobilekids.net/en/downloads>

