

Physics

Delprov A2
engelsk version

Årskurs

9

Elevens namn och klass/grupp

13. Sunlight includes, besides visible light, parts as heat radiation and ultraviolet radiation (UV-radiation).

Your task is to:

Argue why it is important not to expose yourself to large amounts of sunlight.

Your argumentation has to have two arguments in two steps. You should start from your knowledge about heat radiation and UV-radiation.



14. Passive houses

The text is about passive houses.

Source: Miljönytta.se (website run by The Confederation of Swedish Enterprise).
Published 2008-09-15.

Passive houses

The basic idea of a "passive house" is that no traditional heating system is needed, for example from oil, wood or electricity. The energy is supposed to come from other heating sources like a fridge, a cooker, and computers, and by absorbing solar radiation. These heating sources have to be complemented by other steps minimising the heat loss from the building.

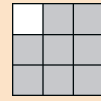
The heat loss from walls, doors, windows, and roof are small in a passive house.

But in our cold climate it is difficult to manage without heating. Therefore, the passive houses also have a heating system. It is also possible to use a heat pump taking heat from the outside air for heating the hot water and the house's air supply. The second solution is common in Germany where it is used in schools and offices.

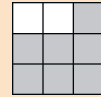
In Sweden, there are passive houses in for example Lindås outside of Gothenburg and in Glumslöv in Skåne. The 20 terraced houses in Lindås have an average energy consumption from heating, hot water, and household electricity of appr. 70 kWh per square metre and year. In Glumslöv, the projected energy consumption was 60 kWh/m² and year, which can be compared to the demands from Boverket regarding new houses which is 110 kWh/m² per year.

Your task is to:

a) Find scientific information in the text and state an advantage with passive houses.



b) Working from the text, reason about the text's trustworthiness from two different perspectives of source criticism.

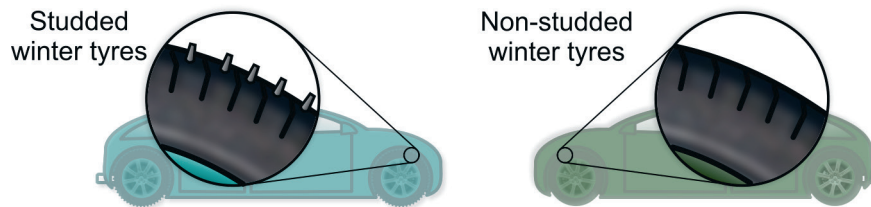


a)

b)

15. Studded or non-studded winter tyres?

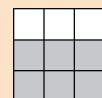
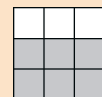
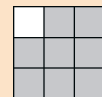
In Sweden, cars must use winter tyres from December 1st to March 31st. Winter tyres can be studded or non-studded. Depending on tyres used, from a scientific perspective, there are both positive and negative consequences.



Facts about studded tyres	Facts about non-studded tyres
<p>Studded tyres</p> <ul style="list-style-type: none"> • give the car a fuel consumption of appr. 0.85 litres/10 km • tear up small particles from the asphalt, making the content of particles appr. 20 microgram/cubic metre of air • have a braking distance on ice at low speed of appr. 40 metres • cause an outside sound level of appr. 73 decibels • fray with appr. 2 mm for every 1000 km. 	<p>Non-studded tyres</p> <ul style="list-style-type: none"> • give the car a fuel consumption of appr. 0.80 litres/10 km • tear up small particles from the asphalt, making the content of particles appr. 2 microgram/cubic metre of air • have a braking distance on ice at low speed of appr. 50 metres • cause an outside sound level of appr. 68 decibels • fray with appr. 3 mm for every 1000 km.

Your task is to use the information from the fact box and write a text where you shall:

- Take a stance for dubbed or non-dubbed winter tyres.
- Formulate two arguments in two steps arguing for the tyre you have chosen and formulate one argument in two steps arguing against one of the two tyre types.
- Be objective and use relevant scientific concepts in the arguments.



My stance is:

Write your text:



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