

Where is the snow?

Just like almost every evening Lara's mother enquires over dinner about today's school. Lara says that they have discussed climate change today. Her father interrupts the conversation as he wants to discuss the planned ski trip with them. Lara finds that surprising, what has that got to do with it? Her father explains that it is getting harder and harder for the low lying ski regions. Because of the increasing temperatures the snow melts more quickly. Her mother thought there were snow cannons to look after that. Moreover she had also heard of snow farming. There people transport large piles of snow to certain places, press them down and cover them in tarpaulin sheets so that they do not melt. Nevertheless mother doesn't want to do without the ski holiday. Father asks mockingly if it is also used for bacteria so the snow doesn't melt so easily and Lara began to laugh. Her father explains that it is no joke and that these bacteria are still strictly forbidden, but that people apparently do everything in order to rescue the ski regions. Her mother vehemently denies it and talks of her hometown which lives on winter tourism. The people earn money from the tourists through skiing, accommodation, shopping and eating. For them it is bad that for example tourists from Russia and the Netherlands can fly to Thailand at a reasonable price and no longer take their winter holiday in Austria, because there is too little snow. Therefore using technology is good. The father however emphasises once again how bad these new technical methods are for the environment. Plants can no longer protect themselves from the cold, when the bacteria penetrate them. Snow cannons use a large amount of water and energy. Moreover the land must be more strongly levelled off for the snow-farming and that increases during the rest of the year the probability of land-slides. He understands that many villages live off tourism but have had to adapt to global warming. Every region should consider what, with the exception of the ski slope, they would have to offer, and perhaps whether they could offer tourists good alternatives to skiing and snowboarding. These would include indoor opportunities such as indoor climbing, hiking or ski tours. The mother thinks, "ski hiking instead of skiing, who wants to do that? I have another idea..."

Are towns changing?

Alexander is picked up after school by his father. They go to the hospital to visit their grandpa, who has had heat stroke. The father says to himself: "this is all well and good, what Cologne as a city does for climate protection. Just cities will experience extreme heat in the summer. If then a heatwave comes, whole solar heating systems, cycle paths and houses that use little energy cannot help us." Alexander doesn't understand him. For him it is logical that people would rather do without the car if there are safe and good cycle paths. Fewer cars mean fewer emissions, more cyclists and better air. Things with his grandfather occupy him much more and therefore Alexander asks if he could also have heat stroke. The father thought that in principle it could affect everyone, but that high temperatures are very exhausting above all for older and sick people, and little children. Alexander is a little relieved that he doesn't belong to the risk group.

They arrive at the hospital. He is pleased to see his grandfather and asks him where he suddenly became unconscious. The grandfather explains that he was walking and afterwards wanted to go shopping, but couldn't remember anymore. The doctor told his father that grandfather was lucky. Since 2004 in Germany there has been a heat warning system that informs the health authorities, old people's homes and care homes.

The grandfather shows Alexander a leaflet. It states that you should drink a lot, look for shaded areas and best of all that you should not undertake any strenuous activities outside. The doctor explains that she has spent a lot of time on this topic in recent years. Cologne is adapting to the increasing temperatures. In town there are for example more parks, shade, fountains, drinking fountains or green roofs and facades. All of these cool down the heated town. The grandfather adds that they have already considered visiting an old people's home on the edge of town because of the cooler temperatures. But it is much too far away and he would then be completely isolated.

Alexander considers: More parks would naturally be cool and more fountains and drinking fountains too, and a heat warning system for old people, but if it becomes hotter and hotter, does that really suffice? He would find it much better if ...

Can you protect yourself from floods?

Timmy's mother has been trying to call her sister all morning. She desperately wants to hear news from York. Timmy's aunt, uncle and cousin live there. Over recent days in the north of England it has rained as much as in the whole month, there are some areas that have been completely flooded.

Timmy's mum hopes that her sister was prepared. It is important to close the doors and windows, place electrical devices higher up and place items of value in a safe place. Best of all you seal the walls and floors, but his mother assumes she probably hasn't got enough money for these protective measures. Timmy remembers the front door of his aunt had a special protection in which you can place planks so that the floodwater cannot get into the house. Finally her mobile rang. The aunt said that they were all well. Last year they had registered for the flood warning system and from that they are alerted by SMS text. It is good that they have this because in Great Britain heavy rainfall and flooding will probably increase due to climate change. Timmy and his mother are relieved. His aunt says that she has protected the house from flooding, but not her business near the river. In the cellar there is now a lot of water which she will have to pump away. Normally there are some pumping stations at the river in order to divert the water when it rises high. However the machines broke down due to overheating and as a result the flood barriers overflowed.

Timmy's mother is annoyed because the government has spoken a lot about climate change and flood protection and now this still happened. She asks if the disaster protection works and the aunt responds that many fire and rescue services such as soldiers are in place helping. They are pleased about the helping hands who are trying with sand-bags to prevent the dykes overflowing or to rescue people with rubber dinghies. In the next room the television is on and Timmy's mother hears the news that the government wants to review the flood measures. In the end Timmy's aunt says that a functioning flood prevention scheme costs a lot of money. Without functioning pumps, dykes and drains to divert the floodwater, such catastrophes as this will happen again and again. Timmy wants to speak with his cousin Mark, and when Mark came on to the phone he said ... "this whole chaos has its positive sides too, because ..."

Who cares about coastal protection?

For several weeks Anne's teacher has been planning a trip to deal with the question of how to protect the coast from flooding. Anne hates the subject of geography as much as history and cannot imagine anything more boring than visiting some places on the coast. She would much rather go with her best friend and classmate Sofia to the cinema.

An engineer is already waiting for them at the first stop at the harbour. He told the class that the port, where it was possible was consciously built 2 metres above sea level, to protect it from the floods. He says: "in pure technical terms you can now do a lot to protect the coast from storm floods. There are locks, you can raise dykes and breakwaters and renew jetties. All are important to protect the infrastructure from flooding. During the last great storm flood the underground in Copenhagen was almost damaged." Sofia says to Anna "We've been lucky there, otherwise it would take an eternity to get to the cinema."

The second stop leads them to a beach. An environmentalist makes them aware of the dunes, which offer a natural coastal protection. She tells them that rising sea levels lead to erosion, that also the land will be separated from the water and therefore more and more frequently new sand must be spread out.

The last stop leads them to a settlement quite near to the sea. A town planner tells them that climate change has an impact on where and how houses will be built in the future. For example no more new buildings are allowed to be built within around 300 metres of the sea, in so called risk areas and you have to strongly set yourself apart in the future with innovative construction methods such as building on stilts. Anna asks "what happens with the people who already live quite close to the coast?" The city planner said that these people in the long run probably would have to move. Anne is concerned, because she lives in the neighbouring village.

The teacher tells them that for a long time the government only participated in protecting places that are of national interest. In all other cases the landowners have to protect themselves from flood water. It has also become more and more difficult because many insurers will no longer pay for this damage. Anne asks if these settlements are of national interest. The teacher answers "I cannot imagine that, more like places such as nature reserves, cultural heritage or state ownership." Anne no longer understands the world, and thinks something has to be done ...