**Slide 1:**

Nicolaj:

Hi. My name is Nicolaj, and this 🡪 is Petter.

For our project we have chosen to apply the heat equation on a heat sink. A heat sink is a heat exchanger with the purpose of transferring heat generated by a mechanical or electronic device. It is commonly used in computers to cool down the CPU or GPU together with a fan.

**Slide 2:**

Petter:

We’ve chosen to look at four different geometries. As you can see there are two with four fins and two with eight, where the two on the bottom are twice the height of the top on the top. The surface of number two and number three are the same. 🡪 @ picture

Because of this we should ba able to compare the heat flux between the two.

**Slide 3:**

Nicolaj:

For the boundary conditions we have constant Dirichlet boundary conditions of 80 degrees Celsius on the bottom of the heat sink, and for the rest of the boundary we actually have Robin boundary condition because the heat flux from the surface of the heat sink to the surrounding air is dependent on the temperature of the surface itself.

**Slide 4:**

Nicolaj:  
You can see what I´m talking in this equation up in here.

* Stationary
* Poisson
* Conductivity constant (material dependent)
* Heat transfer coefficient (material dependent)
* Minus sign