# **Instruction**

1. **Wrap an ice-cube in different ways. Even if the result is intuitive - make notes and photos nevertheless. Try to capture even small differences. Use your phone to document.**

* Don’t wrap it at all and watch, it melting
  + in the sun
  + under a warm light
  + on the electric heating
  + on a table
* 2. Wrap it with a piece of paper
* 3. Wrap it in -aluminum-sheet
* 4. Wrap it with different material. Dress it if you like 😏

1. **Transfer your observations into reality:**

* efficient heating and loss of heat by tilted windows
* efficient air-exchange by opening doors and windows for short time, but simultaneously
* well insulated house/walls - not insulated walls

Write down what you think. Where are problems? Do you find solutions by asking others, search online? Think of your own experiences, shivering in cold rooms. When was it and where?

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# **Worksheet: Your own observations and notes**

1. Draw a table(like suggested) and document time/results/left-over of the ice-cube (in cm - estimated)

| ice-cube mode | waiting-time | result (estimated in cm) |
| --- | --- | --- |
| ice-cube blanc |  |  |
| ice-cube wrapped in a piece of paper |  |  |
| ice-cube wrapped in aluminum-sheet |  |  |
| ice-cube “dressed” creatively |  |  |

1. Write some sentences about the transfer - exchange with your partner, ask the headmaster of the school about the state of insulation of the windows and overall insulation of your school. Discuss with your family at home: Does insulation count - for saving money/energy? Do you think there is a great reduction of carbon-dioxide-emission of you insulate windows/walls…

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# **Deepening**

* Test the loss of heat with hot water, you have poured into two equal cups.
* What do you think about belly-free fashion in winter?
* Research for types of homes that are well insulated
* Watch the video and think not only about the advantages - but discuss the inequality: Who can afford insulating his/her house in order to save costs and carbon-dioxid.

# **Action!**

* You can ventilate regularly - but do not leave windows tilted in hope of efficient “air-exchange” .
* Dress warmly at home in winter:
  + Instead of a T-shirt and shorts, wear a warm jumper and long trousers.
  + Warm cuddly socks keep your feet warm.
  + wear one extra pullover if you feel too cold
* put your feet on a hot water bottle at home when you are cold. It takes energy to heat the water, but then it warms you for a few hours. Better than turning up the thermostat on the heating!
* Move in between! For example, hopping on one leg - 1 minute each - not only gets you out of breath but also gets your circulation going. Then you will feel less cold!