

## Lecture on sustainability, by Astrid Sinnes, 26/09/2017

### Introduction

Why is it important to consider how science education can contribute to a sustainable future?  
What competences are necessary to meet the challenge of sustainability?  
What type of education is needed to develop these competences?

**Definition of sustainable development** : development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

3 dimensions of sustainable development : society, environment, economy

Planet boundaries :

climate change  
ocean acidification  
stratosphere ozone depression  
chemical pollution  
use of nitrogen and phosphorus for fertilizers  
change in land use  
biodiversity loss  
global freshwater use

**What competences do young people need to meet the challenges of sustainability according to researchers ?**

theoretical competences  
systems competences → understanding the connections and consequences  
creativity and problem solving competences  
critical thinking  
Ethical competences  
cooperation and communication competences  
future thinking (think of a society we look forward to living in)  
→ action competences

**Action competences** : the capacity to be able to act, now and in the future and to be responsible for one's actions.

Slogan = « your choices will change the world »

Change personal actions  
challenge ourselves  
changed actions → changed attitudes  
explore and develop sustainable actions

**A small change can make a big difference**

Challenges in school : decide and change a little thing in your everyday life in a lasting way to make it more sustainable.

**Exemples of what can be done in schools :**

- school gardening
- food
- maker space
- clothes
- energy use
- transport
- waste management
- green nudges
- green schools / green flags

Focus on local challenges and solutions to big problems (food, school garden, chemicals etc...)