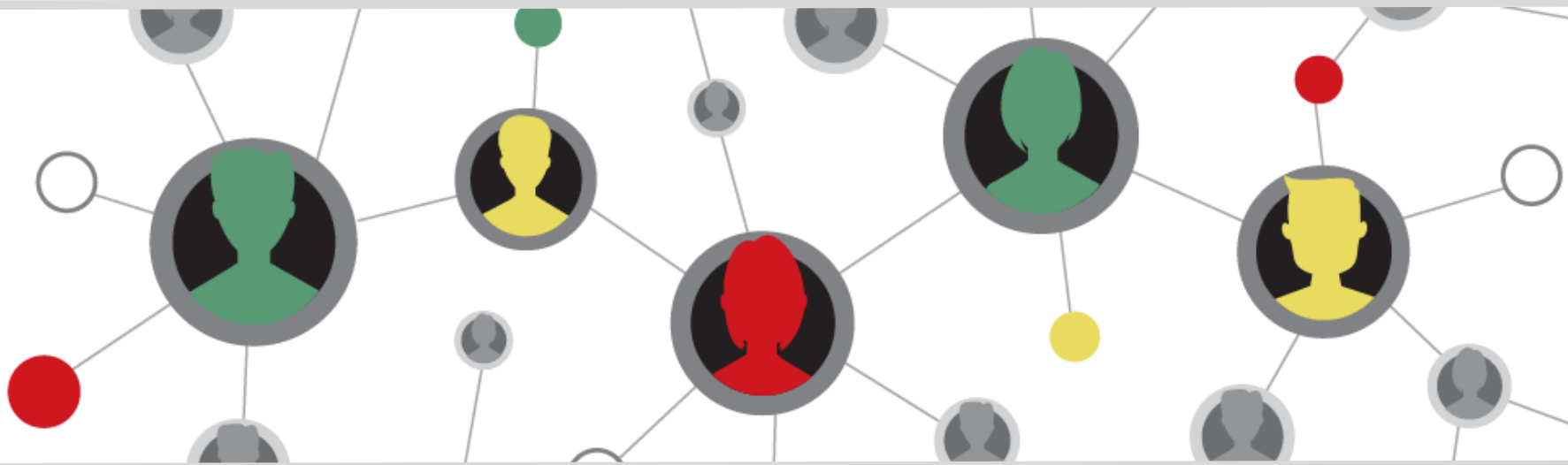


# Garbage in the Classroom

*Cathy Baars*



Start at 17:30 uur



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# Content



- Idea
- Subjects from curriculum
- Pedagogy
  - During lockdown
  - At school
- How
- Examples
- “Movie”



Pictures made by M.Goulmy and C. Baars

# Idea

Martinuscollege,  
jouw plek!

- Students doing a larger project
- Sustainability / milieu
- Programming
- Orientation at future career
- Scrum finalization

## Garbage project:

- Garbage van
- Separating plastic
- Separating metal
- Cleaning glas
- Garbage press



# Subjects covered:



- Technical automation
- Technical design
- Design cycle
- Use of internet for information
- Sustainability, climate and environment
- Communicating about physics
- Orientation on study and career
- Modelling, computational thinking and programming
- Technical skills in using apparatus
- General use of computer for science

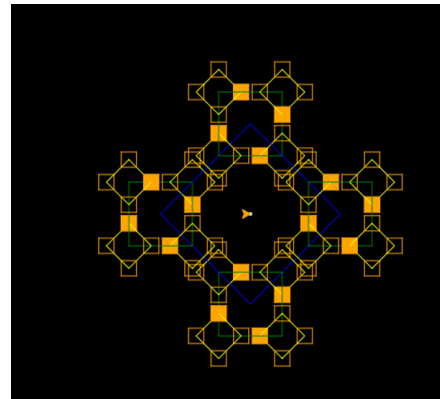
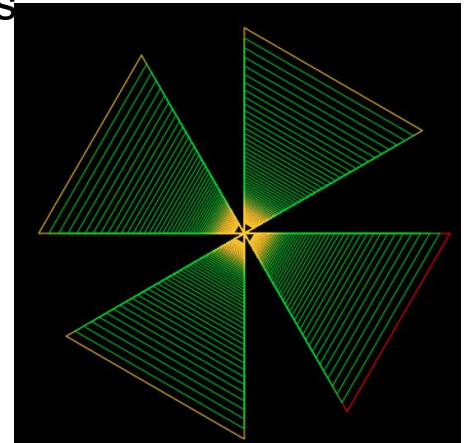
My target:

Use of physics in a project that is larger and extending my classroom.

# Pedagogy during lockdown

Martinuscollege,  
jouw plek!

- Target: Programming motor who respond on sensors
- But:
  - During lockdown students didn't have access to materials
- Learning how to program art in python
- No python on calculator at that time
- Repl-it
- Zoom with chat
- Debugging programs together → very valuable



# Pedagogy: at school (1)



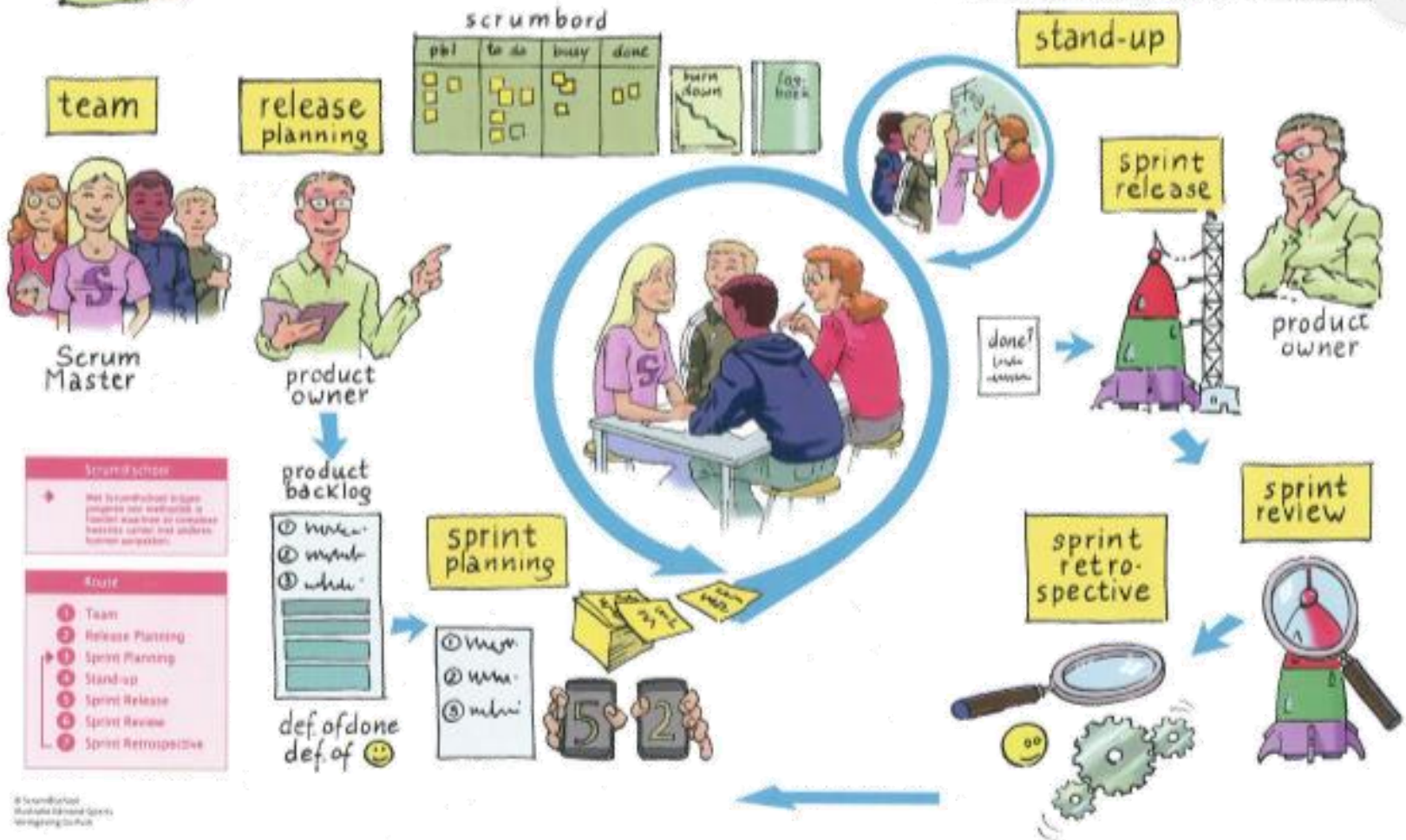
- Only 20 minute lesson per week at school
- Turtle vs rover → Works the same!
  - turtle.forward(10)
  - rv.forward(10)
- Programs made for art worked also with the rover

The same program can be used for more than 1 purpose.

# Pedagogy: at school (2) → Scrum



Super Scrum Master



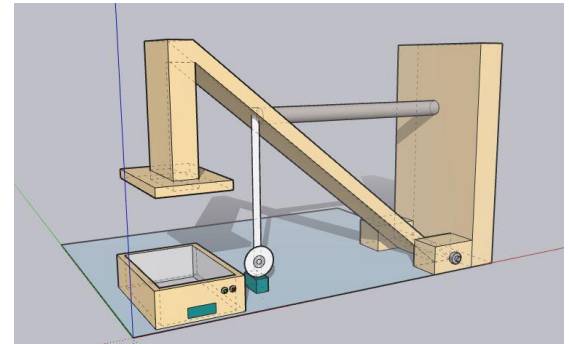
- Sprintif school**
- Met Scrumfchool krijg je een project met methodiek in kaart voor de computer. Het is een leuke manier om te leren samenwerken.
- Route**
- 1 Team
  - 2 Release Planning
  - 3 Sprint Planning
  - 4 Stand-up
  - 5 Sprint Release
  - 6 Sprint Review
  - 7 Sprint Retrospectieve

© Scrumfchool  
Martina Edmond Groot  
www.t3nederland.nl

# How: Scrum with sprints

Martinuscollege,  
jouw plek!

- Sprint 1: Background information and requirements of product → Poster
- Sprint 2: partial solutions and refined requirements of product → Video
- Sprint 3: Working product
  
- Time: Sprint 1 and 2 a week, sprint 3 2 weeks
  
- Scoring with rubrics
  
- Retro and review





# Making groups: Quality chart



Qualities	Skills	Interaction
Creative	Good in building	Keeping the spirit up
Ambitious	Good in problem solving	Activating people
Independent	Good in programming	Taking the lead
Reliable	Good in tinkering	Helping people
Responsible	Good in planning	
Positive	Good in technic	
Determent		

# How: Used materials

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- Ti-Nspire with python (pre-release)
- Innovator hub
- Sensors + motors
- Batterie packs.
- K'nex
- .....

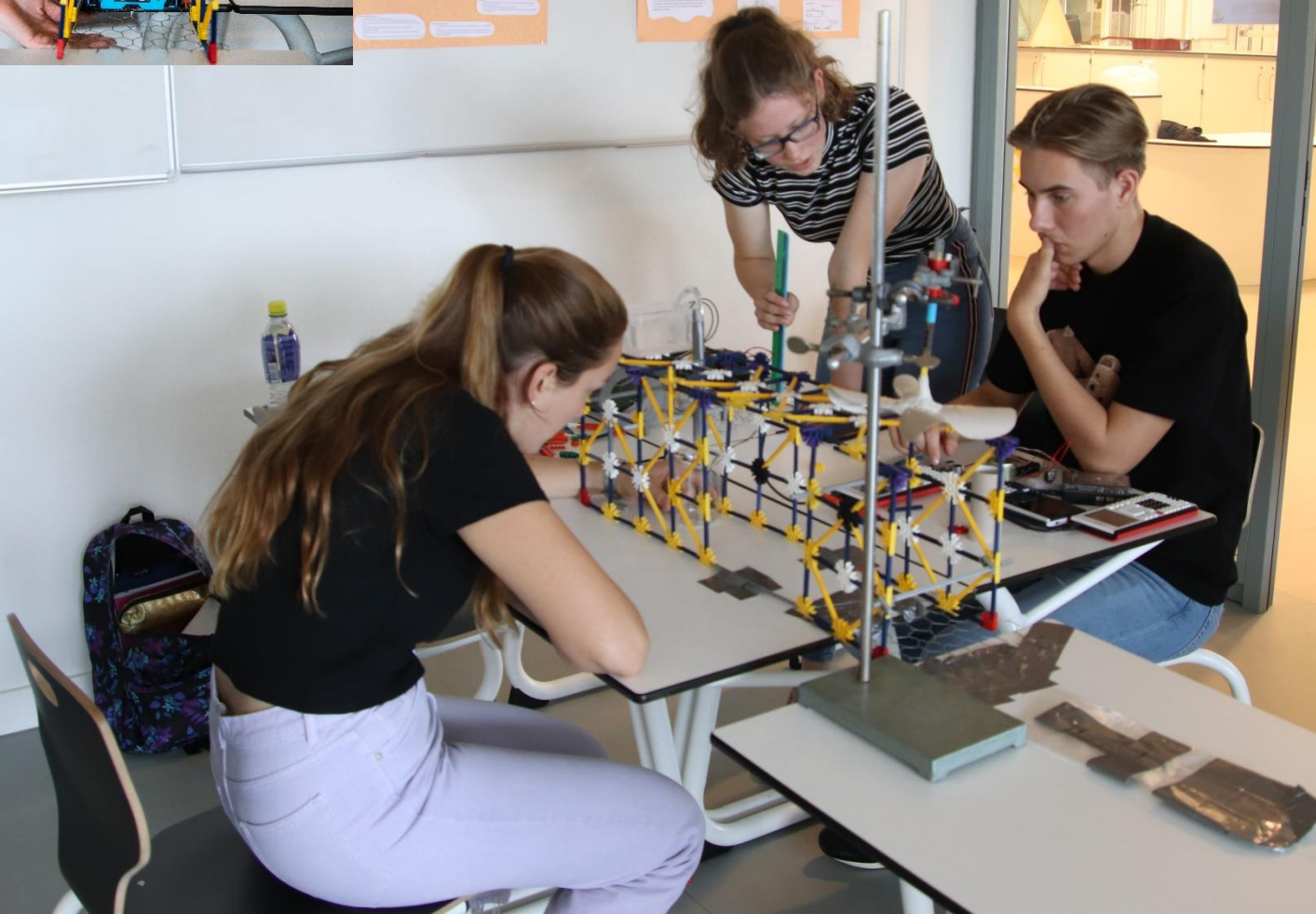
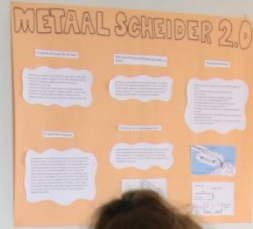
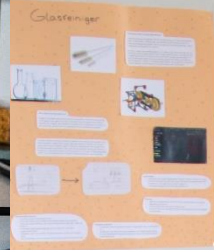
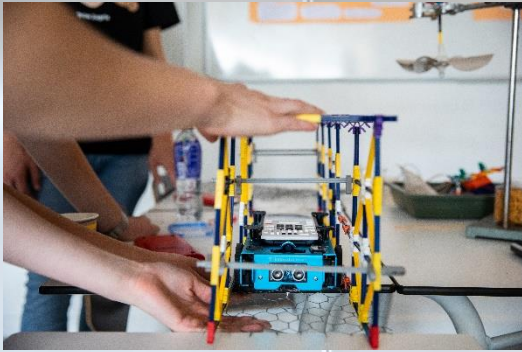


# Garbage press



# Cleaning glas

Martinuscollege,  
Kalk

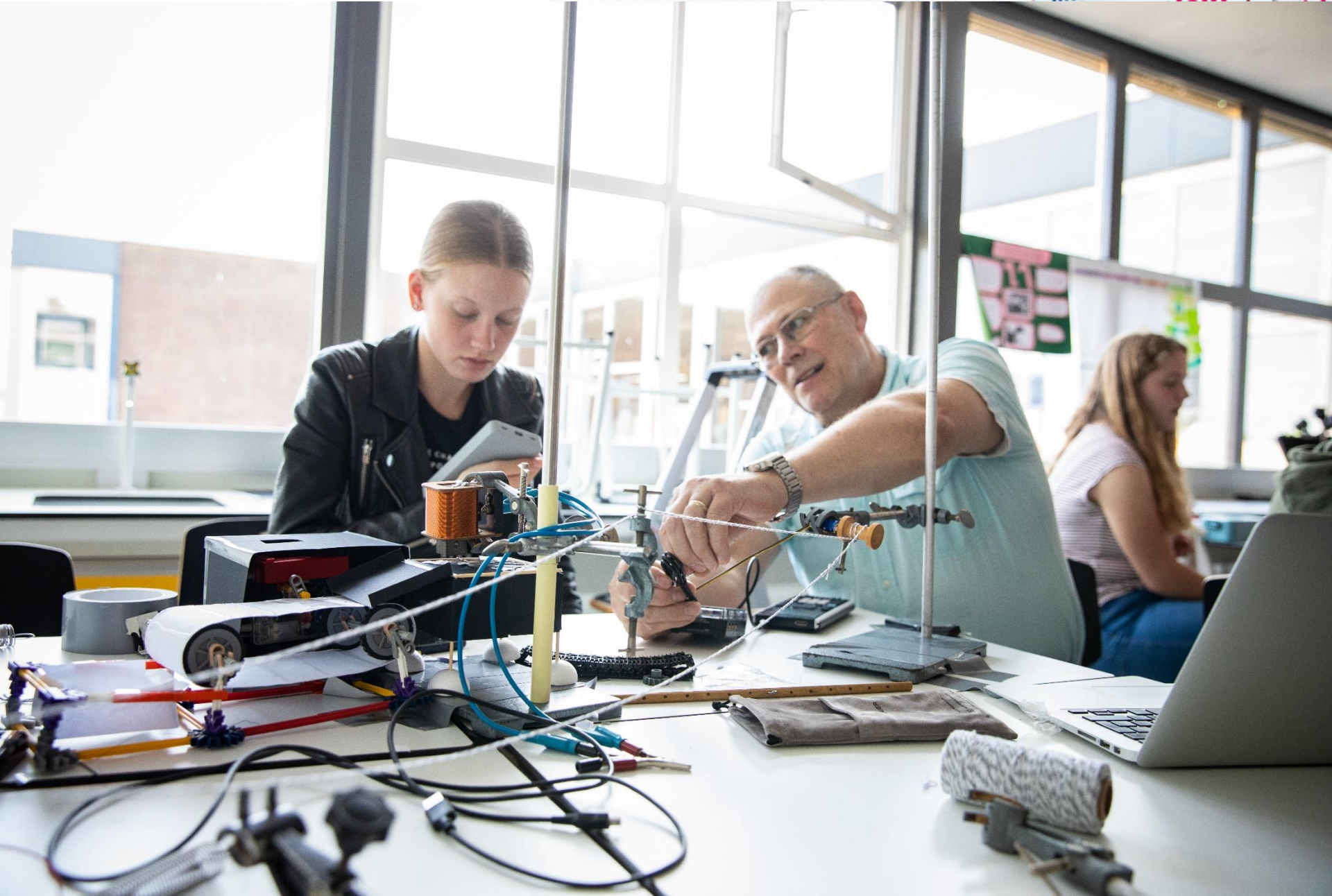


# Separating Plastic

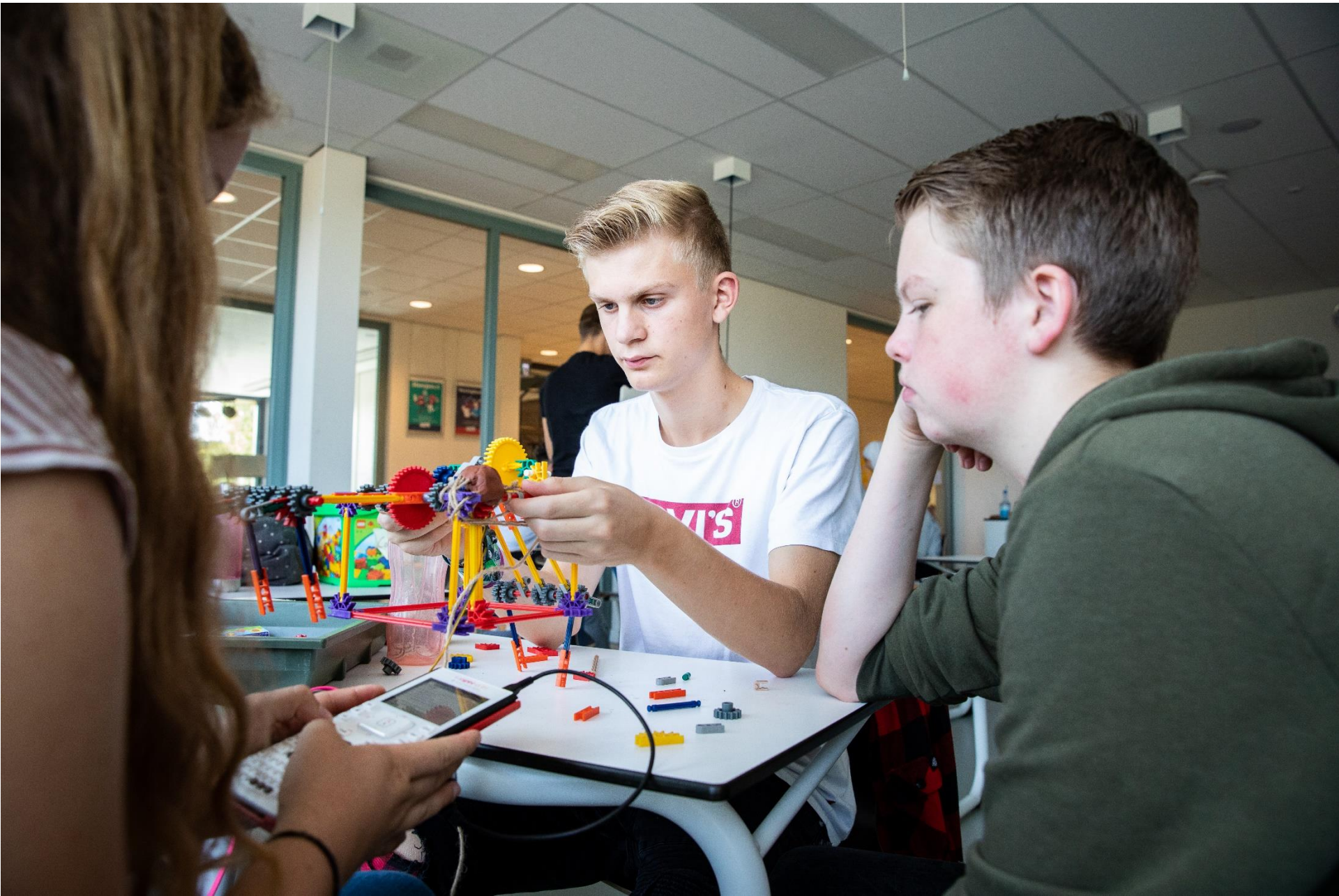


# Separating Metal

Martinuscollege,



# Garbage van



# Short video about project

Martinuscollege,  
jouw plek!

Video:

<https://www.youtube.com/watch?v=XGJ7GGINBoI>



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# More information

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jouw plek!

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