

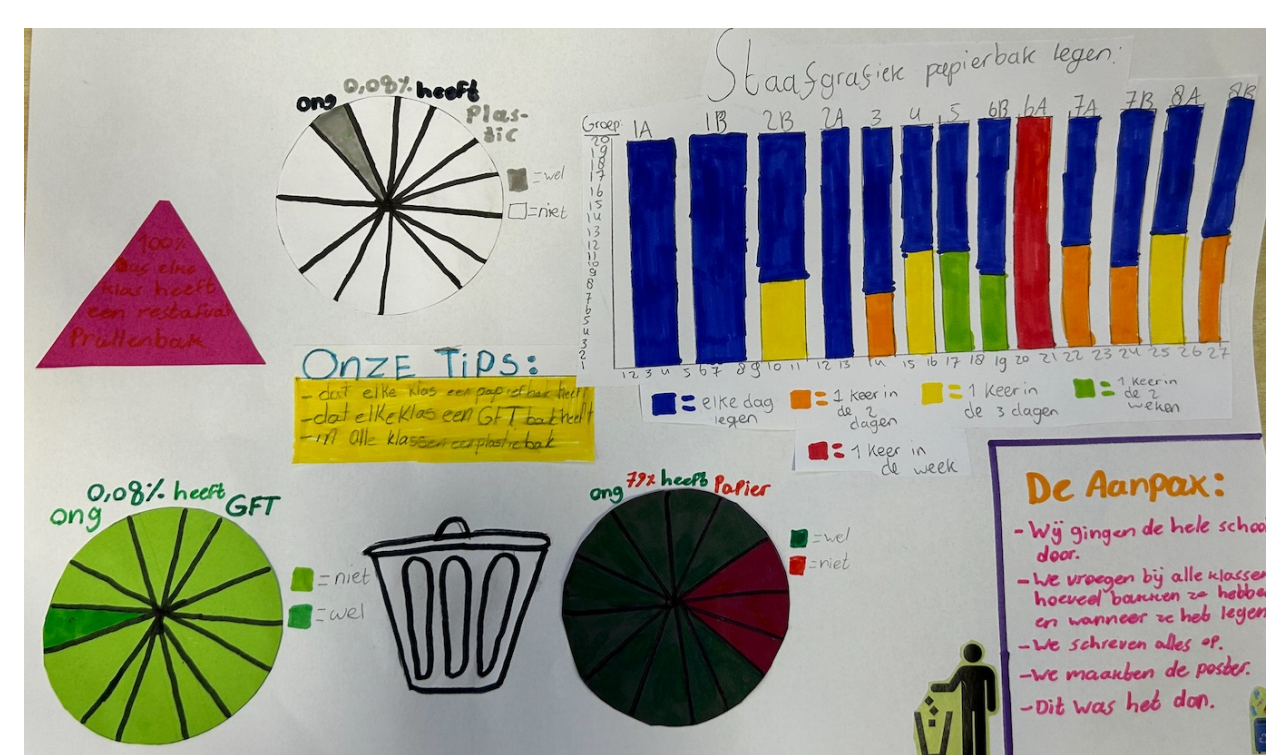


Mathematics Education and the socio scientific issue 'Reducing Waste'

Monica Wijers, Ronald Keijzer and Vincent Jonker

Introduction

Every year, Utrecht University in collaboration with Malmberg (educational publisher) and other Dutch institutes involved in mathematics education organises the **MathInquiryDay** for primary education in the Netherlands. This MathInquiryDay is a day for all children from grades 1 to 8, devoted to mathematical literacy .



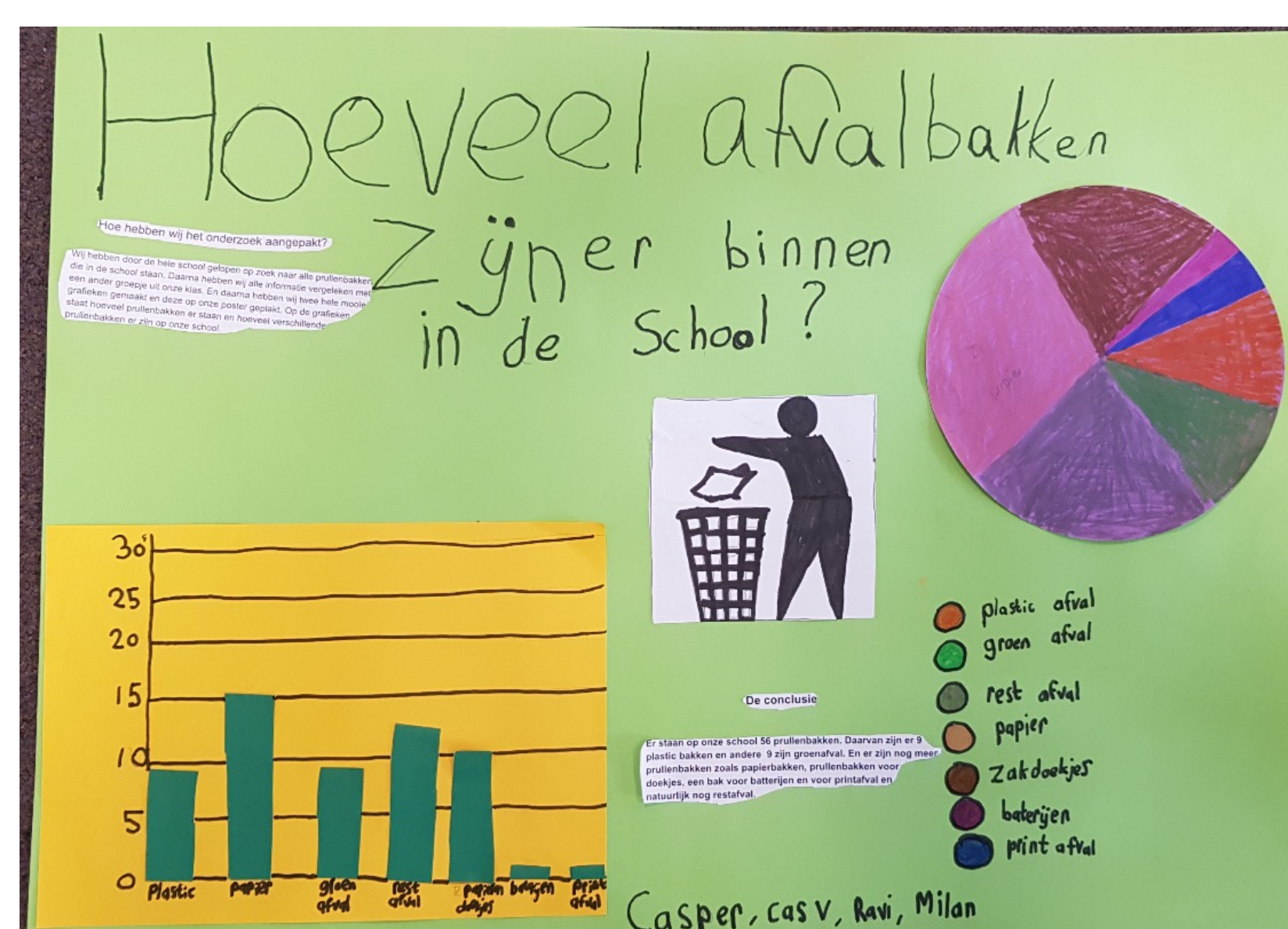
Inquiry Learning

During the MathInquiryDay, children are challenged via assignments in order to learn to use their mathematical skills. This day is organised in the Netherlands from 2004 onwards



The 2023 MathInquiryDay

On 29 March 2023, students from around 1.000 Dutch primary schools engaged in challenging assignments, around the theme 'Reducing Waste', a MathInquiryDay in which our consumption behaviour is magnified when it comes to creating waste, but also reprocessing, reusing and reducing waste, e.g. more convenient/less packaging.

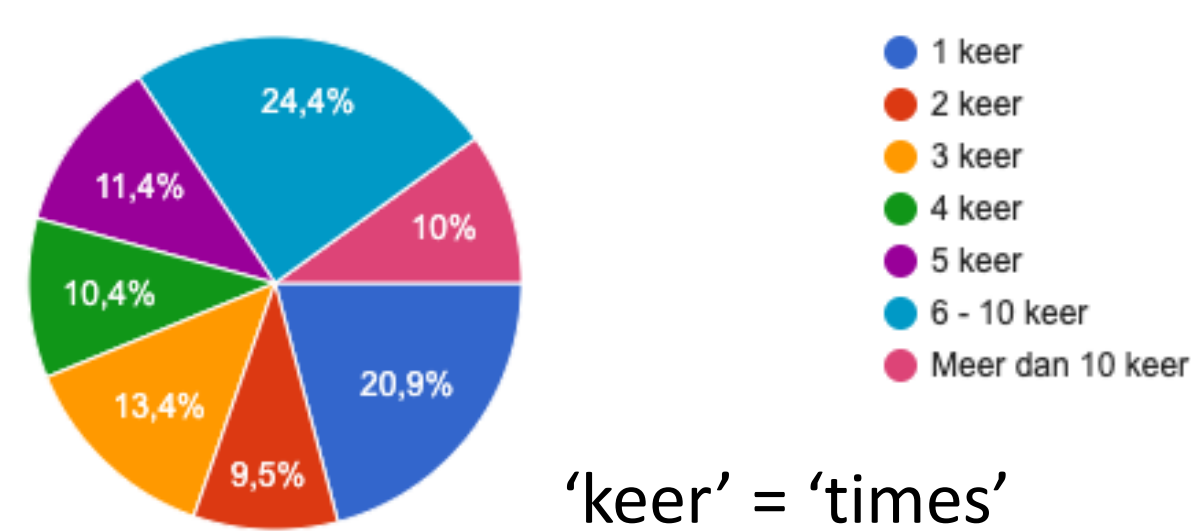


This 2023 **MathInquiryDay** contributed to a shared sense of responsibility for our environment, a careful attitude towards the environment and an understanding of one's own contribution to (solving) the problem while doing the maths.



Data from the teacher questionnaire (n = 200)

How many times did your school join the MathInquiry Day?



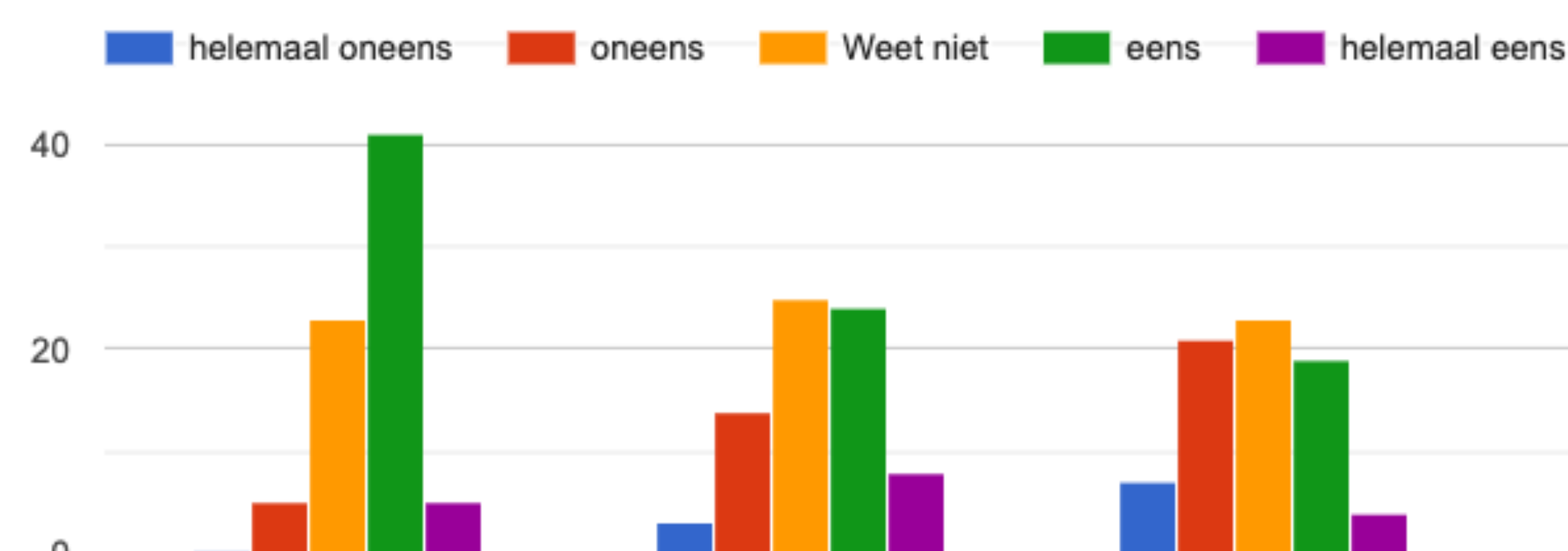
'keer' = 'times'

"Fun to do a 'different' math. Graphs and diagrams are not covered as much. self-manufacturing was quite tough."

"This 2023 version joins mathematics education and critical citizenship extremely well"

"Since I have been working at this school, we have done this every year. It is fixed on the year planner. The children are enthusiastically engaged in maths and don't consciously realise it. Maths can also be fun!"

Data from the student questionnaire (n = 75, age group 11-12 years)



from completely disagree to completely agree

I know how to reduce the amount of waste

I am worried about the number of people that use cars in stead of bicycles

I am worried about our home energy consumption

MALMBERG



Utrecht University

References

- Van Galen, F., & Keijzer, R. (2016). Designing a Mathematics Day. Educational Designer, 3, Article 7992. <https://educationaldesigner.org/ed/volume3/issue9/article35/index.htm>
- Wijers, M., & Jonker, V. (2011). Change and counting: example from the Big Math Day 2010. <https://www.fi.uu.nl/rekenweb/groterekendag/primas.pdf>