

The “Building Blocks” for Reproducible Research



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Phase I

Everyone should have received a LEGO brick when entering the room.

- The brick colour assigns you to a group
- There is folder with instructions and materials on the table to which you have been assigned.
- Have fun!



Intermediate phase

We are collecting your vehicles!

1. After you have received your vehicle back, dismantle it again!
2. Then Groups **BLUE** and **WHITE** and Groups **BLACK** and **RED** switch tables



Phase II

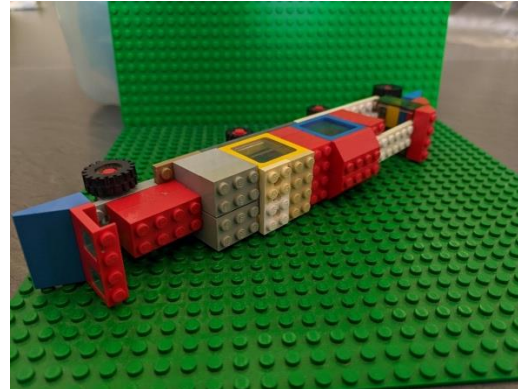
There are now instructions on your table.

- Try to reproduce the structure of the other group using the resources provided
- Think about what information was helpful and what additional information you would have found useful when trying to reproduce the previous set-up

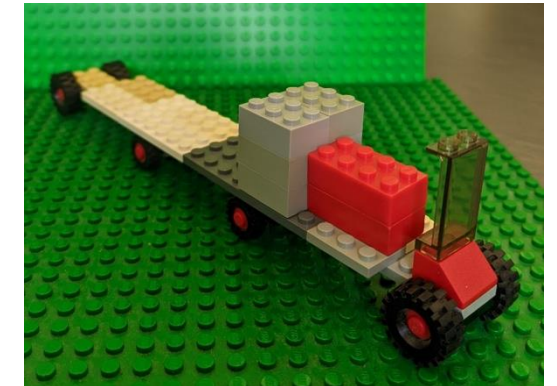
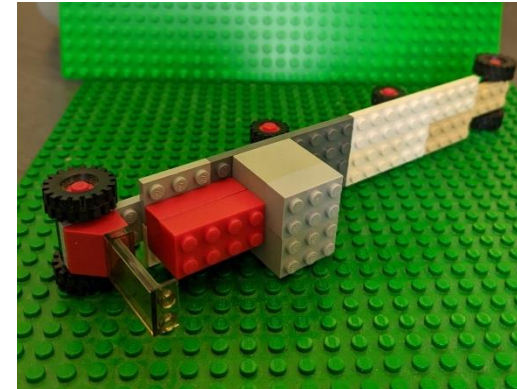


Results: Vehicle I

Original



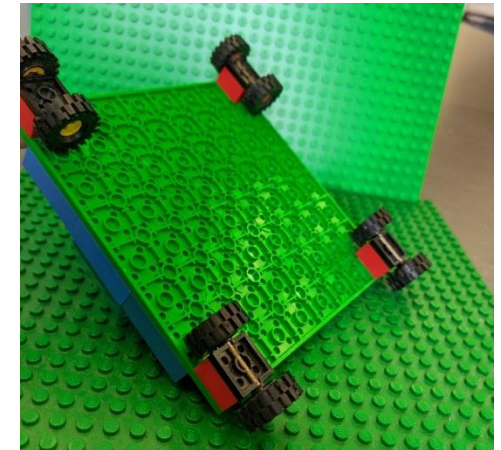
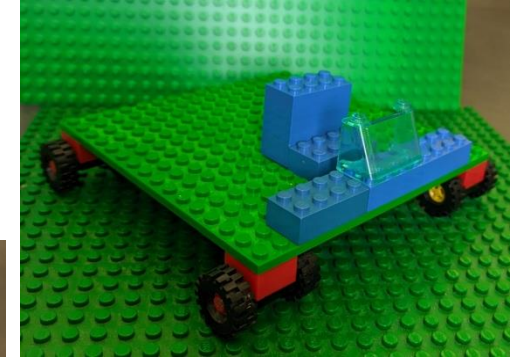
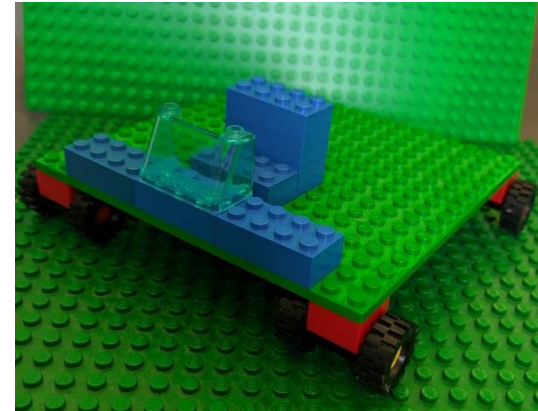
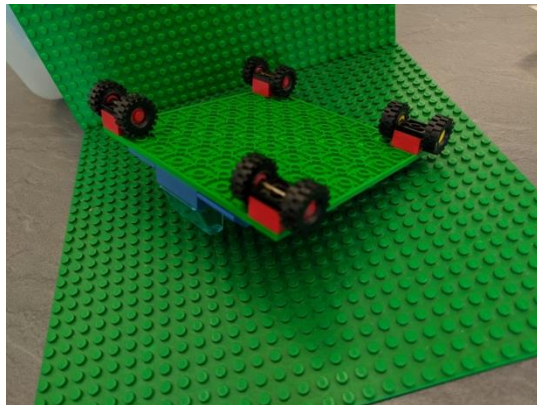
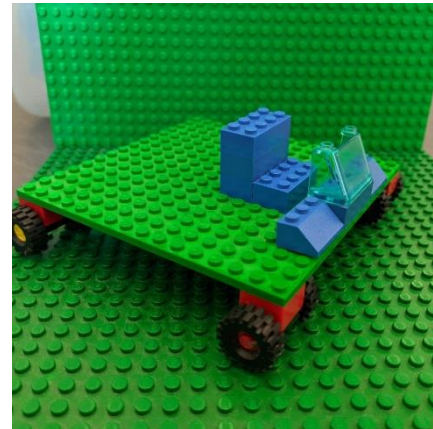
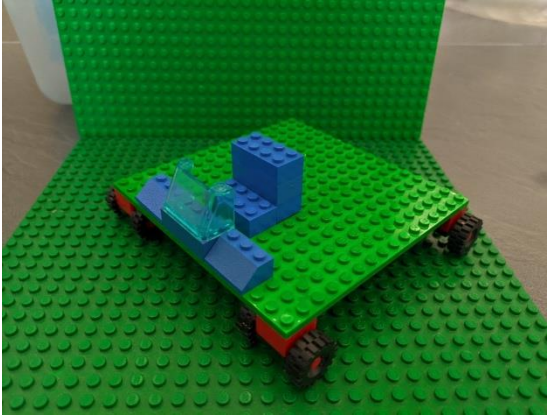
Re-creation



Results: Vehicle II

Original

Re-creation



Instruction sheets



The “Building Blocks” for Reproducible Research

Instructions:

1. Build a small vehicle (car / truck / bike / plane / train) using between 15 and 30 bricks (approximately). Feel free to make this as complex and detailed as you would like and accessorise as desired.
2. Use the paper provided to make notes on how to replicate the build.

The “Building Blocks” for Reproducible Research

Instructions:

1. Build a small vehicle (car / truck / bike / plane / train) using between 15 and 30 bricks (approximately). Feel free to make this as complex and detailed as you would like and accessorise as desired.
2. Keep notes on how to replicate the build using the template provided.

Describe your finished vehicle in the box below.

DETAILED INSTRUCTIONS

Step	Parts required	Instructions
1		

Discussion

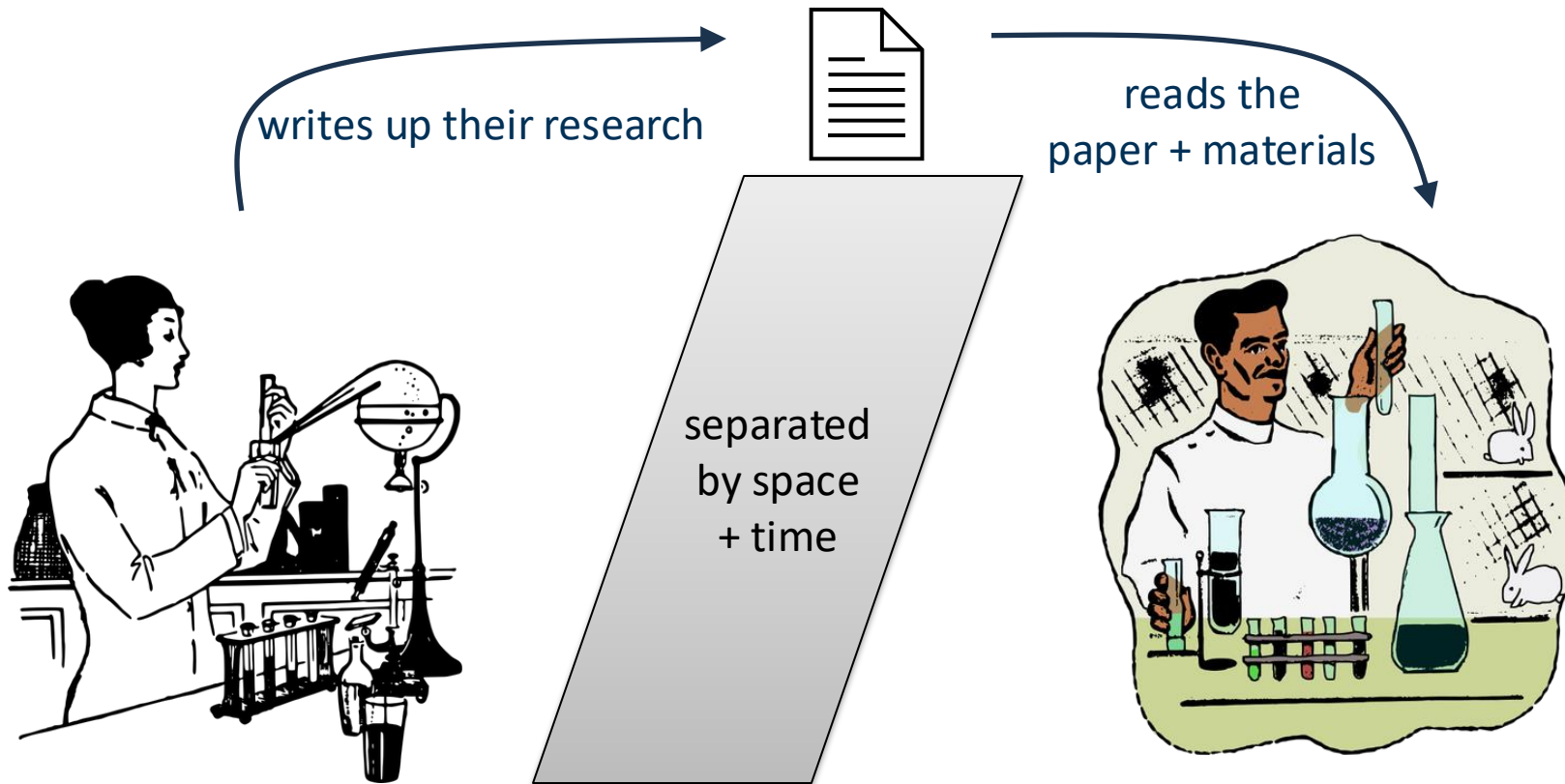
Which approach has which advantages and disadvantages?

- Free text vs. scheme
- Photos, sketches or just text for documentation
- Does it really matter whether the bricks have the same colour in the original and in the replica?

What can we take away from the exercise for the reproducibility of research processes?

- Different standards and approaches
- Specify or develop metadata schemes?
- Templates: do they help or restrict?

Reproducible research



THANK YOU

More info on

<https://fdz.bib.uni-mannheim.de>

and

<https://www.uni-mannheim.de/open-science/open-science-office/>

Literature

- Donaldson, M. and Mahon, M. (2019) LEGO® Metadata for Reproducibility game pack. Documentation. University of Glasgow. DOI: <http://dx.doi.org/10.36399/gla.pubs.196477>.
- Biernacka, K. (2020). LEGO® Metadaten für die Reproduzierbarkeit. Zenodo. <https://doi.org/10.5281/zenodo.3733164>
- Herwig, A. (2024) Reproduzierbare Forschung mit LEGO®. <https://opus4.kobv.de/opus4-bib-info/frontdoor/index/index/searchtype/collection/id/17560/docId/18801/start/5/rows/20>