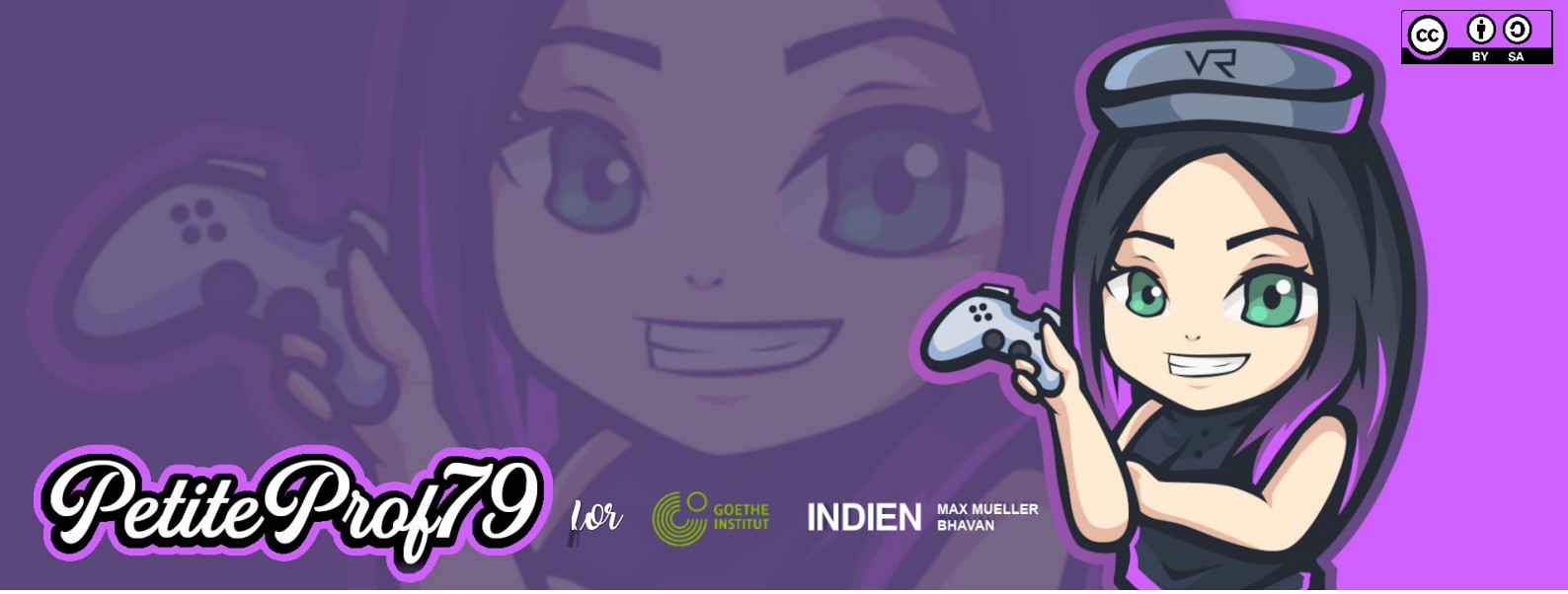

Project 4A: MR meets Maths

Description	Learners create Merge Cubes that require (mental) arithmetic skills
Objective(s)	Maths in German
CEFR	A1 – B2
Digital Skills	Using digital media to create learning products, using Google Translate for pronunciation practice, Copyright, Privacy
6C	Cooperation, Creativity, Critical Thinking (Problem Solving)
Time frame	3 hours
Potential topics	Addition, subtraction, multiplication, division etc.
You want to go further?	Add a quiz
Differentiation	One problem per side; linking multiple cubes; using equations; using only Maths-related vocabulary of whole sentences
Devices	Production: PC/Laptop with Chrome browser (no smartphone since coding does not work on smartphones) Reception: tablet or smartphone with the CoSpaces Edu app
Tutorials	Sign up for CoSpaces Edu https://youtu.be/qWXUMkauXp0 Cropping media content https://youtu.be/e7qUu-3jrrA Project 4A: Step by step https://youtu.be/cYa2cBtMKwM

Preparation

Define

- Types of calculations to use
- CEFR level & Maths skills
- How many problems per cube / how many cube scenes per project
- media content to be produced (drawings, template, own photos or designs)
    - make sure learners know about copyright and privacy (f.ex. right to one's own image) so they use photos they are allowed to use (→ Public Domain, Creative Commons or their own photos) and make sure that personality rights are respected
    - make sure learners know how to produce the content
- linguistic requirements
- differentiation options → mandatory and optional features

Students sign up for CoSpaces Edu and join the project (→ class code)*

* the class will be prepared and will contain a task with coding already prepared and a sample space

Example

- Types of calculations to use: addition, subtraction, multiplication, division
- CEFR level: A1 (1-100) | Maths skills: basic arithmetic
- Problems per cube: 1 | 2 cubes per learner
- media content: use template
- linguistic requirements: Maths-related vocabulary
- differentiation
    - mandatory
        - 1 problem per cube: chain calculation
        - Add quiz at the end
        - When solving the Maths problem in an audio recording: no full sentences required
    - optional
        - when solving the Maths problem in an audio recording: full sentences or a little story

Production I (0.5 hour)

Learners

- watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
- build a Merge Cube
- look at the example
- come up with 2 Maths problems

Production II (0.75 hour)

Learners

- watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
- open the template
- add their problems
- export/save the file as a PDF
- make screenshots of all 6 pages and save them (file name: "1. Seite", "2. Seite" …)
    - if they are not sure if the images are perfectly square, they can use the photo app on their PC and crop the pictures again in a 1:1 format

Students have to do this twice, once for each cube they will create

Tip: If students draw their own pictures, give them a template with six squares so it will be easier for them to get the right format once they take photos of their drawings

Production III (0.75h)

Learners

- log in to CoSpaces Edu, go to “Classes”, join the appropriate class (if they haven’t done so already when signing up), pick the project they are working on & choose task A
- watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
    - for each cube they
        - upload their images
        - attach the photos to the Merge Cube in the right order (→ arrows)
        - add an object for the quiz and activate coding for it
        - modify the quiz
        - delete the sample scene

Attention: If students made their own drawings, they should add source info to each image (minimum requirements: file name, author name, license: CC BY-SA, check the box at the bottom)

Sharing (5 min)

Learners

- watch the relevant parts of the step-by-step tutorial and follow the instructions
- share their spaces (unlisted) and add their first name in the title
- post their space on the Padlet in the appropriate column by downloading the QR code and sharing it along with the share code in one post

Attention

- if the licenses available will be reassigned to different learners in the near future, it is recommended that teachers copy learners’ tasks to the admin account and share them to the Padlet themselves because otherwise the shared spaces will no longer work once the learners have been deleted from the license plan

Reception & Feedback (Oral Production) (55 min)

Learners

- watch the relevant parts of the step-by-step tutorial and follow the instructions
- check out their peers’ cubes
- pick at least three cubes they want to give feedback to
- write down the calculations in German using just the Maths vocabulary or whole sentences
- for each cube
    - they create a new post in the appropriate column of the Padlet
    - add their first name in the title & the share code in the text field
    - record the calculation using the audio recording feature

Tip: for pronunciation practice they can use Google Translate

As an option and for evaluation purposes learners may

- record feedback for the project in German any way they want (audio, video)
- write a little story in German using the calculations of any Merge Cube they have looked at and record the story as an audio file using the voice recorder Padlet provides

& post them in the appropriate column of the Padlet following the guideline in the first post

Student checklist

Production I

- ☐ watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
- ☐ build Merge Cube
- ☐ look at the example
- ☐ write down your two Maths problem (in 6 steps)

Production II (for each problem)

- ☐ watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
- ☐ add your problem to the template
- ☐ export/save the file as a PDF
- ☐ make screenshots of all 6 pages and save them (file name: “1. Seite”, “2. Seite” …)
- ☐ check the format with the photo app on your PC (format needs to be 1:1)

Production III

- ☐ log in to CoSpaces Edu, go to “Classes”, join the appropriate class (if you haven’t done so already when signing up), pick the project you are working on & choose task A
- ☐ watch the relevant parts of the step-by-step tutorial and follow the instructions step by step
  - ☐ upload your images
  - ☐ attach the photos to the Merge Cube in the right order (→ arrows)
  - ☐ add an object for the quiz and activate coding for it
  - ☐ modify the quiz
  - ☐ delete the sample scene

Sharing

- ☐ watch the relevant parts of the step-by-step tutorial and follow the instructions
- ☐ share your cube (unlisted) and add your first name in the title
- ☐ post your space on the Padlet in the appropriate column by downloading the QR code and sharing it along with the share code in one post

Reception & Feedback

- ☐ watch the relevant parts of the step-by-step tutorial and follow the instructions
- ☐ check out your peers’ cubes
- ☐ pick at least three cubes you want to give feedback to
- ☐ write down the calculations in German using just the Maths vocabulary or whole sentences
- ☐ for each cube
  - ☐ create a new post in the appropriate column of the Padlet
  - ☐ add your first name in the title & the share code in the text field
  - ☐ record the calculation using the audio recording feature

Tip: for pronunciation practice you can use Google Translate

optional

- ☐ record feedback for the project in German any way you want (audio, video)
- ☐ write a little story in German using the calculations of any Merge Cube you have looked at and record the story as an audio file using the voice recorder Padlet provides

& post them in the appropriate column of the Padlet following the guideline in the first post