**MR.BOW Lesson plan**

**Title: Travel Souvenirs 3D design**

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**Subject: Technology, IT, English, Art, History, Natural Sciences**

**Aim of the lesson**

* **strengthening European cultural heritage awareness**
* **developing research skills**
* **learning 3D design in Microsoft Paint 3D**

**Age of students 13-16**

**Time**

Preparation time: 15 min

Teaching time: 120 min

**Teaching material**

Online:

* *google.com*
* *wikipedia.org*
* *Paint 3D software*

Offline:

* *4 cards with names of the countries*
* *3d printer*
* *3d printer filament*

**21st century skills**

* innovation skills
* life and career skills
* information, media and technology skills

**Lesson Plan**

| **Name of activity** | **Procedure** | **Time** |
| --- | --- | --- |
| selecting a country | Students are divided into groups of four. Each group selects a card with their country.  | 5 min |
|  |  |  |
| research | Students are asked to become travel agents and find 3 things about each country that tourists should remember after a visit. It can be a historical place, a characteristic animal, a figure, food item, symbol etc. They use Internet tools they know, to find 3 characteristic items for each country.  | 20 min |
|  |  |  |
| presentation | Students present what they learned about the countries to the whole class. Together they brainstorm the ideas and choose one most characteristic thing about each country.  | 10 min |
| designing | Students in groups work in Paint 3d in order to design a magnet souvenir with the name of the country and the chosen symbol. The IT teacher assists the groups and helps in technical difficulties.  | 50 min  |
| preparing to the printing process | After the designs are ready to be printed, the printing process starts. Printing 4 small souvenir magnets should take 60 to 80 minutes.  | 15 min |
| summary | Discussing the ideas, difficulties of the designing process and suggestions for future designs.  | 15 min |

**Assessment**

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**Student feedback**

When the printing process starts, the teacher(s) and the students discuss their ideas and whether each group remembers every item selected for the countries. The students share the difficulties they had, share their solutions.

**Teacher feedback**

The teacher sums up the skills the students developed during the lesson: 3D printing design, researching information, making presentations, deciding, working in groups.

Printed items are supposed to be presented in the classroom and it would be good if they were a part of larger project work in education concerning European heritage, technology and travel.