**Learning scenario with MARG - Template**

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| **PART 1: General information**  |
| **Title of the scenario:** | Brazil |
| **Keywords:** | Brazil, Amazon, Favelas, Renewable energy, Water |
| **Name(s) of the scenario’s creator(s):** | Annemarie Doddema, Annelies Klaassen, Cristian Wessels |
| Creative Commons License **of the scenario:** | Attribution ( ) | Attribution-NoDerivs ( ) |
| Attiribution-ShareAlike ( ) | Attribution-NonCommercial ( ) |
| Attribution-NonCommercial- ShareAlike (X) | Attribution-NonCommercial-NoDerivs ( ) |
| **Estimated duration of the scenario’s activities:** | 2 hours  |
| **Age range of learners:** | Lower and upper secondary education (HAVO / VWO) |
| **Learners’ special characteristics: (i.e. immigrants, special needs)** | - |
| **Learning subject based on your curriculum to which the scenario relates:** | Lower years: learning goal: Students can articulate characteristics of Brazil from the physical, economical en social dimensions.Upper years: module: Brazil, developing country  |
| **To which Sustainable Development Goal (s) does the scenario relate to : (highlight it/them)** | [X] No Poverty | [ ] Industry, Innovation and infrastructure |
| [ ] Zero Hunger | [ ] Reduced Inequalities |
| [X] Good Health and Well-Being | [X] Sustainable Cities and Communities |
| [X] Quality Education | [ ] Responsible Consumption and Production |
| [ ] Gender Equality | [X] Climate Action |
| [X] Clean Water and Sanitation | [ ] Life Below Water |
| [ ] Affordable and Clean Energy | [ ] Life On Land |
| [X] Decent Work and Economic Growth | [ ] Peace, Justice and Strong Institutions |
|  | [ ] Partnerships For The Goals |
| **Which 21st century skill(s) does the scenario involve:****(highlight it/them)** | [X] Information and data literacy  | Critical thinking,  |
| [X] Communication | [X] Active citizenship |
| [X] Collaboration | Respect for differences |
| Problem solving |  |

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| **PART 2: Learning outcomes of the scenario**  |
| **In terms of knowledge**  | The learner knows and understands:* Characteristics of Brazil from the perspective of physical, economic and social dimensions.
* How the felling of trees in the Amazon affects the rest of the world.
* How Favelas affect the rest of urban society.
* How the informal sector affects jobs and the economy in Brazil.
* Which forms of sustainable energy Brazil uses and why.
* How education is organized in Brazil, what training opportunities there are and what the quality of the education is.
* How climate change affects freshwater supplies and whether everyone has access to clean drinking water.
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| **In terms of skills** | The learner is able to:* Use of VR glasses and a navigation / location app
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| **In terms of competences** | The learner:* Can virtually step into the world of Brazil by means of a navigation / location app and gain knowledge about the country from different geographical dimensions.
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| **PART 3: Description of the game** |
| **Narrative description of the game plot:** | The students visit 6 places in Assen in the Netherlands that they can find themselves via an integrated map in the scenario app. These places can be visited in any order. This way, students can map out an ideal route themselves. You can also choose to have the students follow a mapped-out route. When students are physically at the location, one student will be wearing VR glasses. At that location, a picture is given of Brazil. On the app, the other student (s) will see a piece of text in combination with photos, cards and video material. It is the intention that they then make the questions at the location. These will mainly be multiple choice questions. When answering the multiple-choice questions, they can earn points (trees) if the answers are correct. With every 10% of trees, the players advance a level. |
| **Game objectives:** | The students start with 0 points. For each correctly answered multiple choice question, they receive five points. For every wrong answer they give, five points are deducted. For every 5 points earned, 10% forest is planted. Questions have to be answered as many times as necessary until they are answered correctly, but points can only be earned once. The player with the most percentage of forest at the end is the winner. |
| **Does the scenario refer to a specific location? If yes, specify. If no, write everywhere.** | Yes, 6 different locations in Assen (see below) |
| **Characters:** | - |
| **Scenes:** | 1. Amazone: (Asserbos)
2. Favela’s: (Poor neighborhood in Assen?)
3. Informal sector: (shopping center Assen)
4. Sustainable energy: (office building in Assen)
5. Education: (Quintus)
6. Water: (Sewage treatment or near a pond?)
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| **Type of work: Individual/ collaboration** | Individual and group collaboration |
| **Does the game involve different player roles? If yes, specify.** | * Yes, one student can operate the app and answer questions on it, while the other student seats virtually (VR glasses) in Brazil and sees images. They must answer the questions together, so there must be good cooperation from these different roles.
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| **PART 4: Description of the learning scenario activities** |
|  | **Learning settings** | **Estimated time** |
| **Before the game:** | Preparation in class about BrazilThe game objective is introduced to the students, which is gaining knowledge about Brazil from different dimensions, i.e., physical, economical, and social dimensions. A brief explanation about the organization of the game (including the roots, groups, etc) is provided to the students. Students are instructed to download the app on their phone and play the game.  | 30’ |
| **During the game:** | Students visit the 6 locations and answering questions + VR glasses in each scene: 1. Asserbos: (Amazon)

When the players reach this point, they will see a picture/video about the forest of Amazon. After that, players will asnwer some questions regarding the deforestation problem of Amazon.1. Poor neighborhood in Assen: (Favela)

Players get information about the favela’s in Brazil (low-income informal settlements). They learn how Favelas affect the rest of urban society, by answering the questions.1. Shopping center Assen: (informal sector)

Players answer questions and learn how the informal sector affects jobs and the economy in Brazil.1. An office building in Assen: (sustainable energy)

They will learn which forms of sustainable energy Brazil uses and why.1. Quintus: (education)

The learning point of the information given to the players and the questions here will be how education is organized in Brazil, what training opportunities there are and what the quality of the education is.1. Sewage treatment or near a pond: (Water)

The players will learn how climate change affects freshwater supplies and whether everyone has access to clean drinking water.Based on the points the player gathers, they can earn points (trees) if the answers are correct. With every 10% of trees, the players advance a level.The player with the most percentage of forest at the end is the winner. | 130’ |
| **After the game:** | * Who is the winner?
* Discussion in the classroom about what the students learned in terms of economy, education, water, and sustainable energy in Brazil.
 | 10’ |
|  | **Total**: | 170’ |

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| **PART 5: Prerequisite knowledge and supportive material** |
| **Learners’ prerequisite knowledge:** | Geographical knowledge about Brazil |
| **Infrastructure/ equipment needed for implementing the scenario:** | App on phone, VR-glasses, possibly method book ‘De Geo’ |
| **Other learning resources needed:** | - |

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| **PART 6: Approach towards the assessment of the learning outcomes** |
| **Learners’ assessment approach:** | Apart from gathering information on the number of points students collected during the game, meeting the learning goals can be measured via a small quiz. |