**TOP Fellow STEM Unit – Template**

Include the following information and criteria so that other educators may adapt your problem-based STEM unit on contemporary Germany to use with their students. (See the [**TOP Fellow STEM Unit - Completion Guide**](http://toponline.org/alumni/top_fellow_lesson_guide_stem.pdf) for full instructions.) This template incorporates elements of the Engineering Design Process and the [BSCS 5E Model](https://bscs.org/bscs-5e-instructional-model/). It will be helpful to know about these as you frame your lesson. **Please remember that the "5 Es" may appear more than once or may appear in a different order based on your specific inquiry.**

|  |
| --- |
| **Full Name**: |
| **School Name and Full Address**: |
| **Preferred Email Address**: |
| **Target Grade Span**: |
| **Target Grade Level**: |
| **Target Course(s)**: |
| **Unit Plan Title:** |
| **Lesson Overview**: |
| **Teacher Background Information**: |
| **Suggested Time Frame**: |
| **Concept List:** |
| **Materials Needed**: |
| [**Next Generation Science Standards**](https://www.nextgenscience.org/three-dimensions) **(NGSS) / State Content Area Standards**: |
| [**Key Literacy Connections**](http://ngss.nsta.org/documents/AppendixM-ConnectionsToTheCCSSForLiteracy.pdf)**:** |
| **Relevant Domain(s) of** [**Disciplinary Core Ideas**](https://www.nextgenscience.org/three-dimensions)**:** |
| [**Science and Engineering Practices**](https://www.nap.edu/read/13165/chapter/7)**:** |
| [**Crosscutting Concepts**](https://www.nap.edu/read/13165/chapter/8)**:** |
| **Outcomes for Student Learning**: |
| **Germany-related Learning Goals**: |
| **Phenomenon / Main Problem**: |
| **Engage:** |
| **Anticipated Guiding Questions:** |
| **Explore:** |
| **Featured Sources (APA citations):** |
| **Explain**: |
| **Create a Prototype / Investigating Solutions**: |
| **Elaborate:**  *Understand*  *Assess*  *Act* |
| **Evaluate:** |
| **Virtual Exchange:** |
| **Career Connection Exploration:** |
| **Modifications for Differentiation**: |
| **Reflection on Equity Centered Design**: Reflecting back on your finished inquiry, how would you evaluate yourself on the following scale in terms of your efforts to incorporate equity centered design? You may elect to check one of the boxes below or keep the answer to yourself and leave it blank. This question is intended to encourage self-reflection.   * 1- Satisfied * 2- Somewhat satisfied * 3- Neutral * 4- Somewhat dissatisfied * 5- Dissatisfied |

**Scoring Rubrics:**

Content Standard

|  |  |  |  |
| --- | --- | --- | --- |
| 4  Advanced | 3  Proficient | 2  Partially Proficient | 1  Beginning |
|  |  |  |  |

Science and Engineering Practice

|  |  |  |  |
| --- | --- | --- | --- |
| 4  Advanced | 3  Proficient | 2  Partially Proficient | 1  Beginning |
|  |  |  |  |

Crosscutting Concept

|  |  |  |  |
| --- | --- | --- | --- |
| 4  Advanced | 3  Proficient | 2  Partially Proficient | 1  Beginning |
|  |  |  |  |

**STEM Unit BluePrint Template:**

|  |  |
| --- | --- |
| **TITLE OF LESSON/INQUIRY** | |
| **Next Generation Science Standards (NGSS):** |  |
| **Materials needed:** |  |
| **Engage:** |  |
| **Explore:** |  |
| **Featured Sources:** |  |
| **Explain:** |  |
| **Create a Prototype:** |  |
| **Elaborate:** | *Understand*:  *Assess*:  *Act*: |
| **Evaluate:** |  |

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Parts of this problem-based unit plan format were adapted from the [IDM Blueprint Template™](http://www.c3teachers.org/wp-content/uploads/2015/06/Inquiry-Design-Model-Template.docx) and [Inquiry Design Model (IDM) – At a Glance™](http://www.c3teachers.org/wp-content/uploads/2015/06/Inquiry-Design-Model-glance.pdf) (both by C3 Teachers’ Grant, Lee, and Swan, 2014) and the [Engineering Design Process](http://www.gettingsmart.com/2017/10/integrating-edp-and-cbl-in-stem/). Changes and additions were made by the [Transatlantic Outreach Program](https://www.goethe.de/top). All rights are reserved under a Creative Commons license Attribution-ShareAlike 4.0 International ([CC BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)).

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