**Tower Masters Research Worksheet (GrK-2) Answer Key**

1. **Define** by cutting and pasting from the picture choices below:

An **engineer** is a person who uses:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\C4YUN8ZE\math_signs[1].gif | + | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\WSIWLI8J\Science-Girl[1].png | 🡪 | to create  C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\C4YUN8ZE\great_idea[1].jpg |
|  |  |  |  | to solve a problem in the world. |

A **civil engineer** is a person who designs all kinds of structures, including public works such as:

|  |  |  |
| --- | --- | --- |
| C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\99R1CEYN\13512639993_00abdf124d[1].jpg | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\PYB94AEY\stock-vector-san-francisco-golden-gate-bridge-trolley-coit-tower-and-palace-of-fine-arts-illustration-100628494[1].jpg | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\GKS4G5LG\dampower[1].jpg |

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**✂**

**Choose from the following items to cut and paste answers to questions 1 and 2.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Research the problem | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\WSIWLI8J\Science-Girl[1].png | Imagine: Develop possible solutions | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\C4YUN8ZE\great_idea[1].jpg | Improve: Redesign as needed |
| C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\99R1CEYN\13512639993_00abdf124d[1].jpg | Ignore the problem  **X** | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\C4YUN8ZE\math_signs[1].gif | Create: Build a prototype | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\GKS4G5LG\dampower[1].jpg |
| Plan: Select a promising solution | C:\Users\Tiffany\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.IE5\PYB94AEY\stock-vector-san-francisco-golden-gate-bridge-trolley-coit-tower-and-palace-of-fine-arts-illustration-100628494[1].jpg | Create a hypothesis  **X** | Ask: Identify the need and constraints | Test and evaluate prototype |

1. The **engineering design process** is a series of steps that guides engineers as they design and redesign structures and other inventions without wasting a lot of money, time and materials.

Ask: Identify the need and constraints

Improve: Redesign as needed

Research the problem

**Engineering Design Process**

Test and evaluate prototype

Imagine: Develop possible solutions

Plan: Select a promising solution

Create: Build a prototype