Investigation Instructions

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| **5E Model of Instruction** | **Activity** | **Time** |
| Engage | • Show a water bottle filled with dirty (muddy) water and ask, “Would you drink this? What if it was all you had?”• We have clean water readily available, how could we get water to these people on the other side of the world?• Begin a discussion with the students and help them to understand the implications of their choices.• Introduce the book, *A Long Walk to Water* (Park, 2010).• View *Just Add Water* - promotional video for Water for South Sudan.• Share the article, Global Concerns-Water ([www.concernusa.org)](http://www.concernusa.org)). | 1 class period |
| Explore | • Research other possible solutions for obtaining clean water (Figure 3).• Students incorporate the [*Claim, Evidence, Reason*](http://www.paesta.psu.edu/sites/default/files/scaffolding_claims_evidence_and_reasoning.pdf)model for supporting their opinions.• Students present their findings to the class following guidelines (Figure 4). • Hands-on activities at various levels of understanding and independence (Figure 5). 1. Design, build, and test a model of the Warka water tower. 2. Design, build and test a water filter. 3. Build and test a scripted model of a water well. 4. Build and test a model of a desalination plant. • Draw and label a diagram of the LifeStraw, Warka water tower, Janicki Omniprocessor, or well. |  5-6 class periods  |
| Explain | • Students discuss including what it is, how it works, pros, and cons each of the possible solutions.• More resources are added, including books about the water crisis and additional websites.• Teacher leads a brief overview discussion of each of the possible solutions. | 1-3 class periods  |
| Elaborate | • See cross disciplinary connection activities listed in Figure 6. | Multiple class periods  |
| Evaluate | • Students design and present projects expressing their supported opinion for the best solution to the water crisis.• Students incorporate the [Claim, Evidence, Reason](http://www.paesta.psu.edu/sites/default/files/scaffolding_claims_evidence_and_reasoning.pdf) model for supporting their opinions (See Figure 4 for Evaluation Rubric). | 3-4 class periods |