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| **ACTIVITY ANSWER GUIDE** |
| **Part A – Pre Activity**   1. Answers based on the video provided by FLATE 2. Most probably because the chocolate bar reached its melting point. 3. FLATER will rise the melting temperature or melting point of chocolate by creating an emulsion. 4. An emulsion of chocolate is a blend of oil + water+ pure chocolate. The emulsion stays as one phase permanently. This happens when two or more materials, which do not usually mix together, are forced to do so by the addition of a “helper” referred as an emulsifier (review more theory if necessary-see teachers reference sheet). 5. There are many possible answers, examples of emulsions- lotion, liquid soap, milk, vinaigrette, oil in water, water in oil, etc. 6. FLATER could raise the melting point by making an emulsion. 7. FLATER may possibly make millions of chocolate bars fast by adding heat to a big pot of chocolate emulsion and making it in a factory. 8. Science, mathematics and technology must work together to come up to such innovated way so all of us can enjoy chocolate at any time and place. 9. Correct answer is:  * b. Sand and water is not an emulsion. |
| **Part B – Create your Own Chocolate Bar**  Have materials ready and follow recommended instructions. |
| **Part C – Engineer’s Report**   1. Students describe how margarine and oil mix, margarine might stay in blobs for a while 2. Students must describe how all ingredients form one phase: an emulsion. 3. Students design and create their own chocolate wrapper. It must include the name, size, color, cost, texture, flavor and ingredients of the chocolate bar. |