**Backwards Design Project**

**Name of lesson/unit:**

**Grade Level: 6th**

**Subject Area: Mathematics**

**Stage 1:**

**Content standards:6.NS.5**

**Understanding(s):**

Students will understand that…….

Negative and positive numbers can be used to represent quantities in real world contexts

**Essential Question: How do you identify an integer and its oposites**

**Stage 2: Acceptable Evidence**

**Performance Task(s)**

How do the students prove they understand the concept?

* Weekly weather report relating predicted temperature to local average
* Keep a checking account with integer values- financial report for a news broadcast
* Describe a sporting event in terms of negative and positive values- sports broadcast

Other Evidence and Formative Assessment works:

* Classroom discussion (number talks)
* Quiz
* Self evaluation on news broadcast performance

**Rubric:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CATEGORY | **4** | **3** | **2** | **1** |
| **Mathematical Errors** | 90-100% of the steps and solutions have no mathematical errors. | Almost all (85-89%) of the steps and solutions have no mathematical errors. | Most (75-84%) of the steps and solutions have no mathematical errors. | More than 75% of the steps and solutions have mathematical errors. |
| **Mathematical Reasoning** | Uses complex and refined mathematical reasoning. | Uses effective mathematical reasoning | Some evidence of mathematical reasoning. | Little evidence of mathematical reasoning. |
| **Explanation** | Explanation is detailed and clear. | Explanation is clear. | Explanation is a little difficult to understand, but includes critical components. | Explanation is difficult to understand and is missing several components OR was not included. |
| **Mathematical Terminology and Notation** | Correct terminology and notation are always used, making it easy to understand what was done. | Correct terminology and notation are usually used, making it fairly easy to understand what was done. | Correct terminology and notation are used, but it is sometimes not easy to understand what was done. | There is little use, or a lot of inappropriate use, of terminology and notation. |

[http://rubistar.4teachers.org](http://rubistar.4teachers.org/)

**Stage 3: Learning Plan**

**Learning Activities:**

* Play board games involving positive and negative integers (example: chutes and ladders with backwards movement to represent negative integers)
* Student number line (silently line up with integer cards in order)
* Record positive and negative numbers in a news broadcast
* Count calories – record food and day activities

**Lesson Contributors: Names and schools**

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