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| **Strand: Science – Force and Motion** |
| **Topic: Newton’s Second Law (FM2)** |
| **Grade: 7th Grade** |
| **Score 4.0** | **In addition to Score 3.0, in-depth inferences and applications that go beyond what was taught.**1. Can rearrange the formula F=MA to find A and M.
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|  | **3.5** | In addition to score 3.0 performance, in-depth inferences and applications with partial success. |
| **Score 3.0** | **The student understands that an object with a larger mass will require a larger force to accelerate.** 1. Can explain the way a net force can act on an object
2. Can use the formula F=MA to find the force needed to accelerate a mass.
3. Can identify the magnitude of a force required move a mass.

**The student exhibits no major errors or omissions.** |
|  | **2.5** | No major errors or omissions regarding 2.0 content and partial knowledge of the 3.0 content |
| **Score 2.0** | **There are no major errors or omissions regarding the simpler details and processes as the student:*** Recognizes or recalls specific terminology, such as:
	1. net force
	2. acceleration
	3. mass
	4. Understands the unit for *mass is Kg (kilogram)*
	5. Understands the unit for *acceleration is m/s/s or m/s2 (m=meter, s=seconds)*
	6. Understands the unit for *force is a Newton*
* Recognizes an object moves because of a force.

**However, the student exhibits major errors or omissions regarding the more complex ideas and processes.** |
|  | **1.5** | Partial knowledge of the 2.0 content, but major errors or omissions regarding the 3.0 content. |
| **Score 1.0** | **With help, a partial understanding of some of the simpler details and processes and some of the more complex ideas and processes.** |
|  | **0.5** | With help, a partial understanding of the 2.0 content, but not the 3.0 content. |
| **Score 0.0** | **Even with help, no understanding or skill demonstrated.** |