

Name: _____ Lab: _____ Date: _____

Exploration	
Mark	Descriptor
0	<ul style="list-style-type: none"> The student's report does not reach a standard described by the descriptors below.
1–2	<ul style="list-style-type: none"> The topic of the investigation is identified and a research question of some relevance is stated but it is not focused. The background information provided for the investigation is superficial or of limited relevance and does not aid the understanding of the context of the investigation. The methodology of the investigation is only appropriate to address the research question to a very limited extent since it takes into consideration few of the significant factors that may influence the relevance, reliability and sufficiency of the collected data. The report shows evidence of limited awareness of the significant safety, ethical or environmental issues that are relevant to the methodology of the investigation*.
3–4	<ul style="list-style-type: none"> The topic of the investigation is identified and a relevant but not fully focused research question is described. The background information provided for the investigation is mainly appropriate and relevant and aids the understanding of the context of the investigation. The methodology of the investigation is mainly appropriate to address the research question but has limitations since it takes into consideration only some of the significant factors that may influence the relevance, reliability and sufficiency of the collected data. The report shows evidence of some awareness of the significant safety, ethical or environmental issues that are relevant to the methodology of the investigation.*
5–6	<ul style="list-style-type: none"> The topic of the investigation is identified and a relevant and fully focused research question is clearly described. The background information provided for the investigation is entirely appropriate and relevant and enhances the understanding of the context of the investigation. The methodology of the investigation is highly appropriate to address the research question because it takes into consideration all, or nearly all, of the significant factors that may influence the relevance, reliability and sufficiency of the collected data. The report shows evidence of full awareness of the significant safety, ethical or environmental issues that are relevant to the methodology of the investigation.*

Exploration Checklist:

- _____ Focused research question or problem-- may include a clear hypothesis
- _____ Introduction describes current knowledge on topic and provides clear overview of this investigation
- _____ Independent variable (I.V.) & Dependent variable is (D.V.) are identified and quantitative
- _____ Controlled variable(s) is/are identified and justified
- _____ Materials list is provided
- _____ Safety, ethical or environmental considerations are described
- _____ Method describes how the I.V. will be manipulated—should include description of sample sizes, trials & replicates
- _____ Method describes how controlled variables are held constant—needs to be clear and concise
- _____ Describe apparatus & setup and/or provides a diagram/picture with annotations—including materials specific to the investigation
- _____ If applicable, cite reference for standard collection procedure—use CBE/CSE, MLA or APA
- _____ Methods are not written in person-point-of-view
- _____ Method describes how the D.V. will be measured
- _____ Method describes how data will be collected/measured
- _____ Method provides for collection of sufficient data points (5 recommended)
- _____ Method provides for replication of data points (3-5 replicates per data point / consistent results are met)

Exploration Day 1:

Mark Schemes/Exploration Intro

Begin Assignment Parts 1 & 2 below

HW: Complete Parts 1 & 2 below

Exploration Day 2:

Trade with partner and complete Part 3

Trade back and complete Part 4

HW: Read Chapter 11.1-2 in Physical Science book (Waves)

Prompt

- Investigate some physical property of a bouncy ball.
 1. Create your own exploration.
 2. Analyze your exploration using rubric and checklist
 3. Analyze your partner's exploration
 4. Reflect on the process, strengths and weaknesses



1. Create your exploration

- Research Question / Identify variables
 - Independent
 - Dependent
 - Controlled
- Control Variables
 - Manipulate independent variable
 - Attempt to maintain the controlled variables
- Method for collection of data
 - Collect sufficient amount of data
 - Trial run and repeats until consistent results are obtained

2. Analyze YOUR Exploration by using the checklist

- Take 5 minutes or so and read over your Exploration.
- Make sure you have included all the listed requirements.
- Assess your aspects using the checklist and the rubric.
- "What grade would I earn?"



3. Analyze Partner's Exploration

- Trade with the partner (See Board)
- Analyze using the checklist and rubric.
- Assign a grade at the top of the paper
 - Write the number, 1-6
 - Justify using the checklist

4. Reflection Time!

- Trade with partner to get YOUR Exploration back
- Look at feedback – agree or disagree? No hard feelings, we're all new at this :)
- Reflection free write:
 - 1. Which part was my strength? Why?
 - 2. Which part was my weakness? Why?
 - 3. How can I improve my current Exploration?
 - 4. What will I do differently when I create my next Exploration?
- Hand in your Exploration and Reflection and...