

# What's the Big Idea?

## Filming the Forces

An Arts-Integrated Performance Task using  
Understanding by Design© by Pamula Bradley



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*for Arts Education*

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## Filming the Forces Arts-Integrated Performance Task

**Submitted by: Pamula Bradley**  
**School District: Pleasant Hill School**  
**For: Grade 5 Science and Theatre**

### What's the Big Idea?

1. Topic that Leads to the Big Idea: Forces and Motion
2. The Big Idea: Students will understand that forces and motion are found in everyday life.
3. Knowledge, Skills and Abilities Addressed as Learner Objectives:

Use of flip cameras; use of digital cameras; organizing ideas; use of Microsoft PowerPoint; use of a variety of note taking/organization strategies

4. The Essential Question: Where is force and motion found in everyday life?

### How Will You Know What They Are Learning?

5. Identify the performance tasks that will produce evidence of learning.

Students will design and construct a film through Microsoft Movie-Maker that shows understanding of force and motion in everyday life.

### What Do Students Need to Learn?

6. Show-Me Standards and Grade-Level Expectations:

#### Science

SC 2: Properties and Principles of Force and Motion

2: Forces affect motion

Concept A: Forces are classified as either contact or noncontact forces, that can be described in terms of direction and magnitude

Concept D: Newton's Laws of Motion explain the interaction of mass and forces, and are used to predict changes in motion

## Theatre

### FA 1: Product/Performance

1. Develop and apply skills to communicate ideas through theatrical performances
  - B. Acting
    - 5<sup>th</sup> grade – Use vocal skills (e.g. clarity, variety, and volume) through reading aloud and interpreting characters

### Process Standards:

Goal 1 – students will acquire the knowledge and skills to gather, analyze and apply information and ideas

4. use technological tools and other resources to locate, select, and organize information
8. organize data, information and ideas into useful forms for analysis or presentation

Goal 2 – Students will acquire the knowledge and skills to communicate effectively within and beyond the classroom

1. plan and make written, oral and visual presentations for a variety of purposes and audiences
7. use technological tools to exchange information and ideas

Goal 4 – students will acquire the knowledge and skills to make decisions and act as responsible members of society

4. recognize and practice honesty and integrity in academic work and in the workplace
5. develop, monitor and revise plans of action to meet deadlines and accomplish goals
6. identify tasks that require a coordinated effort and work with others to complete those tasks

## How Are You Going to Make it Happen?

Describe what **the teacher** will do; describe what **students** will do.

Before the task, the teacher will:

- secure several digital cameras, flip cameras, and computers for use in the classroom (Note: Teacher must have prior knowledge of how to use digital cameras, flip cameras, Microsoft PowerPoint, and Microsoft Movie-Maker)
- will introduce and teach all concepts of forces and motion to students through a variety of note taking/organization strategies and activities.
- will explain to the students that they will create a film presentation through Movie-Maker.

During the task, the teacher will:

- allow approximately 2 weeks (1 hour each day) for completion of project
- demonstrate to students how to use cameras, flip cameras, and Movie-Maker at the different steps of the process (Note: Students should have prior knowledge in the use of PowerPoint)
- facilitate the process of creating the film
- provide feedback and reinforcement

Students will:

- students will use any notes and knowledge used throughout the unit to create a presentation in Movie-Maker in cooperative groups

- present their films to other classmates and teachers
- organize required criteria in a storyboard
  - Students will decide how they want to present each of the 15 criteria. They must be able to explain (through text or voice) and show (through picture, clipart, or video) each criterion. They can choose to do a text slide, a picture slide, a video, or a combination. On the storyboard, they will write down what each slide will cover (content) and what type of slide they will present.
- make their film
  - Each group will be assigned to a flip camera. Before recording, students must have props that they have planned to use. They are to practice exactly what they are going to say and do several times. Once they feel they are ready to record, they may use the flip camera. Repeat for as many videos as planned on the storyboard. When all videos have been recorded, students will download videos onto computer.
- take photographs
  - Each group will be assigned a digital camera. Students will take all pictures planned according to the storyboard and then download them onto the computer.
- create a PowerPoint
  - Each group is to sit down at the computer and create only the text slides in PowerPoint. This will include changing the backgrounds, text styles, and adding pictures/clipart to the text slides. [If students use just a picture on a slide without text they do not do this in PowerPoint.] Once the PowerPoint slides are completely finished, students will save it as a JPEG
- use Movie-Maker
  - Students will transfer all videos, pictures, and text slides into Movie-Maker and create their films. This includes organizing the slides, adding transitions, and possibly music. Once movie has been created it will be copied onto a storage device (i.e. jump drive or DVD disc) for future presenting to audience.

**Scoring Guide is on page 5; Storyboard Template is on page 6; Alternate Scoring Guide is on page 7.**

**Description of Quality:**

**Film will be captivating to audience. It will flow from one slide to the next without any flaws. Criteria will be explained and shown accurately and completely. Text slides will be easy to read without any spelling/grammar errors. Voices in videos will be projected and words will be easily understood.**

### Filming the Force Scoring Guide

Criteria	Advanced 100 Points	Proficient 80 Points	Basic 60 Points	Below Basic 40 Points
Mechanical Aspects of the Film: 1. Project runs perfectly with no technical problems or error messages 2. Project follows rules of proper spelling and/or grammar	The film runs perfectly with no technical problems or error messages <b>and</b> the film includes proper spelling and/or grammar throughout (no errors).	Most of the film runs perfectly with only 1-2 technical problems or error messages <b>and</b> the film includes proper spelling and/or grammar throughout (no errors).	Most of the film runs perfectly with only 1-3 technical problems or error messages <b>and</b> most of the film includes proper spelling and/or grammar throughout (1-2 errors).	The film has more than 3 technical problems or error messages and/or the film has more than 3 spelling or grammar errors.
Design includes a combination of multimedia elements (pictures, video, text slides) and content communicates the intended ideas clearly and in a logical sequence	The design includes a <b>fresh and original</b> combination of multimedia elements (pictures, video, text slides) and <b>all</b> of the content communicates the intended ideas clearly in a logical sequence.	The design includes a <b>typical</b> combination of multimedia elements (pictures, video, text slides) and <b>most</b> of the content communicates the intended ideas clearly in a logical sequence.	The design includes a <b>typical</b> combination of multimedia elements (pictures, video, text slides) and <b>some</b> of the content communicates the intended ideas, sequencing of some of the ideas may not be logical.	The design may include a combination of multimedia elements (pictures, video, text slides), however the intended ideas are not communicated or are out of sequence.
Evidence of connection to unit facts and concepts is clear and includes: <u>Motion:</u> Constant, Variable, Periodic, Circular & Vibrational <u>Force:</u> Force, Net Force, Gravity, Magnetic, Electric, & Friction <u>Newton's Laws:</u> First (Inertia), Second (Acceleration), Third	Film includes all of the listed unit facts and concepts in a unique and original way.	Film includes all of the listed unit facts and concepts in a typical way.	Film includes most of the listed facts and concepts in a unique and original way <b>or</b> the film includes some, but not most, of the listed facts in a typical way.	Film includes less than half of the listed facts and concepts.
Sources are properly cited and Subject knowledge is evident throughout the project. All information is clear, appropriate, and correct	<b>All</b> sources are properly cited and subject knowledge is evident throughout the project; <b>all</b> information is clear, appropriate, and correct.	<b>All</b> sources are properly cited and subject knowledge is evident throughout the project; <b>most</b> information is clear, appropriate, and correct.	<b>Most</b> sources are properly cited and subject knowledge is <b>somewhat</b> evident; <b>most</b> information is clear, appropriate, and correct.	<b>Few</b> sources are properly cited and subject knowledge is <b>somewhat</b> evident; some, but not all, information is clear and correct.

Total \_\_\_\_\_/500 Points

# Storyboard



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## Alternate Scoring Guide

<b>Multimedia Mania Student Checklist</b>							
		<b>Criteria</b>		<b>Yes</b>	<b>No</b>	<b>Weight</b>	<b>Total</b>
<b>Mechanical</b>	1	Technical	Project runs perfectly with no technical problems or error messages			x1	
	2	Spelling and Grammar	Project follows rules of proper spelling and/or grammar			x1	
	3	Completion	Project is completely finished and on time			x1	
<b>Multimedia</b>	4	Design	Combination of multimedia elements (pictures, video, text slides) and content communicate the intended ideas clearly			x1	
<b>Information</b>	5	Organization	Sequence of information is logical			x1	
<b>Resources</b>	6	Resources	Sources are properly cited within the project			x1	
<b>Quality of Content</b>	7	Originality	Project shows significant evidence of originality and inventiveness; ideas are fresh and original			x1	
	8	Curriculum alignment	Evidence of connection to unit facts and concepts is clear  <b><u>Motion</u></b>  <ul style="list-style-type: none"> <li>• <b>Constant</b></li> <li>• <b>Variable</b></li> <li>• <b>Periodic</b></li> <li>• <b>Circular</b></li> <li>• <b>Vibrational</b></li> </ul>			x3  x3  x3  x3	

			<p><b><u>Force</u></b></p> <ul style="list-style-type: none"> <li>• <b>Force</b></li> <li>• <b>Net Force</b></li> <li>• <b>Gravity</b></li> <li>• <b>Magnetic</b></li> <li>• <b>Electric</b></li> <li>• <b>Friction</b></li> </ul> <p><b><u>Newton's Laws</u></b></p> <ul style="list-style-type: none"> <li>• <b>First (Inertia)</b></li> <li>• <b>Second (Acceleration)</b></li> <li>• <b>Third</b></li> </ul>			x3	
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	9	Subject knowledge	Subject knowledge is evident throughout the project. All information is clear, appropriate, and correct			x2	