

# Muse®

## Waht Misteak?

We often hear of people's great achievements, but acknowledging their failures and the role they played in those achievements is equally important. This issue of MUSE explores the possibility for personal and social growth when presented with unfavorable outcomes. The old adage is true...we CAN learn from our mistakes!

## CONVERSATION QUESTION

How do mistakes provide us with an opportunity to learn?

## TEACHING OBJECTIVES

- Students will learn how specific factors affect the success of a learning environment.
- Students will learn about tech genius, Steve Jobs.
- Students will learn how Han van Meegeren's forgeries fooled the world.
- Students will compare and contrast the implementation of an educational project.
- Students will analyze cause and effect relationships.
- Students will sequence and explain a process.
- Students will use a mathematical process to calculate an average.
- Students will redesign the iconic Apple logo.
- Students will write a reflective essay.



In addition to supplemental materials focused on core STEAM skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

## SELECTIONS

- **When Good Science Goes Bad**  
Expository Nonfiction, ~980L
- **Flawed Genius**  
Expository Nonfiction, ~700L
- **Art ALERT!**  
Expository Nonfiction, ~920L

## When Good Science Goes Bad

pp. 10–14 Expository Nonfiction

This article explores what it means to try and creating the optimal learning environment. Students will explore the effects of different variables on educational outcomes. Students will learn that what is successful in one context may be unsuccessful in another.



### RESOURCES

Compare and Contrast: What Went Wrong?

### OBJECTIVES

- Students will learn how specific factors affect the success of a learning environment.
- Students will compare and contrast the implementation of an educational project.
- Students will use a mathematical process to calculate an average.

### KEY VOCABULARY

- **control** (p. 11) the group in an experiment that does not receive treatment
- **randomized** (p. 11) unpredictable, unsystematic sampling
- **impact** (p. 12) influence; effect
- **recruited** (p. 12) purposefully sought out an individual

### ENGAGE

**Conversation Question:** How do mistakes provide us with an opportunity to learn?

Invite students to talk in small groups to determine what elements they believe create a successful learning experience. Have them share their findings and generate a class list of criteria. Guide students to identify the commonalities that were found among the groups, as well as the outliers. Distribute the article, “When Good Science Goes Bad”.

### INTRODUCE VOCABULARY

Display the four vocabulary words. Discuss the general meanings of the terms. Tell students that in this article, the words are used in a scientific context. Lead the class to acknowledge that the way we define words is often relative to the discipline in which it is used. Have students write the appropriate definitions as listed under the “Key Vocabulary” section in their science notebooks. Emphasize these words in the reading.

### READ & DISCUSS

Reinforce comprehension of the concepts in this article by using the following prompts to direct discussion.

1. What was the objective of the Project STAR experiment?
2. How does the study provide evidence that the success or failure of a project relies on many factors?
3. Why do you think that the size of the study was a factor in the results?
4. What precautions do you think other schools could take to ensure better results than those which occurred in California?

### SKILL FOCUS: Compare and Contrast

**INSTRUCT:** Elicit from students that the main idea of the article was to recognize the failure that occurred from trying to simply replicate a scientific study without considering all of the factors. Assign partners and have students work to complete the *What Went Wrong?* graphic organizer, comparing the variables that altered the outcome of the California program. Encourage the pairs to share their finished work, instructing them to amend their own charts if necessary.

**ASSESS:** Review the chart to determine if students were accurately able to record and compare/contrast the information from the text.

### EXTEND

**Mathematics:** Page 12 of the article states that in the 1990s, California had the country’s highest average class size: 29 students. Review with students how to calculate an average (add up the numbers in the set, then divide the sum by the total number of numbers in the set). Have students find the average of the following set: 35; 31; 28; 34; 25; 33.

(Answer:  $186 \div 6 = 31$ )

## What Went Wrong?

**Compare and Contrast:** Use information from the article to compare and contrast the variables in the implementation of the STAR Program in Tennessee and California schools. Record specific details.

Contributing Factors	State: Tennessee	State: California
Class Size		
Classroom Space		
Teachers		
Materials		
Funds		
Other: <hr/>		

## Flawed Genius

pp. 26–29, Expository Nonfiction

This article will introduce students to the turbulent career and personal life of controversial Apple co-founder, Steve Jobs. Students will discover that the traits that make someone successful can also have negative consequences.



## RESOURCES

Cause and Effect: There's an App for That!

## OBJECTIVES

- Students will learn about tech genius, Steve Jobs.
- Students will analyze cause and effect relationships.
- Students will redesign the iconic Apple logo.

## KEY VOCABULARY

- **spanned** (p. 27) extended across
- **convoluted** (p. 28) complex and difficult to follow
- **potential** (p. 29) the capacity to develop into something in the future

## ENGAGE

**Conversation Question:** How do mistakes provide us with an opportunity to learn?

Pose the question: *Can you imagine life without your Apple tech products?* If you don't like those images, you have Steve Jobs to thank for sharing his genius. Have students discuss which tech product they feel have benefitted them individually, as well as has advanced society. Deliberate both the positive and negative impact of constantly evolving technology.

## INTRODUCE VOCABULARY

Post and read the vocabulary words aloud. Have students peruse pages 27 through 29 to locate the sentences in which these words appear. Instruct the class to work in pairs to read for context clues and discuss how the Key Vocabulary (**spanned**; **convoluted**; **potential**) relate to the topic "Flawed Genius," Steve Jobs.

## READ & DISCUSS

As a post-reading activity, lead a discussion based on the following questions:

1. What are some of the high-tech products that were designed by Steve Jobs?
2. How could obsessing over details as Jobs did be both a negative and a positive trait?
3. What behaviors caused Steve Jobs to be fired from his own company?
4. Explain how Steve Jobs' stubbornness was a factor in his comeback.

## SKILL FOCUS: Cause and Effect

**INSTRUCT:** Discuss with students that cause and effect relationships can be both positive and negative. Introduce the graphic organizer, *There's an App for That!* and tell students that they will be searching through the article for such relationships. Encourage them to look at the information from different perspectives.

**ASSESS:** Have students peer-review their work by sharing completed worksheets with a partner. Circulate and guide as they discuss.

## EXTEND

**STEAM:** The article states on page 28 that Steve Jobs obsessed over details. Display the Apple logo and tell students that it is one of the most distinctive branding images in the world. Although there are many theories about its origin, people close to Jobs maintain the following: Jobs liked the fruit, it had an alphabetical advantage, and the symbol is associated with knowledge and discovery. Furthermore, the name purposefully contrasted with other tech companies of the time (IBM, Microsoft). The bite simply ensured that it wouldn't get mistaken for a cherry. The image slightly evolved over the years. Have students meet in small groups to redesign the logo for this iconic company. A good logo should be memorable, simple, timeless, versatile, and appropriate.

## There's an App for That!

**Cause and Effect:** Consult the article and identify pivotal events and list their causes and effects. In the final column, record if the event was positive, negative, or possibly both.

Page Number	Cause/Behavior	Effect/Result	Positive or Negative
Page 27	Jobs introduces the iPhone	Revolutionized the tech world, highly praised	Positive

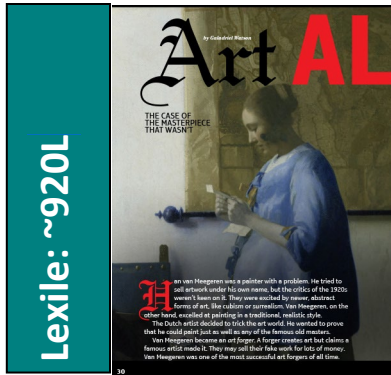
**Turn and Talk:** Reflect on a time when your own behavior had both a positive and negative consequence. Discuss with a partner and conclude whether the good outweighed the bad and why.



## Art ALERT!

### pp. 30–34, Expository Nonfiction

Grab your palette and dip into this article that details the process of one of the most successful art forgers, Han van Meegeren. Readers will learn how he used a painstaking process to recreate famous artwork and sell it for millions of dollars.



## RESOURCES

Sequencing a Process: The Art of Deception

## OBJECTIVES

- Students will learn how Han van Meegeren's forgeries fooled the world.
- Students will sequence and explain a studied process.
- Students will write a reflective essay.

## KEY VOCABULARY

- **forger (p. 30)** a person who makes an illegal copy of something with the intent to deceive
- **national treasures (p. 33)** things, places, or people that are greatly valued by the people of a country; usually an emblem of the nation's cultural heritage or identity

## ENGAGE

**Conversation Question:** How do mistakes provide us with an opportunity to learn?

Today, multi-media platforms constantly bombard us with fake images. Some are slightly altered, while others are totally falsified representations. Pose the questions: *Why is creating forgeries easier today than it was hundreds of years ago? When would we rather believe that a fake is real than know the truth?*

## INTRODUCE VOCABULARY

Post and discuss the two key terms and definitions. Have a discussion about **forgeries** and **national treasures** that students are familiar with from books, movies, or real-life. Arrange small groups and instruct them to create a two-column chart listing forgeries and national treasures. Fictional items can be placed on the list, as long as they can offer a point of reference for the listing.

## READ & DISCUSS

Post and discuss the questions prior to reading. Have students read the article independently and answer the questions in complete sentences.

1. Who was Han van Meegeren?
2. How did Bredius' article seal Han's path deeper into forgery?
3. What was unique about how Han van Meegeren escaped his punishment of death?
4. Why did Han van Meegeren choose to copy Vermeer's work?
5. What mistakes led to Han van Meegeren getting caught?

## SKILL FOCUS: Sequencing a Process

**INSTRUCT:** Review the article and guide students to notice that there is a very specific process that Han van Meegeren utilized when creating his forgeries. Distribute the *Art of Deception* graphic organizer and instruct students to condense the process into four important steps that detail how he recreated the famous masterpieces.

**ASSESS:** Circulate as students are working on their charts and have students retell the process in their own words. Collect the organizer and evaluate.

## EXTEND

**Language Arts:** Have students consider the following question: *If Han van Meegeren was so talented, why didn't he make his living creating original artwork?* Allow a short brainstorming session, and then tell the students that they are going to focus on that question as they write a reflective essay. (A reflective essay is writing that requires the author to inform the reader about their attitudes and impression regarding a given topic.) Have them consider whether it was money, lack of confidence, the thrill...or something else. Remind them to present logical reasons to support their opinions.

## The Art of Deception

**Sequence a Process:** Reread the article and highlight sentences that detail the steps of Han van Meegeren's process for creating superior forgeries. Condense the process into four steps and use details to explain each step.

