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# Teacher's Guide

# Science-

# Sationally

# Savvy Days

By Greg Alexander



## SPONSORED BY

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## FURTHER READING & LEARNING

### Electronic Resource

GALE Cengage: Traits of a Scientist Lesson Plan

[http://www.galeschools.com/lesson\\_plans/2007/2007\\_s\\_back\\_to\\_school.htm](http://www.galeschools.com/lesson_plans/2007/2007_s_back_to_school.htm)

### Electronic Activities

About Your Health...

<http://www.scholastic.com/browse/quiz.jsp?id=43121>

PBS Kids: Germinator!

<http://pbskids.org/fetch/games/germinator/index.html>

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# BEFORE THE PLAY

## SYNOPSIS

Follow Ben Franklin, William Addis, Ignaz Semmelweis, Barry Marshall, and others on their scientifically sensational adventures! See the Scientific Method at work as they discover how to predict weather patterns, keep teeth clean, make ice cream, preserve food, and prevent the spread of infectious disease. What will your students do when they unleash the power of the scientific method? 3

## THEMES:

Science, Hygiene, Nutrition, Health, VAPA, Math

### THEATRE TERMS

VISUAL & PERFORMING ARTS

3.0 Historical & Cultural Context

**SCRIPT:** The written play that tells actors what to say and what to do.

**ACTORS:** The people who say the words and do the actions on stage.

**CHARACTER:** The person or thing that an actor portrays.

**DIRECTOR:** The person who tells the actors how to say the words and how to do the actions.

**SCENERY/SET:** The backdrops, furniture, and other pieces that show the audience where the play is happening.

**COSTUMES/ WARDROBE:** The clothes and other items that actors wear to show who they are.

**PROPS:** The things that actors use (such as a book or a broom) during the play.

**SOUND:** The sound effects (like a doorbell or thunder) that help to tell the story.

**LIGHTING:** The lights that help the audience to see the actors and scenery on the stage.

**THEATER:** The place where a play is performed. It is from the Greek word *THEATRON*, which means “watching place.”

### DISCUSSION QUESTIONS

LISTENING & SPEAKING 1.0 Strategies: Comprehension  
K:1.2 3:1.3 4:1.1 5:1.2

LISTENING & SPEAKING 1.0 Strategies: Organization and Delivery of Oral Communication

1:1.4 2:1.6 5:1.5

VISUAL & PERFORMING ARTS

1.0 Artistic Perception

- When you watch a play or a movie about historical events, how can you tell the difference between fact and fiction?
- Introduce the terms listed in the Theatre Terms list provided. Can you give examples of these terms from plays or movies you've seen?
- What is a narrator and what does he or she do? Name examples from books, movies, or plays you have seen.
- Summarize what you know about oral hygiene and the benefits of washing your hands. What are some simple things you can do to keep your teeth clean and prevent the spread of disease?
- In what ways can seeing a play help you to understand a concept or course of events?
- What is a parody? Give examples of parody that you have seen. Why are parodies created?
- List the steps of the Scientific Method in order. Why is the order of these steps important?

# DURING AND AFTER THE PLAY

## DURING THE PLAY

### AUDIENCE BEHAVIOR

While watching a live theatre performance, it is important to sit attentively and listen. It does not mean that you need to be silent. Be sure to laugh at the funny parts (or cry at the sad parts), and certainly applaud at the end! Actors love it when an audience is involved with the show by actively watching and listening.

## AFTER THE PLAY

### DISCUSSION QUESTIONS:

LISTENING & SPEAKING 1.0 Strategies: Comprehension

K:1.2      3:1.3    4:1.1    5:1.2

LISTENING & SPEAKING 1.0 Strategies: Organization and Delivery of Oral Communication

1:1.4      2:1.6    5:1.5

VISUAL & PERFORMING ARTS

1.0 Artistic Perception

4.0 Aesthetic Valuing

5.0 Connections, Relationships, Applications

1. Who was your favorite character or what was your favorite scene from the play? Explain why.
2. If you could be any character from the play, which one would you be and why?
3. Refer back to the Theatre Terms list on page 4. What examples of these terms did you find in the play?
  - a. What did you think of the scenery, costumes, and props? Did they help you to understand the stories that the actors told? Why or why not?
  - b. How did the music or sound effects used during the show help you to understand the stories being told?
4. Define the major conflict of each scene. How did the action of each scene help to escalate and resolve these conflicts?
5. What themes did the playwrights develop throughout the play? What can playwrights, authors, and movie makers do to present and develop their themes?
6. What did the playwright and actors do to develop their characters? Each actor played more than one character—what did the actors do to make each unique?

# CLASSROOM ACTIVITIES

## VOCABULARY

### VISUAL & PERFORMING ARTS

#### 5.0 Connections, Relationships, Applications

The following words can be used in discussion of the play and in other activities.

#### READING 1.0: Vocabulary and Concept Development

3:1.7-8      4:1.2-4,6      5:1.2,4-5      6:1.2      7:1.2      8:1.1

#### LISTENING & SPEAKING: 1.0 Strategies: Organization and Delivery of Oral Communication

3:1.7

- |              |               |               |
|--------------|---------------|---------------|
| 1. physician | 6. regimen    | 11. scientist |
| 2. dissect   | 7. favor      | 12. emulsion  |
| 3. miasma    | 8. impression | 13. ulcer     |
| 4. bacteria  | 9. inquiry    | 14. preserve  |
| 5. halitosis | 10. finery    | 15. palace    |

1. Use a DICTIONARY to do the following:

- a. Define the words and identify their parts of speech.
- b. Divide each word into syllables and identify roots, prefixes, and suffixes.
- c. Identify the origins of five of these words.
- d. See if you can use three of these words in a sentence.

## WRITING

### VISUAL & PERFORMING ARTS

#### 5.0 Connections, Relationships, Applications

#### WRITING: 2.0 Applications

4:2.2    5:2.2    6:2.4

Reviews give insightful and critical opinions on plays that help people decide if they want to go see the play or not. Write a review that gives your honest opinion of B Street's production of *Science-Sationally Savvy Days* and tells why people should or should not go see it. Be sure to:

1. Include a short summary of the play.
2. Mention actors who performed well (or badly) and any outstanding design features (scenery, costumes, lighting, sound)

## SCIENCE

### VISUAL & PERFORMING ARTS

#### 5.0 Connections, Relationships, Applications

#### SCIENCE: Investigation and Experimentation

Scientists like Marshall, Semmelweis, Addis, and others used the scientific method to help them prove to the rest of the scientific community that their conclusions were valid. Otherwise, no one could know how thoroughly or objectively a hypothesis had been tested.

Divide the class into groups. Give each group a copy of the Kick-the-Can Ice Cream recipe available at <http://www.funology.com/kick-the-can-ice-cream/> or another recipe of your choice. Instruct one group to follow the recipe exactly, while all the other groups change one aspect—an ingredient amount, a step in the process, etc—of the recipe.

Then, have each group make Kick the Can-Ice-Cream according to original or altered recipe. How did each group's ice cream turn out? What did each group change and why?

# CLASSROOM ACTIVITIES

## SCIENCE (cont'd)

### SCIENCE

Life Science 4:2-3

Investigation and Experimentation

5

Doctors must observe a person's symptoms before making a diagnosis. During Dr. Semmelweis' time, doctors had to diagnose patients according to the symptoms they presented, even when they only had a limited knowledge of what actually caused those symptoms.

Use what you have learned about the anatomy of plants and how they function to make diagnoses of your own. Search your school or neighborhood for plants that look "sick" and see if you can figure out what is causing them to be unhealthy. Consider the following:

- Are they getting enough sunlight, water, or nutrients to thrive? Why or why not?
- Do they have to compete with other plants or animals for sunlight, water, or nutrients? Who is winning this battle?
- Are bugs or other parasites damaging them?
- Has their habitat been disturbed by any human activity?

After you have made your diagnosis, think of some ways to help these plants improve their health. Consider changes in sunlight, water, nutrients, and habitat. Compare and contrast the process you used to help your "patients" with that of a doctor who treats people. What do you think a doctor needs to know in order to adequately diagnose and treat human patients?

## MATH

### VISUAL & PERFORMING ARTS

5.0 Connections, Relationships, Applications

#### This Plus That

##### MATH

1.OA.5-6      2.OA.2

Solve the following word problems:

1. Valeriana makes 12 bowls worth of food before her stand opens. If she sells 3 bowls worth of food in the morning and 4 in the afternoon, how much food will she have left at closing?
2. Dr Semmelweis needs to buy supplies. If he buys 7 boxes of gloves, 5 boxes hand sanitizer, and 6 boxes of tissues, how many total boxes of supplies has he bought?
3. William Addis likes to brush his teeth as much as he can! If he brushes for 4 minutes today, 5 minutes yesterday, and 3 minutes the day before, for how many minutes has he brushed his teeth?

#### Convert This

##### MATHEMATICS

4.MD:3      5.MD:1,5

Solve the following word problems.

1. The playwright bought 0.5L of ice cream to celebrate a job well done! Convert this to centiliters, deciliters, liters, and nanoliters.
2. According to *Science-Sationally Savvy Days*, a person sheds 40lbs of skin in his/her lifetime. How much skin do 2 people shed? Convert your answer to ounces.
3. Dr. Marshall's lab measures 10 feet wide by 15 feet long and 10 feet tall. What is the area of his floor and the volume of the room?
4. The playwright in question 1 decided to buy ice cream for the whole cast of *Science-Sationally Savvy Days*! How many liters of ice cream would he buy for 4 actors? For 5?

# ATTENTION 3<sup>rd</sup>-8<sup>th</sup> GRADE TEACHERS:

The B Street Theatre is looking for  
**YOUNG PLAYWRIGHTS**

For our annual playwriting contest open to kids in  
Northern California!

Give your students the chance to have their plays performed by  
*The B Street School Tour*  
in  
**FanTaSy FeStival XXIX!**

## Rules

- Students must be 7-14 years of age.
- Plays must be no longer than 10 pages.
- Plays may contain up to 8 characters.
- No more than 2 students may collaborate on a script.
- Send a photocopy of the play to *The B Street School Tour* with your student's name, telephone number, and name of school. Please note that scripts will not be returned.
- Plays are accepted until January 31 every year. The B Street School Tour performs the winning plays for over 110 schools and organizations from March to June that same year.

To book Fantasy Festival XXIX  
please call: (916) 442-5635

Teachers can go to our website and

## Winners Receive

- Oscar Statuette
- Certificate of Achievement
- Official Notification of Award
- Name announced at every performance.
- Recognition in local newspapers
- Awards will be presented at a public performance in Spring 2014 at the B Street Theatre.



B Street Theatre School Tour  
2711 B Street  
Sacramento, CA 95816

download our playwriting curriculum guide.

[www.bstreettheatre.org](http://www.bstreettheatre.org)

## B STREET THEATRE OUTREACH & EDUCATION 2014-2015

“...the students were left with the sense that they could write a play.

They were Empowered to try.”

-5th Grade Teacher, Peter Shields Elementary

*“We absolutely loved the show.  
It was our best field trip ever!”*

- 2nd Grade Teacher, Delta Elementary Charter

### SCHOOL MATINEES (You come to us!)

September 30 – November 7, 2014

#### The Flying Machine

Travel back in time and bear witness to the death-defying adventures of the Wright Brothers at Kitty Hawk as they dazzle the world with their new invention: The Aeroplane!

November 18 – December 19, 2014

#### Snow White and Rose Red

The delightful Grimm's fairy tale about two sisters and the enormous bear they befriend will enchant kids of all ages, just in time for the Holidays.

February 17 – March 27, 2015

#### Dia de los Cuentos

Four hilarious, touching and sometimes spooky classic folk tales are brought to life with music and dance in a celebration of California's deep Hispanic influence.

April 28 – June 5, 2015

#### The Celebrated Jumping Frog of Calaveras County and Other Tales

Mark Twain's wit and wisdom leap from the stage in this delightful presentation of tales from America's favorite humorist.

### WORKSHOPS & RESIDENCIES (We come to you!)

#### Playwriting Workshops

“INTRODUCTION TO PLAYWRITING”

Single 90-minute Playwriting Workshop

“PLAYWRITING TOWARDS PRODUCTION”

Three 90-minute Playwriting Workshop Series

- Working cooperatively in groups, students:
- Learn basic outline and story structure!
- Hone creative writing and performance skills!
- Submit scripts for B Street Playwriting contests!

#### After-School Theatre Workshops

Working with B Street's teaching artists, students:

- Learn theatre games and exercises!
- Develop performance skills!
- Perform plays from B Street's catalogue of scripts!

Workshop series culminates with a performance for invited guests and friends!

### SCHOOL TOUR (We come to you!)

November 3 – 26, 2014

#### Science-sationally Savvy Days

Be in the know! Discover how most or all of our daily activities are based on science!

December 1–19, 2014

#### Science-sationally Savvy Days with a Twist

The B Street School Tour performers add our traditional holiday twist to these scientifically filled days!

January 12 – February 27, 2015

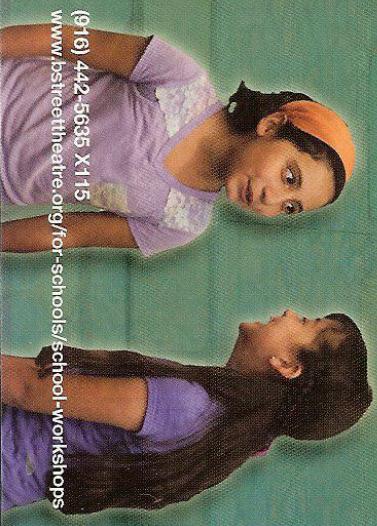
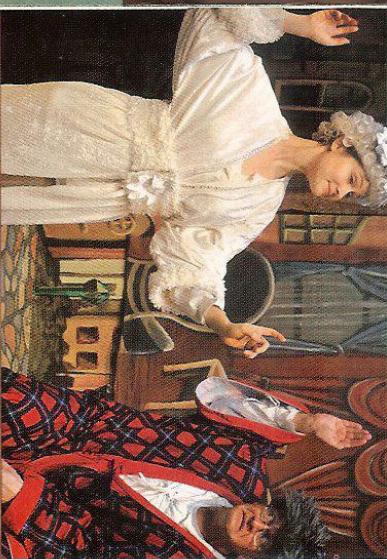
#### Queens & Kings, Jokers & Jacks

Historical adaptations of Medieval and Ancient History inspired and submitted by students of all ages.

March 16 – June 5, 2015

#### Fantasy Festival XXIX

The winning plays of our annual playwriting contest for kids. Behold the extraordinary results of putting a professional theatre's staff at the service of young writers' talents.



(916) 442-5635 X115  
[www.bstreettheatre.org/for-schools/school-matinees](http://www.bstreettheatre.org/for-schools/school-matinees)

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