



TEACHER'S PET PUBLICATIONS

LITPLAN TEACHER PACK™

for

The Effect of Gamma Rays on
Man in the Moon Marigolds

based on the book by
Paul Zindel

Written by
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A Few Notes About The Author - Paul Zindel

Paul Zindel is an author who understands and enjoys his audience. Not only does he say in interviews that he likes teenagers and feels a special proclivity for them and their lives, but again and again his voice speaks out for teenagers in his books. He has a sense of fun and authenticity about him that young people seem almost universally to respond favorably to.

Zindel was born on Staten Island in New York City in 1936. About the time that he was two years old, his father left the family. Zindel was raised by a single mother.

The fact that they were forced to move a great deal during his childhood may have deprived him of some of the close relationships that children often form. But having so many experiences so young apparently provided him with a storehouse of knowledge gained by observing situations and people along the way. According to Zindel himself, all of his books started with some experience in his own life.

After attending public elementary school in New York, he went on to Port Richmond High School in the same city. It was there that he published his first story collaboratively with a schoolmate. "A Geometric Nightmare" was, not surprisingly, a story that describes a geometry teacher who frightened Zindel and the other student.

Zindel graduated from Wagner College and became a high school chemistry teacher. He taught for ten years before his play, *The Effect of Gamma Rays on Man-in-the-Moon Marigolds* was produced in 1965. At that point he began to dedicate full time to his writing.

Zindel currently lives in Manhattan. He is married and the father of two post-teenage children. He has always had a variety of pets in his life.

Some of Zindel's most noteworthy works, in addition to *Gamma Rays*, for which he won the 1971 Pulitzer Prize and the New York Critics Circle Award, are **The Pigman** (1968), **My Darling, My Hamburger** (1969), **I Never Loved Your Mind** (1970), **Pardon Me, You're Stepping on My Eyeball** (1976), **Confessions of a Teenage Baboon** (1977), **The Undertaker's Gone Bananas** (1978), **The Pigman's Legacy** (1980), **Harry and Hortense at Hormone High** (1984), and **The Amazing and Death-Defying Diary of Eugene Dingman** (1987).

The Bantam paperback edition of **The Effect of Gamma Rays on Man-in-the-Moon Marigolds** used for this unit plan quotes *Variety* on the play's success: "Paul Zindel has written a masterful, pacesetting drama. It combines moments of pain, poignancy, beauty and hope. It is the most compelling work of its kind since Tennessee Williams *The Glass Menagerie*."

In the same paperback, twenty-five years after *Marigolds* was first published and produced, Zindel writes:

I can't help being reminded of my favorite theory: We all, most basically, create and tell stories to solve problems. We conjure all sorts of strange characters, march them into frantic conflict with each other, and, at the end of the battle, hope we've learned something. It's important, too, that those who read and hear our stories find answers for their own lives. We look for insights, epiphanies, that shed light on humanness, tolerance, anguish, and compassion. We want to glimpse who we really are and understand why we're on this planet. And, of course, we writers write in dreamlike codes, do anything to throw our readers off the track, praying no one will catch on that we are putting on display little pieces of our joys, our fears, and our hearts.

The characters in *Marigolds* are based on Zindel's mother and sister, and even, a little bit, in the person of Tillie, on himself. It will be worthwhile to read some introductory material on Paul Zindel and his life. Some of that information may be found in Zindel's autobiography, **The Pigman and Me**, and in various introductions to his works. A great deal is also available about Zindel on the internet. Interested readers can even hear a recording of the author's voice. This is a most accessible writer.

INTRODUCTION

This unit has been designed to develop students' reading, writing, thinking, and language skills through exercises and activities related to **The Effect of Gamma Rays on Man-in-the-Moon Marigolds** by Paul Zindel. It includes nineteen lessons, supported by extra resource materials.

The **introductory lesson** introduces students to one theme of the play: dreams through a bulletin board activity. Subsequent lessons allow for discussion of additional themes and ideas.

The **reading assignments** are very short because the play itself is made up of only two relatively short acts. Students have approximately 15 minutes of pre-reading work to do prior to each reading assignment. This pre-reading work involves reviewing the study questions for the assignment and doing some vocabulary work for 7 to 10 vocabulary words they will encounter in their reading. You may want to have students do the vocabulary work as they read each section.

The **study guide questions** are fact-based; students can find the answers to these questions right in the text. These questions come in two formats: short answer or multiple choice. The best use of these materials is probably to use the short answer version of the questions as study guides for students since answers will be more complete and to use the multiple choice version for occasional quizzes.

The **vocabulary work** is intended to enrich students' vocabularies as well as to aid in the students' understanding of the book. Prior to each reading assignment, students will complete a two-part worksheet for approximately 7 to 10 vocabulary words in the upcoming reading assignment. Part I focuses on students' use of general knowledge and contextual clues by giving the sentence in which the word appears in the text. Students are then to write down what they think the words mean based on the words' usage. Part II nails down the definitions of the words by giving students dictionary definitions of the words and having students match the words to the correct definitions based on the words' contextual usage. Students should then have a good understanding of the words when they meet them in the text.

After each reading assignment, students will go back and formulate answers for the study guide questions. Discussion of these questions serves as a **review** of the most important events and ideas presented in the reading assignments.

After students complete extra discussion questions, there is a **vocabulary review** lesson which pulls together all of the fragmented vocabulary lists for the reading assignments and gives students a review of all of the words they have studied.

Following the reading of the play, two lessons are devoted to the **extra discussion questions/writing assignments**. These questions focus on interpretation, critical analysis, and personal response, employing a variety of thinking skills and adding to the students' understanding of the novel. These questions may be done as a **group activity**. Using the information they have acquired so far through individual work and class discussions, students may get together to further examine the text and to brainstorm ideas relating to the themes of the novel.

Throughout the unit students are given the opportunity to read aloud, make classroom presentations, lead discussion, and make updates on work they are doing. Thus students get to practice working in a variety of ways and the whole class gets to hear different ideas relative to the play they are reading.

There are three **writing assignments** in this unit, each with the purpose of informing, persuading, or expressing personal opinions. The first assignment is to inform: students build on the work that they have done for the Nonfiction Reading Assignment and write about an aspect of starting a new business. This assignment helps students to consider what is involved in starting and maintaining a new business. The second assignment gives students the opportunity to express their personal ideas: students get to tell about their most important personal dream. This assignment will help students to draw conclusions from the play's events and to examine the characters and their dreams more closely. The third assignment is to give students a chance to persuade: students choose and write about a character in the play. This assignment helps them to distinguish between characters, to define their terms, and to examine one character in depth.

In addition, there is a **nonfiction reading assignment**. Students are required to read a piece of nonfiction related in some way to **Marigolds**. After reading their nonfiction pieces, students will fill out a worksheet on which they answer questions regarding facts, interpretation, criticism, and personal opinions. If you have time to allow individual students to make **oral presentations** about the nonfiction pieces they have read, the whole class will be exposed to a wealth of information and students will also have the opportunity to practice public speaking.

There is an optional **class project** (Project New Business) through which students gain first-hand knowledge of the growing trend of people starting their own businesses.

The **review lesson** pulls together all aspects of the unit. The teacher is given four or five choices of activities or games to use which all serve the same basic function of reviewing all of the information presented in the unit.

The five **unit tests** come in three separate formats:

matching/short answer/essay/vocabulary (2 tests)

matching/short answer critical thinking/quotations/vocabulary (1 advanced test)

matching/multiple choice/essay/vocabulary (2 tests)

Also in this unit is an **extra activities packet** with suggestions for an in-class library, crossword and word search puzzles related to **Marigolds**, and extra vocabulary worksheets. There is a list of **bulletin board ideas** which gives suggestions for bulletin boards to go along with this unit. In addition, there is a list of **extra class activities** the teacher could use to enhance the unit or as a substitution for an exercise the teacher feels is inappropriate for his or her class.

Answer keys are located directly after the **reproducible student materials** throughout the unit. The student materials may be reproduced for use in the teacher's classroom without infringement of copyright. No other portion of this unit may be reproduced without the written consent of Teacher's Pet Publications, Inc.

UNIT OBJECTIVES

The Effect of Gamma Rays on Man-in-the-Moon Marigolds

1. Through reading **The Effect of Gamma Rays on Man-in-the-Moon Marigolds** by Paul Zindel, students will gain a better understanding of the themes of trust, family responsibility, community values, and the responsibilities of pet ownership. One theme, pet ownership, is focused on specifically.
2. Students will demonstrate their understanding of the text on four levels: factual, interpretive, critical, and personal.
3. Students will define their own viewpoints on the aforementioned themes.
4. Students will be exposed to new ways of looking at the themes above.
5. Students will create a plan for solving some of the problems created by irresponsible pet ownership.
6. Students will practice reading aloud as well as silently.
7. Students will enrich their vocabularies and improve their understanding of the novel through the vocabulary lessons prepared for use in conjunction with it.
8. Students will practice writing through a variety of assignments.
9. The writing assignments in this unit are geared to several purposes:
 - a. to check the students' reading comprehension
 - b. to make students think about the ideas presented in the book
 - c. to allow students to write from personal experience, to inform, and to persuade
 - d. to provide the opportunity to review standard English
 - e. to encourage critical and logical thinking
10. Students will be encouraged to make connections between the book and real life.

READING ASSIGNMENT SHEET
The Effect of Gamma Rays on Man-in-the-Moon Marigolds

Date Assigned	Reading Assignment	Completion Date
	Section 1	
	Section 2	
	Section 3	
	Section 4	
	Section 5	
	Section 6	
	Section 7	
	Section 8	
	Section 9	

UNIT OUTLINE
The Effect of Gamma Rays on Man-in-the-Moon Marigolds

1	2	3	4	5
Read Zindel Essay Introduction Theme Discussion	PVR Section 1 Read “The Setting” PVR Section 2	Review Section 1 Review Section 2 Practice Reading Dialogue	Review Section 2 PVR Section 3 Nonfiction Reading Assignment	Review Section 3 Writing Assign. 1
6	7	8	9	10
PVR Section 4 Character Exercise	Project New Business	Review Section 4 PVR Section 5 Project	Writing Assign. 2	Review Section 5 PVR Section 6
11	12	13	14	15
Review Section 6 PVR Section 7 Writing Assign. 3	Role Playing	Review Section 7 PVR Section 8	Review Section 8 PVR Section 9	Review Extra Discussion ?s
16	17	18	19	
Finish Discussions	Vocabulary Review	Unit Review	Unit Test	

Key: P = Preview Study Questions V = Vocabulary Work R = Read

Lesson One

Objectives

1. To introduce the unit on **The Effect of Gamma Rays on Man-in-the-Moon Marigolds**
2. To distribute books and other related materials
3. To read “Marigolds Revisited” by Paul Zindel
4. To begin consideration and discussion of one theme in **Marigolds**, namely having a dream

NOTE: Prior to this lesson, students should have been assigned to bring in some physical item (or a written physical description, photograph, or drawing of that item) that symbolizes their special dream. Borrowing from the story line in **Marigolds** in which Beatrice and Tillie both have a special dream, students should be encouraged to think about what dreams they would like to realize in their lifetime. You will have prepared ahead of time a bulletin board that has the title MY DREAM: THE THING I MOST WANT TO ACHIEVE. You may want to place pictures on the board. Remember to include pictures of both tangible and intangible things. For instance, you might have some valuable possessions pictured but will also want to show pictures of people embracing, people laughing together, people talking with doctors, etc. The point, of course, is that our most cherished dreams may be to achieve good health, to reach a deeper spiritual relationship, and to gain new friendships and strengthen old ones as to achieve a more tangible goal.

Activity #1

Ask students individually to explain the significance to them of their special dreams. If they can, they might explain how long they have had the dream, how they came to have it, what they think are their chances of achieving it, and when they think they might achieve it. After they have explained this, each student should go to the bulletin board and write a few words (using the infinitive “to”) to describe their most cherished dream. If they have a picture representing their dream and there is space on the bulletin board, the students might post their pictures on the board as well. Students should be encouraged to keep all valuables with them and not leave them lying around in the classroom.

Activity #2

Distribute the materials students will use in this unit. Explain in details how students are to use the materials.

WRITING ASSIGNMENT #1
The Effect of Gamma Rays on Man-in-the-Moon Marigolds

PROMPT

In **The Effect of Gamma Rays on Man-in-the-Moon Marigolds**, Beatrice talks about going into business and making money. Although going into business for oneself can be enjoyable and rewarding, it is also difficult. It takes time, energy, and at least some money. You have already done some reading about starting a business when you did the Nonfiction Reading Assignment. Now use that information to write to inform.

Your assignment is to address someone who would like to start his or her own business. Assume that the person has asked you a question that relates to the study you did for the Nonfiction Reading Assignment. Formulate a specific question that the person might ask: the question should start HOW DO I...? Your assignment will be to write a paper to answer the person's question. That is writing to inform. Be sure that your question is a "How to" one so that you do not slip over into writing to give advice or to persuade. Your assignment is to write a composition in which you explain how to do what your audience wants to know about.

PRE-WRITING

Think through how you will answer your audience's question. Make a list of things that would have to be done. Try then to combine those items into categories. Having three categories of things (or just three things) would make writing the assignment easy and would keep you organized.

DRAFTING

Write an introductory paragraph in which you tell what you are writing about and state the question you will be answering. Try to make the first paragraph interesting enough so that people will want to read further. You might mention the three categories of things or things that you will discuss. In the body of the composition, explain how to do each of the three things. Be sure to tell all of the steps necessary and not simply assume that your audience will know what to do. And, finally, write a concluding paragraph in which you explain what has been explained in the rest of the paper. As with the first paragraph, try to make your conclusion as interesting as possible.

PROMPT

When you finish the rough draft of your paper, ask a student who sits near you to read it. After reading your draft, he or she should tell you what he or she liked best about your work, which parts were difficult to understand, and ways in which your work could be improved. Reread your paper considering your critic's comments, and make the corrections you think are necessary.

PROOFREADING

Do a final proofreading of your paper, double checking your grammar, spelling, organization, and the clarity of your ideas.