BEHIND THE CURTAIN A CREATIVE & THEATRICAL STUDY GUIDE FOR TEACHERS

Teen Scene Players present...

the secret life of

By Linda Daugherty

NOT SUITABLE FOR CHILDREN UNDER 12

OCTOBER 6 - 15, 2023 PUBLIC SHOWS

OCTOBER 10 - 12, 2023 STUDENT MATINEE

As part of DCT's mission to integrate the arts into classroom academics, the **Behind the Curtain Resource Guide** is intended to provide helpful information for the teacher and students to use before and after attending a performance. The activities presented in this guide are suggested to stimulate lively responses and multi-sensory explorations of concepts in order to use the theatrical event as a vehicle for cross-cultural and language arts learning.

Please use our suggestions as springboards to lead your students into meaningful, dynamic learning; extending the dramatic experience of the play.



Dallas Children's Theater

BEHIND THE CURTAIN

A Creative & Theatrical Resource Guide for Teachers

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Resource Guide Editors Resource Guide Layout/Design	•
Play By	THE SECRET LIFE OF GIRLS

Produced by special arrangement with THE DRAMATIC PUBLISHING COMPANY of Woodstock, Illinois

DALLAS CHILDREN'S THEATER, one of the top five family theaters in the nation, serves over 150,000 young people and their families each year through its mainstage productions, educational programming and outreach activities. Since its opening in 1984, this award-winning theater has existed to create challenging, inspiring and entertaining theater, which communicates vital messages to our youth and promotes an early appreciation for literature and the performing arts. As the only major organization in Dallas focusing on theater for youth and families, DCT produces literary classics, original scripts, folk tales, myths, fantasies and contemporary dramas that foster multicultural understanding, confront topical issues and celebrate the human spirit.

DCT is committed to the integration of creative arts into the teaching strategies of academic core curriculum and educating through the arts. Techniques utilized by DCT artists/teachers are based upon the approach developed in *Integration of Abilities* and *Making Sense with Five Senses* by Paul Baker, Ph.D.

TEKS that your field trip to Dallas Children's Theater satisfies are listed at the back of this Resource Guide.

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CURTAINS UP ON PUTTING A PERFORMANCE TOGETHER

Every DCT performance you see is the result of many people working together to create a play. You see the cast perform on stage, but there are people behind the scenes that you do not see who help before, during, and after every production.

The DIRECTOR

Determines the overall look of the performance.

Guides the actors in stage movement and character interpretation.

Works with designers to plan the lights and sounds, scenery, costumes and make-up, and stage actions.

The DESIGNERS

Plan the lights, sounds, scenery, costumes, make-up, and actions to help bring the director's vision to life. There are also designers who work to create the posters, advertisements, programs, and other media for the performance.

The STAGE MANAGER

Before the performance, they create a cue sheet to guide the crew in getting set pieces on and off the stage during the performances.

During the performance, the stage manager uses this cue sheet to direct people and things as they move on and off the stage.

The CREW

Build and operate the scenery, costumes, props, and light and sound during the performance.

The CAST

Includes all of the performers who present the story on stage.

The AUDIENCE

That's right! There can be no performance without you—the audience. The role of the audience is unique because you experience the entertainment with the performers and backstage crew.

You are a collaborator in the performance and it is important to learn your role so you can join all the people who work to create this Dallas Children's Theater production.









CURTAINS UP ON THE ROLE OF THE AUDIENCE

Watching a play is different from watching television or a sporting event. When you watch T.V., you may leave the room or talk at any time. At a sporting event you might cheer and shout and discuss what you're seeing. Your role as a member of the audience in a play means you must watch and listen carefully because:

- You need to concentrate on what the actors are saying.
- The actors are affected by your behavior because they share the room with you. Talking and moving around can make it difficult for them to concentrate on their roles.
- Extra noises and movement can distract other audience members.









Are you ready for your role in this performance?

Check the box next to the statements that describe proper etiquette for an audience member.

Try your best to remain in your seat once the performance has begun.
Share your thoughts out loud with those sitting near you.
Wave and shout out to the actors on stage.
Sit on your knees or stand near your seat.
Bring snacks and chewing gum to enjoy during the show.
Reward the cast and crew with applause when you like a song or dance, and at the end of the show.
Arrive on time so that you do not miss anything or disturb other audience members when you are being seated.
Keep all hands, feet, and other items out of the aisles during the performance.

CURTAINS UP ON THE ROLE OF THE AUDIENCE (CONT'D)



- 1. Draw a picture of what the audience might look like from the stage. Consider your work from the viewpoint of the actors on stage. How might things look from where they stand?
- 2. Write a letter to an actor telling what you liked about their character.
- 3. Write how you think it might feel to be one of the actors. Are the actors aware of the audience? How might they feel about the reactions of the audience today? How would you feel before the play began? What about after the show ends?
- 4. Which job would you like to try? Acting, Directing, Lighting and Sounds, Stage Manager, Set designer, Costume designer, or another role? What skills might you need to complete your job?

CURTAINS UP ON THEATER VOCABULARY

ACTOR any theatrical performer whose job it is to portray a character

CAST group of actors in a play

CENTER STAGE the middle of the stage

CHARACTER any person portrayed by an actor onstage. Characters may often be people, animals,

and sometimes things.

CHOREOGRAPHER the designer and teacher of the dances in a production

COSTUME DESIGNER the person who creates what the actors wear in the performance

DIRECTOR the person in charge of the actors' movements on stage

DOWNSTAGE the area at the front of the stage; closest to the audience

HOUSE where the audience sits in the theater

LIGHTING DESIGNER the person who creates the lighting for a play to simulate the time of day and the

location

ONSTAGE the part of the stage the audience can see

OFFSTAGE the part of the stage the audience cannot see

PLAYWRIGHT the person who writes the script to be performed. Playwrights may write an original

story or adapt a story by another author for performance.

PLOT the story line

PROSCENIUM the opening framing the stage

PROJECT to speak loudly

PROP an object used by an actor in a scene

SET the background or scenery for a play

SETTING the time and place of the story

SOUND DESIGNER the person who provides special effects like thunder, a ringing phone, or crickets

chirping

STAGE CREW the people who change the scenery during a performance

STAGE MANAGER the person who helps the director during the rehearsal and coordinates all crew

during the performance

UPSTAGE the area at the back of the stage; farthest from the audience

CURTAINS UP AFTER THE PERFORMANCE

Attending a play is an experience unlike any other entertainment experience. Because a play is presented live, it provides a unique opportunity to experience a story as it happens. **Dallas Children's Theater** brings stories to life though its performances. Many people are involved in the process. **Playwrights** adapt the stories you read in order to bring them off the page and onto the stage. **Designers and technicians** create lighting effects so that you can feel the mood of a scene. **Carpenters** build the scenery and make the setting of the story become a real place, while **costumers** and **make-up designers** can turn actors into the characters you meet in the stories. **Directors** help actors bring the story to life and make it happen before your very eyes. All of these things make seeing a play very different from TV, movies, or video games.



Hold a class discussion when you return from the performance. Ask students the following questions and allow them to write or draw pictures of their experience at DCT.

- What was the first thing you noticed when you entered the theater?
- What did you notice first on the stage?
- What about the set? Draw or tell about things you remember. Did the set change during the play? How was it moved or changed?
- Was there any space besides the stage where action took place?
- How did the lights set the mood of the play? How did they change throughout? What do you think the house lights are? How do they differ from the stage lights? Did you notice different areas of lighting?
- What did you think about the costumes? Do you think they fit the story? What things do you think the costume designers had to consider before creating the costumes?
- Was there music in the play? How did it add to the performance?
- What about the actors? Do you think they were able to bring the characters to life? Did you feel caught up in the story? What things do you think the actors had to work on in order to make you believe they were the characters?

CURTAINS UP ON THE PLAYWRIGHT



LINDA DAUGHERTY'S plays have been produced nationally and internationally in professional and community theaters, schools and colleges. She received the 2011 National Award from the Society for Adolescent Health and Medicine for her teen issue plays *The Secret Life of Girls* (bullying); *EAT (It's Not About Food)* (eating disorders); *dont u luv me?* (teen dating violence); and *hard 2 spel dad,* written with Mary Rohde Scudday (learning differences). Daugherty was a 2011 nominee for *The Dallas Morning News'* Texan of the Year. In 2009, she received the first Elisa Project Star of Hope Award for her work in promoting awareness of eating disorders. Her plays have won the Bonderman/Indiana University/Purdue University/Indiana Repertory Theatre Playwriting Competition, the Dallas-Fort Worth Theater Critics Forum Award for

Outstanding New Plays, the Southwest Theatre Association's Coleman A. Jennings Award for Best Children's Script, the Southwest Theatre Association's Playwright Award for Best New Children's Script, the Orlin Corey Outstanding Regional Playwright Award, and five Dallas Theatre League nominations for Outstanding New Play. Daugherty is a member of The Dramatists Guild.

Adapted from https://www.dramaticpublishing.com/authors/profile/view/url/linda-daugherty

Interview with the Playwright

We chatted with playwright Linda Daugherty about her writing process and what advice she would give aspiring playwrights. Here's what she had to say:

What inspired her to pursue playwriting...

Ms. Daugherty was an actress and had performed in Dallas, New York, and around the country. When they had children, Ms. Daugherty and her husband decided to move back to Dallas. Playwriting became a way to stay involved in theater without being consistently away from her family. She was first approached by someone who had a musical and needed someone to write the book (the non-sung dialogue and storyline of the musical). Ms. Daugherty found she enjoyed writing. "As an actress it was fun because I got to play all the parts." For Ms. Daugherty, playwriting was more freeing than acting because when she needed to, she could just rewrite (as opposed to acting, where there aren't do-overs for a performance).

Her writing process...

"I usually write in a frenzy. I work best when I kind of get obsessed." When Ms. Daugherty teaches playwriting workshops, she tells her students to write about something that they are passionate about. But, sometimes a playwright is hired to write about something that's not a passion, and they have to become passionate about it. She says a writer needs to learn more about the subject and really dig in. Ms. Daugherty does this by trying to get a character to come alive or talk in her head. Some of Ms. Daugherty's plays have required a good deal of research. EAT (It's Not About Food) was one of those plays. To write that show it took loads of discipline and a lot of work mining through information.

Ms. Daugherty also loves working with a deadline. She spends a lot of time writing on legal pads and small pieces of paper. When she has a pile of papers and it's closer to her deadline, she starts putting all the ideas together. "Organized haphazard" is what she calls it. Once she gets a character talking, that's when the play really starts to come together.

CURTAINS UP ON THE PLAYWRIGHT (CONT'D)

"Rewriting is also important; it's going back and looking at it again. They say writing is rewriting. It really is." She continues to rewrite during the rehearsal process and sometimes almost until the show opens.

The most difficult aspect of being a playwright...

"First scene for me, first visualization for what you want to do." Getting started can be difficult. Ms. Daugherty also says sometimes a play has a mind of its own. "Sometimes you have to throw a play on the floor and wrestle with it – it can't go in all directions like an octopus."

It's also sad when there's a play on a shelf that hasn't been performed onstage.

She mentioned a story about her time in New York. She and her husband were living in a brownstone and a neighbor came over. She asked what he did for a living, and he said he was a playwright and a cab driver. When Ms. Daugherty asked what he had written, he just said he was working on some stuff. She lived there 10 years, and although he kept saying he was a playwright, he never actually wrote anything. He eventually had to stop calling himself a playwright. "Can't call yourself a playwright unless you pick up a pencil or sit at a computer."

The most rewarding aspect of being a playwright...

"The most fun is the first read-through. For me that's opening night in a way." Ms. Daugherty also likes when her plays touch people personally. She's often approached by audience members who tell her that she told their story, especially with the teen plays that deal with more serious subject matter.

Advice she would give to young playwrights...

She says playwrights need to start writing and find their voice. "The first thing is to believe you have something to say and to believe the way you say it will be interesting because everybody has a distinct way of looking at the world." Ms. Daugherty said she was writing a lot of fairy tale adaptations when her husband asked, "When are you going to write something really important?" "He was right and that's when I wrote the play [BLESS CRICKET, CREST TOOTHPASTE, & TOMMY TUNE] about my brother." She sat down and in just 10 days wrote a play based on her relationship with her brother with Down syndrome, submitted it to a playwriting contest, and won. Ms. Daugherty says that playwrights need to just "Go for it!"

Why she thinks theater is important...

Although she loves movies and TV, the power of theater is in seeing a real person on stage and seeing their feelings in real time. "What you see in that moment is live – it's right there in front of you."

CURTAINS UP ON THE SECRET LIFE OF GIRLS

A window into the tumultuous world of a group of middle school girls is opened in this dramatization of the destructive effects of girls bullying. The girls' attempts to deal with bullying (in the form of gossiping, name-calling, exclusion, rumors, backstabbing, cliques, and manipulation as they struggle to find a friend, a place in the group, and themselves) range from humorous to heartbreaking.

Based upon interviews with girls on the giving and receiving end of bullying, THE SECRET LIFE OF GIRLS also dramatizes how bullying behaviors are facilitated by technologies such as social media and text messages.

CURTAINS UP ON THE SECRET LIFE OF GIRLS (CONT'D)

"There is a hidden culture of girls' aggression in which bullying is epidemic, distinctive and destructive... girls frequently attack within tightly knit networks of friends, making aggression harder to identify and intensifying the damage to the victims."

- Odd Girls Out by Rachel Simmons (Harcourt, Inc., 2002)

"... girls can be each other's worst enemies. Girls' friendships in adolescence are often intense, confusing, frustrating, and humiliating.... These early relationships can propel girls into making dangerous decisions and shape how they mature into young women."

- Queen Bees and Wannabes by Rosalind Wiseman (Three Rivers Press, 2002)

CURTAINS UP ON DISCUSSION

Use the following questions to lead a discussion with students after attending DCT's performance of THE SECRET LIFE OF GIRLS.

- Think about the play's title, THE SECRET LIFE OF GIRLS. Why do you think the playwright chose this title? Do girls tend to lead "secret lives"? What secrets do the characters keep from each other? What secrets do they keep from their moms and coaches? What secrets do they keep from themselves? What could have been avoided if the girls had been less secretive and more open about their feelings?
- The story begins with Abby's message: "I'm going to tell you a secret—and I don't want you to tell. The secret is about me about my life how it will never be the same again." What is Abby's secret? Why will she never be the same? What about each of the other girls? How have their lives changed?
- While each of the girls reacts differently to difficult situations, all of them lack self-esteem. What is self-esteem? How can we strengthen esteem in ourselves and others? How did each character's image of herself affect how she dealt with her peers and peer pressure?
- What qualities does a good friend possess? Is it possible to be a good friend to others if you're not a friend to yourself? What did Abby need to find in herself before she was able to help Stephanie?
- Abby's mom asks, "Was it so hard when we were her age?" Is it harder to be a girl in today's society than it was for your mom? What pressures do you face today that are different from those of earlier generations of women? Which issues remain the same?
- How does our society contribute to the lack of esteem in girls today? What issues do girls face that have arisen from our society's projected image of "the perfect woman"? Consider the physical, intellectual, social, and emotional expectations of a "perfect woman."
- Find some areas in which our society is working toward projecting healthier images of women and their roles. Research and discuss steps that are being taken by the media, the fashion industry, movies and television, educators, and other professional areas to provide healthy images for girls today.
- Discuss the "generation gap" that occurs between adults and adolescents. What gaps did you see between the characters in the play and their moms and coach? How could their relationships have been improved? How are both the adults and the girls responsible for the misunderstandings that occur between them?

CURTAINS UP ON DISCUSSION (CONT'D)

- What do you feel is the greatest source of pressure for teens today? Is it society's expectations, the media's perceptions, peer pressure, or parental pressure? Is the pressure strongest from outside sources or from within yourself? What can be done to alleviate some of the pressures you face as an adolescent in today's world?
- How has social media changed the societal and peer pressures faced by teens today, compared with teens from 5 years ago? 10 years ago?
- Discuss the theatrical elements used in DCT's production of THE SECRET LIFE OF GIRLS. How did the use of the screen enhance the story? What effect did the particular music that was used have throughout the performance? How did it help develop the mood in each scene?

CURTAINS UP ON ROLE MODELS

What qualities does a good role model possess? Do today's celebrities have these qualities? How can a celebrity and a good role model differ? Choose a person you consider a good role model and explain your choice. What character qualities does your person have that makes a good model for others?

Use the following activity to jump-start discussion.

As a group, make a list of celebrities on the board or chart paper. Consider the following categories:

- Musicians/Pop Stars
- Actors
- Fashion Models
- Politicians
- Writers
- Sports Figures
- Comics
- Business professionals

Then, list and consider qualities that make good leaders. You may include the following qualities along with others the group agrees upon:

- Good listening and communication skills
- Integrity
- Service to others
- Positive outlook or attitude
- Inspires others
- Good organizational skills
- Strong sense of self
- Responsibility
- Perseverance

CURTAINS UP ON ROLE MODELS (CONT'D)

Positive Role Model Scrapbook

You will need:

- Small scrapbook or spiral notebook
- Glue stick
- Scrapbook scissors
- Scrapbook papers or colored construction paper
- Photographs or magazine pictures of friends and people who exemplify qualities you aspire toward
- Inspirational articles, poems and stories, or meaningful quotes from those you consider good role models

Take time to decorate your scrapbook cover with cut outs, stickers, drawings and a title such as "My'Can Do' Scrapbook." Add pictures of people you know and trust or admire. Look for quotes that inspire you. Find articles from the newspaper or magazines telling of others who have shown strength of character and resolve and add them to the pages of your book. Let your friends fill a page with their thoughts about your strengths and admirable qualities. Add to your book whenever you find an inspiring story, quote, or have a "stand-up" moment of your own. Consider writing a letter to someone you admire and add any response you receive to your scrapbook.

CURTAINS UP ON CHARACTER

Rewind and Role-play

At the end of THE SECRET LIFE OF GIRLS, each of the girls resolves to improve in some aspect of her character. How could each of the events in the story differ with the resolutions the girls have made?

Abby - "I resolve to try to find myself again."

Anna Marie - "I resolve to try to stand up for what's right."

Sutton - "I resolve not to gossip or spread rumors."

Rebecca - "I resolve to try to express my true feelings even when I'm angry."

Kayla- "I resolve to be kind to others."

Stephanie - "I resolve to be kind to myself."

Role-play one of the following situations as one of the characters after she has resolved to improve.

- Your friend has agreed to share the expense of a birthday present for a friend with you but shows up at school with a gift she's purchased on her own. You're now left without a gift and without her.
- Several members of your team have asked you to "suggest" that the new girl might be "better off" not joining but none of you have even seen her perform yet.
- You notice your friend has lost weight and is watching what she eats. In fact, she's rarely eating at all but she tells you she's just being careful about what she eats.
- You hear "through the grapevine" that one of your friends is cutting herself.

CURTAINS UP ON CHARACTER (CONT'D)

- A close friend left you out when planning a party. You heard about the party afterwards from a girl you hardly know.
- A group of friends is laughing and talking together until you join them. They suddenly quiet down and find reasons to leave.
- Your boyfriend wants you to hang out with him at the movies but your parents have asked you to stay home for a family evening together.

Character Building Calendar

You will need:

- Monthly calendar
- Pencil or Pen

Make a resolution to be a better friend as the girls in the play did. Once you have chosen something to work on, list activities you can do to put your resolution into practice. Consider small things you can do each day such as: smile at three people today, say "hi" to someone new today, tell a friend something you like about them, reward yourself with a bubble bath, and tell your mom "I love you." Think of a variety of activities and remind yourself often of your larger goal.

Write the activities on each day of your calendar, repeating them as often as you like. Make sure to keep your calendar in a place where you can refer to it and consider writing an example of how you met your goal at the end of each day. Don't give up if you miss out on a goal one day, or even one whole week—pick it back up and continue where you are TODAY.

Saturday			
Friday			
Thursday			
Wednesday			
Tuesday			
Monday			
Sunday			

CURTAINS UP ON PROTECTING YOURSELF

Receiving a rude message, over text or social media, or a threatening call on your cell phone from a bully isn't just upsetting. It can be a criminal offense. The first step in protecting yourself from a bully is to understand the types of cyberbullying. Many young people become victims because they don't know that what's happening to them is bullying.

What kinds of calls or messages are considered bullying?

- Scary phone calls these can be either calls threatening violence or calls where the caller remains silent in order to upset and scare you.
- Abusive text messages these are any messages sent to scare, upset, or hurt someone on purpose.
- Offensive picture messages these calls or messages include any pictures taken without your knowledge or pictures of you in situations you would rather keep private. They can also include disturbing or unsettling pictures sent to try to scare you or upset you.
- Embarrassing or violent videos can be any video of yourself that you didn't know were being taken, as well as, any videos of yourself on YouTube or another social media outlet that you did not give permission to have posted.

So what do you do if you find yourself a victim of cyberbullying? In a word... REPORT.

Don't suffer in silence; let a parent, a teacher, school administrator, or other trusted adult know what's going on.

Keep a record of the calls or messages. DON'T DELETE! If you can take a screen shot and save the message or post, even better. Keep written records of when you received the messages including the sender's detailed information and the time and date of the call. Print any screen shots you are able to so that you have a hard copy as well as the saved copy itself.

Report the bullying to your mobile phone company. They may be able to trace the person who is calling or texting you, even if they withhold their number from you.

Remember, it is a CRIMINAL OFFENSE to send threatening messages; so your parents may want to contact the local police.

In 2016 the <u>Cyberbullying Research Center</u> conducted a nationally-representative survey of 4,500 students aged 12-17. Here's what students have reported about cyberbullying...

73% of students reported they had been bullied at some point in their lifetime

88% said they were called mean names or were made fun of in a hurtful way

77% were excluded from groups or left out of things

32% admitted that they bullied others at school at some point in their lifetime

69% of the students who admitted to bullying others at school also bullied others online

83% of the students who had been cyberbullied recently, had also been bullied at school recently

34% of students had experienced cyberbullying in their lifetime

4 out of 5 students who were cyberbullied said mean comments were posted about them online

70% said someone spread rumors about them online

64% of the students who experienced cyberbulling stated that it really affected their ability to learn and feel safe at school

12% of students admitted they had cyberbullied others at some point in their lifetime The most commonly reported behaviors included

- Spreading rumors online (60%)
- Posting mean comments online (58%)
- Threatening to hurt someone online (54%)

Girls were more likely to have been bullied online at some point in their lifetime, while boys were more likely to have bullied others online. Though when looking at recent experiences there was no difference.

CURTAINS UP ON PRACTICING A POSITIVE SELF IMAGE

You will need:

- Pencil or Pen
- Paper
- Kitchen Timer or Clock

Write your name across the top of your paper. Set the timer for 10 minutes. In that time, write words, phrases, and sentences about every positive thing you can think about yourself. Write down everything that comes to mind but avoid anything negative. Feel free to repeat things-it only emphasizes their importance to you. Don't worry about organization or spelling. This exercise is for you! Keep the paper in a place where you can read it over and over again...in your diary, on a bedside table, taped to your mirror, in your purse, in a binder, or in a planner you carry each day. Read it over and over to remind yourself how truly unique and wonderful you are!



CURTAINS UP ON GEOGRAPHY

Does THE SECRET LIFE OF GIRLS setting seem familiar? That's because it's set in our own area: Dallas!

In this cooperative activity, your students will create maps detailing the setting of THE SECRET LIFE OF GIRLS after watching DCT's production.

You will need:

- Butcher paper
- Writing materials (pencils, pens, markers, etc.)
- Tape

Divide the class in to groups. Inform the groups to create large scale THE SECRET LIFE OF GIRLS maps on butcher paper. Each detailed map needs to include a title, scale, key, and compass rose. Encourage your students to utilize their own knowledge of Dallas geography as well as the details from the play to create their maps. Once all the groups have completed their work, hang the maps around the room and do a gallery walk. Discuss the different maps and compare and contrast the unique perspectives of each group.

Adapted from https://www.weareteachers.com/fun-geography-lessons/

CURTAINS UP ON SCIENCE

"Okay, girls, listen up. This is really a huge game for us. Our first game, yes, we won but was it luck or do you have what it takes to be champions again? Great game point serve last week, Abby. Remember, Stephanie's your captain. Listen to her. Anna Marie, get the lead out. You've all got to move out there. Okay, let's go out and destroy those Panthers! Go, Fireballs!!!"

In THE SECRET LIFE OF GIRLS the coach yells at the girls to be faster and work harder to win the volleyball game. But did you know that there's more to winning a volleyball match than just hustling? There's actually a lot of science behind the game of volleyball. Check it out:

What on Earth could volleyball and physics possibly have in common? Watching or playing a volleyball game is an excellent way to see the principles of physics in action. Understanding physics can be tricky when you're just looking at a bunch of equations in a book. But by paying attention to the physics of sports like volleyball, those concepts become easier to grasp. Further, the athlete who understands the physics of the game has a definite advantage on the court. Here are a few of the basic principles of physics, explained through volleyball.



CURTAINS UP ON SCIENCE (CONT'D)

GRAVITY

Gravitational force, or the force of attraction between an object and the Earth, has an impact on every element of volleyball. Whether you are serving, bumping, or spiking, gravity will affect every interaction you have with the ball.

Serving: When a volleyball is served, the server exerts an upward and forward force on the ball. Meanwhile, gravity is exerting a downward force on the volleyball. This downward force is what causes the ball to fall down on the opponent's side, after clearing the net. To assist gravity, you can snap your wrist which adds top spin that skids over the ball as you serve. This spin creates pressure difference above and below the ball. According to researcher Dr. Marion Alexander, this top spin causes the ball to fall quickly on the opponent's side after clearing the net.

Passing: When a player performs a forearm pass, or bump, an upward and forward force is exerted on the ball toward a target player. Gravity exerts a downward force on the ball, and if you do not compensate for this your target player will not have time to set underneath the ball before it hits the ground. To account for the force of gravity, simply follow through with your forearm when bumping to exert force on the ball over a longer period of time. This will cause the ball to go higher and ensure that the target player has time to prepare herself beneath the ball.

Spiking: When you spike a volleyball, you have the opportunity to deliver a crushing offensive blow to your opponent. When spiking, you exert a downward force on the ball so that it falls rapidly on the opponent's side of the court, making it very difficult for your opponent to return the ball. Gravity works in your favor when you spike because it also exerts a downward force that makes the ball fall to the court floor. For this reason you do not necessarily have to exert tremendous downward force to spike effectively, because gravitational force is also acting on the ball in the same direction.

Digging: When digging a volleyball, you are exerting a sharply upward force to prevent it from hitting the ground. However, gravity is exerting a downward force on the ball, and if you do not account for this you will not hit the ball high enough to prevent it from hitting the ground. To account for this, bend your knees low to generate force with your legs when digging. This will ensure that you hit the ball high enough for your teammates to get in position.

WORK, VELOCITY, AND ACCELERATION

Work: Work is when a force moves an object. In volleyball, the force is the player and the object is the ball. When the player hits, spikes, or serves the ball it moves in the direction in which the force has been applied. Hopefully, that direction will be over the net when spiking or serving, and to the target when bumping.

Velocity: Velocity is the speed of movement. You can figure out the velocity of a volleyball shot by dividing the distance your ball traveled by the amount of time it took to get there. So let's say you serve a ball across the net from behind the serving line, 30 feet, and the ball takes



CURTAINS UP ON SCIENCE (CONT'D)

1.5 seconds to get across the net. To find the velocity you would divide 30 feet by 1.5 seconds, which would be 20 fps. So the speed of movement, or velocity, of your serve was 20 feet per second. The higher the velocity the tougher it is for your opponent to hit the ball back to you. Which means the faster your ball is traveling the harder it is to return.

Acceleration: Acceleration is an increase in velocity. Let's say you've just served the ball, it's gone over the net, and is falling to the ground. As gravity pulls the ball to the ground, it accelerates. If you gently lob the ball over the net and your opponent sends a hard spike back at you, that's another example of acceleration. The ball's velocity increased when spiked back over the net by your opponent, therefore it accelerated.

Excerpted from https://volleyballscience.weebly.com/volleyball-and-physics.html



Now it's your turn to try out volleyball and watch physics at play! Hold a class volleyball match. If you don't have a volleyball court or ball, get creative – it's also okay if no one knows how to play (just give it a try). After the class volleyball match, watch videos of professional volleyball games. During and after the game(s), discuss the physics principles that are impacting the game. How did gravity affect your volleyball moves? Were you able to apply force appropriately

to move the ball the direction you intended? Calculate the velocity of a shot. Enjoy a fun game and learn about physics in the process!

CURTAINS UP ON MORE

WEB RESOURCES

- <u>girlsinc.org</u>: A national nonprofit organization dedicated to inspiring all girls to be strong, smart & bold.
- <u>ncpc.org/resources/cyberbullying/</u>: National Crime Prevention Council website with cyberbullying and Internet safety information for parents.
- <u>cyberbully411.org</u>: resources for youth who have questions about or have been targeted by online harassment, including a discussion forum.
- <u>relational aggression.com</u>: good food for thought questions to inspire conversations.
- <u>charactercounts.org</u>: For educators. Offers activities and suggestions for building character strengths & self-confidence.
- <u>youngwomensproject.org</u>: multi-cultural organization that builds and supports teen leaders so that they can improve their own lives and transform their communities.
- <u>about-face.org</u>: promotes positive self-esteem in girls and women of all ages, sizes, races and backgrounds through a spirited approach to media education, outreach and activism. Combats negative and distorted images of women in the media.

FURTHER READING

Books for Parents & Teens

- How To Step Up as a Teen Leader and still keep your friends, edited by Craig Hillier. Provides strategies for teens in developing and keeping relationships.
- Odd Girl Out by Rachel Simmons. If you've ever come home from school upset because your friends didn't walk with you to lunch, this book could help.
- Girls: What's So Bad About Being Good?: How To Have Fun, Survive the Preteen Years, and Remain True to Yourself by Harriet S. Mosatche, Ph.D. and Elizabeth K. Lawner. This book is a guide to surviving the tough times and feeling good about yourself in the end. It offers ways to handle emotional issues and develop a positive self-image.
- 33 Things Every Girl Should Know: Stories, Songs, Poems, and Smart Talk by 33 Extraordinary Women by Tonya Bolden. First-hand advice from women including Lauren Hutton, Vera Wang, Natalie Merchant, and Tabitha Soren. Though from diverse backgrounds and widely varying experiences, these women help girls realize we are all surprisingly alike.
- Odd Girl Speaks Out: Girls Write About Bullies, Cliques, Popularity, and Jealousy by Rachel Simmons. This book offers advice on how to deal with the teen crises every girl faces from time to time.
- The Girls' Book of Wisdom: Empowering and Inspirational Quotes From Over 400 Fabulous Females by Catherine Dee. Words of wisdom from inspirational women including Anne Frank, Eleanor Roosevelt, and Jackie Joyner-Kersee, to name just a few.
- 100 Books For Girls To Grow On by Shireen Dodson. An annotated list of books moms and daughters can read together. This book is a companion to The Mother-Daughter Book Club and offers ideas for field trips, crafts, and discussion questions to use in a moms and daughters book club.

CURTAINS UP ON MORE (CONT'D)

- And Words Can Hurt Forever: How to Protect Adolescents From Bullying, Harrassment, and Emotional Violence by James Garbarino & Ellen deLara
- Queen Bees & Wannabes: Helping Your Daughter Survive Cliques, Gossip, Boyfriends, And Other Realities of Adolescence by Rosalind Wiseman
- Cliques: 8 Steps to Help Your Child Survive the Social Jungle by Charlene Giannetti & Margaret Sagarese
- Easing the Teasing by Judy Freedman
- Please Stop Laughing At Me by Jodee Blanco
- Reviving Ophelia: Saving the Selves of Adolescent Girls by Mary Pipher
- A Tribe Apart by Patricia Hersch
- Our Last Best Shot: Guiding Our Children Through Early Adolescence by Laura Sessions Stepp
- Girls Will Be Girls: Raising Confident and Courageous Daughters by JoAnn Deak with Teresa Barker
- Woman's Inhumanity to Woman by Phyllis Chesler

Academic Books & Articles BOOKS

- Understanding Early Adolescent Self and Identity, Ed. Brinthaupt & Lipka
- Peer Harassment in School, Ed. Juvonen & Graham
- Personal Relationships During Adolescence, Ed. Adams, Montemayor, & Gullotta
- Social Networks and Social Influences in Adolescence by John Cotterell
- The Role of Friendship in Psychological Adjustment, Ed. Erdley & Nangle
- Adolescent Coping: Theoretical & Research Perspectives Erica Frydenberg

ARTICLES:

- "Cross Cultural Evidence of Female Indirect Aggression" Osterman, Bjorkqvist, et al. *Aggressive Behavior*, Vol 24, pp 1-8.
- "The Meaning of Meanness: Popularity, Competition and Conflict Among Junior High School Girls" Don E. Merton. *Sociology of Education*, 1997, Vol. 70 pp 175-191.
- "Relational Aggression, Gender, and Social-Psychological Adjustment" N. Crick & J. Grotpeter. *Child Development*, 1995, Vol 66, pp 710-722.
- "Guess What I Just Heard! Indirect Aggression Among Teenage Girls in Australia" Ed. L Owens, R Shute, P Slee. *Aggressive Behavior*, Vol 26, pp 67-83.
- "Children's Peer Cultures" William A. Corsaro and Donna Eder. *Annual Review Sociology,* 1990, Vol. 16, pp. 197-220.
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- "Do Girls Manipulate and Boys Fight? Developmental Trends in Regard to Direct and Indirect Aggression" Kaj Bjorkqvist, Kirsti M.J.Lagerspetz and Ari Kaukiainen. *Aggressive Behavior*, 1992, Volume 18, pp. 117-127.

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- "Bully/Victim Problems Among Middle School Children" Michael J. Boulton and Kerry Underwood. *British Journal of Educational Psychology,* 1992, Volume 62, pp 73-87.
- "The Cycle of Popularity: Interpersonal Relations Among Female Adolescents" Donna Eder. *Sociology of Education*, 1985, Vol 58, pp. 154-165.
- "Exclusion in Girls' Peer Groups: Ethnographic Analysis of Language Practices on the Playground" Marjorie Harness Goodwin. *Human Development*, 2002, Vol 45, pp.392-415.
- "Cross-Cultural Evidence of Female Indirect Aggression" Karin Osterman, Kaj Bjorkqvist, Dirsti M.J. Lagerspetz, Ari Kaukiainen, Simha F. Landau, Adam Fraczek, and Gian Virrorio Caprara. *Aggressive Behavior*, 1998, Vol. 24, pp. 1-8.
- "The Role of Overt Aggression, Relational Aggression, and Porsocial Behavior in the Prediction of Children's Future Social Adjustment" Nicki R. Crick. *Child Development*, 1996, Vol. 67, pp. 2317-2327.
- "Peer and Self-Estimated Aggression and Victimization in 8-Year-Old Children From Five Ethnic Groups" Karin Osterman, Kaj Bjorkqvist, Kirsti M.J. Lagerspetz, Ari Kaukiainen, L Rowell Huesmann, and Adam Fraczek. *Aggressive Behavior*, 1994, Vol. 20, pp. 411-428.
- "The Social Construction of Self-Esteem" John P. Hewitt. *Handbook of Positive Psychology*, 2002, pp. 135-147.
- "Social Interactions and Adjustment" Jeffrey A. Kelly and David J. Hansen. *Handbook of Adolescent Psychology*.
- "Theory of Mind and Peer Rejection at School" Badenes, Estevan, and Bacete. *Social Development*, 9, 3, 2000 pp. 271-282.
- "Does Low Self-Regard Invite Victimization?" Susan K. Egan and David G. Perry. *Developmental Psychology*, 1998, Vol 34, No. 2, pp299-309.
- "Peer Victimization: Cause or Consequence of School Maladjustment?" Becky J. Kochenderfer and Gary W. Ladd. *Child Development*, 1996, Vol, 67, pp. 1305-1317.
- "Psychological Pragmatics in Preadolescents: Sociomoral Understanding, Self-Worth, and School Behavior" SandraLeanne Bosack. *Journal of Youth and Adolescence*, 2003, Vol 32, No. 2, pp 141-155.
- "Peer-Group Affiliation and Adolescent Self-Esteem: An Integration of Ego-Identity and Symbolic-Interaction Theories" B. Bradford Brown and Mary Jane Lohr. *Journal of Personality and Social Psychology*, 1987, Vol. 52, No.2, pp. 47-55.

T.E.K.S. SATISFIED BY THE SECRET LIFE OF GIRLS

117.34 - Theatre, Grade 6.

- 6.4 Historical/cultural heritage. The student comprehends the relationship of theatre to history, society, and culture.
 - B Explain the role of theatre, film, television, and electronic media in American society.
- 6.5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Analyze and apply audience behavior at all performances.
 - C Compare and contrast ideas and emotions depicted in art, dance, music, and theatre and demonstrate uses of movement, music, or visual elements to enhance classroom dramatization.

117.37 - Theatre, Grade 7.

- 7.1 Perception. The student develops concepts about self, human relationships, and the environment, using elements of drama and conventions of theatre.
 - E Compare and contrast dramatic performances to life.
- 7.5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Identify and demonstrate appropriate audience behavior at various types of performances.
 - C Identify visual, aural, oral, and kinetic components in art, dance, music, and theatre; compare and contrast the presentation of the same subject in art, dance, music, and theatre; and create improvisations, integrating art, dance, and/or music to express ideas and emotions.

117.40 - Theatre, Grade 8.

- 8.1 Perception. The student develops concepts about self, human relationships, and the environment, using elements of drama and conventions of theatre.
 - E Compare dramatic performances to life.
- 8.4 Historical/cultural heritage. The student relates theatre to history, society, and culture.
 - A Demonstrate knowledge of theatre as a reflection of life in particular times, places, and cultures.
- B Define theatre heritage as it is preserved in dramatic text, traditions, and conventions and describe the roles of theatre, film, television, and electronic media in American society.
- 8.5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Analyze and practice appropriate audience behavior at various types of live performances.
 - C Identify visual, aural, oral, and kinetic components in art, dance, music, and theatre; compare character, setting, and action in art, musical theatre, dance, and theatre; and express emotions and ideas in improvisations and scripted scenes that integrate art, dance, and/or music.

117.64 - Theatre, Level I.

- 1 Perception. The student develops concepts about self, human relationships, and the environment, using elements of drama and conventions of theatre.
- E Define and give examples of theatrical conventions (time, setting, fourth wall, visual elements).
- 4 Historical/cultural heritage. The student relates theatre to history, society, and culture.
 - A Portray theatre as a reflection of life in particular times, places, and cultures.
 - B Relate historical and cultural influences on theatre and analyze the roles of live theatre, film, television, and electronic media in American society.
- 5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Analyze and apply appropriate behavior at various types of live performances.
- B Develop appropriate theatre vocabulary to apply the concepts of evaluation (intent, structure, effectiveness, value) to live theatre, film, television, and electronic media in written and oral form with precise and specific observations.

117.65 - Theatre, Level II.

- 4 Historical/cultural heritage. The student relates theatre to history, society, and culture.
 - A Analyze historical and cultural influences on theatre.
 - B Define the influence of American society on live theatre and film.
- 5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Judge and apply appropriate audience behavior at various types of performances.
- B Evaluate emotional responses to and personal preferences for dramatic performances, using appropriate theatre vocabulary, and apply the concepts of evaluation (intent, structure, effectiveness, value) to live theatre, film, television, and electronic media in written and oral form with precise and specific observations.
- C Identify the treatment of theme, character, setting, and action in theatre, musical theatre, dance, art, and music and integrate more than one art form in informal presentations.

117.66 - Theatre, Level III.

- 4 Historical/cultural heritage. The student relates theatre to history, society, and culture.
 - B Analyze the influence of television on American society.
- C Define selected theatrical styles and genres.
- 5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Compare behavior at various types of performances and practice audience etiquette.
 - B Apply the concepts of evaluation to performances and evaluate theatre, film, television, and electronic media with depth and complexity, using appropriate vocabulary.
- C Compare communication methods of theatre with that of art, music, and dance and integrate more than one art form in informal and formal performances.

117.67 - Theatre, Level IV.

- 4 Historical/cultural heritage. The student relates theatre to history, society, and culture.
 - A Evaluate historical and cultural influences on theatre.
 - B Evaluate the role of live theatre, film, television, and electronic media in American society.
- 5 Response/evaluation. The student responds to and evaluates theatre and theatrical performances.
 - A Evaluate and practice appropriate audience behavior at various types of performances.
- B Apply evaluation concepts to performances and compare and contrast literary and dramatic criticism of theatre, film, television, or electronic media.