1. **Musical training helps develop language and reasoning:** Students who have early musical training will develop the areas of the brain related to language and reasoning. The left side of the brain is better developed with music, and songs can help imprint information on young minds.

2. **A mastery of memorization:** Even when performing with sheet music, student musicians are constantly using their memory to perform. The skill of memorization can serve students well in education and beyond.

3. **Students learn to improve their work:** Learning music promotes craftsmanship, and students learn to want to create good work instead of mediocre work. This desire can be applied to all subjects of study.

4. **Increased coordination:** Students who practice with musical instruments can improve their hand-eye coordination. Just like playing sports, children can develop motor skills when playing music.

5. **A sense of achievement:** Learning to play pieces of music on a new instrument can be a challenging, but achievable goal. Students who master even the smallest goal in music will be able to feel proud of their achievement.

6. **Kids stay engaged in school:** An enjoyable subject like music can keep kids interested and engaged in school. Student musicians are likely to stay in school to achieve in other subjects.

7. **Success in society:** Music is the fabric of our society, and music can shape abilities and character. Students in band or orchestra are less likely to abuse substances over their lifetime. Musical education can greatly contribute to children’s intellectual development as well.

8. **Emotional development:** Students of music can be more emotionally developed, with empathy towards other cultures. They also tend to have higher self esteem and are better at coping with anxiety.

9. **Students learn pattern recognition:** Children can develop their math and pattern-recognition skills with the help of musical education. Playing music offers repetition in a fun format.

10. **Better SAT scores:** Students who have experience with music performance or appreciation score higher on the SAT. One report indicates 63 points higher on verbal and 44 points higher on math for students in music appreciation courses.

11. **Fine-tuned auditory skills:** Musicians can better detect meaningful, information-bearing elements in sounds, like the emotional meaning in a baby’s cry. Students who practice music can have better auditory attention, and pick out predictable patterns from surrounding noise.

12. **Music builds imagination and intellectual curiosity:** Introducing music in the early childhood years can help foster a positive attitude toward learning and curiosity. Artistic education develops the whole brain and develops a child’s imagination.

13. **Music can be relaxing:** Students can fight stress by learning to play music. Soothing music is especially helpful in helping kids relax.

14. **Musical instruments can teach discipline:** Kids who learn to play an instrument can learn a valuable lesson in discipline. They will have to set time aside to practice and rise to the challenge of learning with discipline to master playing their instrument.
15. **Preparation for the creative economy:** Investing in creative education can prepare students for the 21st century workforce. The new economy has created more artistic careers, and these jobs may grow faster than others in the future.

16. **Development in creative thinking:** Kids who study the arts can learn to think creatively. This kind of education can help them solve problems by thinking outside the box and realizing that there may be more than one right answer.

17. **Music can develop spatial intelligence:** Students who study music can improve the development of spatial intelligence, which allows them to perceive the world accurately and form mental pictures. Spatial intelligence is helpful for advanced mathematics and more.

18. **Kids can learn teamwork:** Many musical education programs require teamwork as part of a band or orchestra. In these groups, students will learn how to work together and build camaraderie.

19. **Responsible risk-taking:** Performing a musical piece can bring fear and anxiety. Doing so teaches kids how to take risks and deal with fear, which will help them become successful and reach their potential.

20. **Better self-confidence:** With encouragement from teachers and parents, students playing a musical instrument can build pride and confidence. Musical education is also likely to develop better communication for students.

*From NAFME, 2014*

National Association For Music Education
Students researched and designed three-dimensional shoebox set models for a stage production, including creating breakdowns of the costs associated, which met specific criteria of design and budget.

6 Schools Served Throughout LA County
244 Students Designed Sets
2,722 Students Viewed Designs

```
<table>
<thead>
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<th>Item</th>
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<td>100</td>
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<td>Fountain</td>
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<td>Mission Front</td>
<td>3,850</td>
</tr>
<tr>
<td>Fabric drop</td>
<td>2,200</td>
</tr>
<tr>
<td>Wedding cake</td>
<td>150</td>
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</table>

Subtotal: 11,880
Original Budget: 13,000
Left over: 1,120

By: Group 4
Jasmine, Elijah, Zoe, and Colten
```

“I think it's really interesting to see the dynamic between students who are trying to marry their vision together while under the daunting threat of budget- it's a very authentic application of the math they're doing for Common Core. I also think it's neat for artistic students to see a practical application of art in action, and on the flip side, you've got STEM oriented students who see an artistic application of their design skills. We've had a great time!”

Mr. David Lindsay, Teacher
West Creek Academy
“Art encourages creative thinking and innovative interpretations.... There is something about having an artistic side that helps with having success in STEM fields. Expression through art encourages creativity, play and innovation. These are all traits needed for scientific breakthroughs.” Andy Allan, NAA STEM Specialist

LA Opera provided each student participant with an EISO+ Student Workbook, as well as supplies for the school including a tape measure, rulers and pop up display boxes.

Next Generation Science Standards Grades 3 – 5 Engineering Design

3-5-ETS1-1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Grade 5 VAPA Theatre Standards

3.1 Select or create appropriate props, sets, and costumes for a cultural celebration or pageant.
presents an elementary in-school opera by Eli and LeRoy Villanueva

Elementary In School Opera+

Winter 2017/18
Student Workbook

Generously supported by

BOEING
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LA Opera would also like to extend a very special thank you to Lisa Sue, Chair, and Eric Small and Linda Pasco, Vice-Chairs of the LA Opera Board's Education Committee for their tireless service to the Education and Community Engagement Department.
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Introduction

Thank you for taking the time to peruse these materials! We have developed these lessons and activities to support your implementation of the Elementary In-School Opera+ program, a new STEAM unit in conjunction with your school’s production of The Marriage of Figueroa. Students will be meeting math and science standards, and developing their collaborative and creative problem-solving skills, by facing real-world challenges of set design.

Please complete the Pre-Test before your first session with the LA Opera Teaching Artist. Don’t worry, you are not being graded on it! You will take a very similar Post-Test at the end of the residency.

In this packet, you will also find all the worksheets you need to help you design your set for The Marriage of Figueroa. We can’t wait to see what you create!
Pre-Test

Directions: Complete the Pre-Test BEFORE your first session with the LA Opera Teaching Artist. Do your best and don’t worry, you are not being graded on it!

1. Convert the following measurements from centimeters to meters.
   a. 50cm = _____m
   b. 410cm = _____m

2. Convert the following measurements from meters to centimeters.
   a. 0.12m = _____cm
   b. 2.6m = _____cm

3. Calculate the following areas (l x w = A).
   a. 7m long, 9m wide = _____m²
   b. 12m long, 8m wide = _____m²

   Work Space:

4. Define the following words.
   a. prop: _________________________________________________________
   b. set piece: _____________________________________________________

5. On the stage below, label upstage, downstage, stage right, and stage left.
Stage Measurement Worksheet

Standards: Common Core MD 4.3 Apply the area formula for rectangles in real world/mathematical problems.
Common Core MD 5.1 Convert like measurement units within a given measurement system.

Directions, Part One: Measure the length and width of your stage in meters, and then convert those measurements to centimeters. Calculate the area \((l \times w = A)\) of the stage in square meters, then convert that calculation to square centimeters. Write your measurements down below. Be sure to show your work!

Length: ______________m = ______________cm
Width: ______________m = ______________cm

Work Space:

Area: ______________m\(^2\) = ______________cm\(^2\)

Directions, Part Two: Label the drawing of the stage below with your measurements of length and width in meters.
The Marriage of Figueroa Libretto

The setting is the beautiful Estate of Aguas Frescas. Chorus to honor the Governor of California, Jose Figueroa's marriage to Sinopa.

ALL: Aguas Frescas! May the sun forever shine on Aguas Frescas! May her land forever bear sweet fruit whose fragrance fills the air! Bless the bounty of our home called Aguas Frescas!

FIGUEROA: Dear guests! Thank you, this reception is sublime Taking place in this mission so divine... So to celebrate our wedding day... a verse of Auld Lang Syne! Then let's decorate this mission... Recondition and refine... Let's spread a little bit of that sunshine!

ALL: Aguas Frescas! May the sun forever shine on Aguas Frescas!

FIGUEROA: So now here's the "How to Do"... the what, and Why and Who... The perfect proclamation plan for you! I proclaim that by way of eminent domain... That is to say, for the good of each and every Campesino here today... To commemorate my wedding day... This mission Aguas Frescas shall from this day forth be Mine... AND as my new mission will cost a fortune to recondition and refine... To pay the cost of labor, as you all will work for me: Every single one of you shall work for free! And as I think you know by now, what's YOURS is MINE. I decree this PSP no longer... Thine! Hooray...

CAMPESINOS: Aguas Frescas! Now the sun no longer shines on Aguas Frescas!

FIGUEROA: A TOAST! LET'S TOAST! PRAISES TO YOUR GOVERNOR That’s me, HAPP'LY WED FOREVERMORE TO MY WIFE SINOPA! LONG LIVE THE NEWLY WEDS OF UPPER CALIFORNIA

CAMPESINOS: PRAISES TO THE GOVERNOR JOSE FIGUEROA HAPP'LY WED FOREVERMORE TO HIS WIFE SINOPA! LONG LIVE THE NEWLY WEDS OF UPPER CALIFORNIA TRA-LA LA, LA-LA LA, LA LA LA, LA-LA LA LA LA!

JOSE MARIA: THE GOVERNOR!? HE TOOK OUR LAND FOR HIS OWN PROSPERITY

ROSITA: AND TOLD US IT WOULD BETTER SERVE THE WHOLE COMMUNITY!


JOSE MARIA: LET'S TAKE THIS OPPORTUNITY TO TEACH HIM RIGHT FROM WRONG! BY TEACHING OUR DEAR GOVERNOR THIS FUNDAMENTAL SONG:
DON’T TAKE AWAY FROM OTHERS WHAT TO YOU DOES NOT BELONG
‘CAUSE IN THE END, THE PRICE YOU PAY COULD LAST YOUR WHOLE LIFE
LONG!

CAMPESINOS: PRAISES THE OtHE GOVERNOR, JOSE FIGUEROA, HAPP’LY WED
FOREVERMORE OT HIS WIFE SINOPA. LONG LIVE THE NEWLYWEDS OF
UPEER CALIFORNIA. TRA-LA LA, LA LA! BLAH, BLAH, BLAH.

FIGUEROA: So...That’s is what you think of my wedding celebration? Blah, Blah, Blah?

JOSE MARIA: BLAH, BLAH, BLAH, BLAH! IT’S OPERA!

FIGUEROA: Opera?

JOSE MARIA: Opera, with singing! BLAH, BLAH... And laughter! I love singing and laughter!

ROSITA: Si Señor, and your favorite composer! Mozart!

FIGUEROA: Mozart? I love Mozart!

ROSITA: Si Señor, and what opera could me more fitting than Mozart’s opera...

CAMPESINOS: THE MARRIAGE OF FIGARO!

FIGUEROA: Figaro?! Title needs work, but I like it!

JOSE MARIA: SEÑOR, WITH YOUR PERMISSION, OUR SPECIAL GIFT TO YOU...
BUT THIS OPERA’S NOT AN OPERA... UNLESS YOU’RE IN IT TOO!

ROSITA: FIGARO’S YOUR PART! WHO ELSE COULD DO HIM JUSTICE?
HE’S FUN, HE’S WITTY, QUICK AND SMART…

FIGUEROA: FIGARO’S MY PART?!

CAMPESINOS: FIGARO’S YOUR PART! WHO ELSE COULD DO HIM JUSTICE? HE’S FUN, HE’S
WITTY, QUICK AND SMART… FIGARO’S YOUR PART!

FIGUEROA: Oh, goody!

CAMPESINOS: HOORAY!...

FIGUEROA: Ok, let’s not exaggerate… but this is the best wedding, EVER…

JOSE MARIA: So without further ado… Maestro?

MAESTRO: One, two, three, four!

JOSE MARIA: Our story takes place in Spain, at the home of the wealthy Count Almaviva.

ROSITA: Figaro works as servant to the Count…
(Indicates for Sinopa to rise and assume the role of SUSANNA. She and ROSITA exchange costumes)

JOSE MARIA: While his fiancée, Susanna works for the Count’s wife… Countess Almaviva.
(Indicates for Sinopa to rise and assume the role of SUSANNA. She and ROSITA exchange costumes)

ROSITA: THE COUNT IS A VERY POWERFUL MAN.
CAMPESINOS:  ... HE’S JEALOUS!... CONCEITED... HE’S GREEDY...

JOSE MARIA: ... YES I AM. AND I WANT WHAT IS NOT MINE, AND I’LL TAKE ALL THAT I CAN.

CAMPESINOS: THERE IS NOTHING HE WON’T DO TO FULFILL HIS EVIL PLAN!!

JOSE MARIA: MU-A HA HA HA HA HA HA HA HA!!!

ROSITA: ...Anyway, The story begins on Figaro and Susanna’s wedding day as the two are busily making preparations for happy lives together!

FIGUEROA:  THIRTEEN, EIGHTEEN, TWENTY, THIRTY, FORTY INCHES AND FORTY-THREE

SINOPA: SEE? THAT’S JUST THE WAY I LIKE IT TAYLOR-MADE. DON’T YOU AGREE? FASHION TREND ON MTV!

FIGUEROA:  THIRTEEN

SINOPA:  WHAT D’YA THINK, MY DARLING FIGARO?

FIGUEROA:  ... EIGHTEEN...

SINOPA:  WHAT D’YA THINK, MY DARLING FIGARO?

FIGUEROA:  ...TWENTY...

SINOPA:  WHAT D’YA THINK?

FIGUEROA:  THIRTY

SINOPA:  WHAT D’YA THINK, MY DARLING FIGARO?

FIGUEROA:  FORTY INCHES

SINOPA:  WHAT D’YA THINK, MY DARLING FIGARO?

FIGUEROA:  ... AND FORTY-THREE

SINOPA:  WHAT D’YA THINK, MY DARLING FIGARO? LOOK AT MY NEW WEDDING BONNET JUST ONE LITTLE GLANCE UPON IT!

FIGUEROA:  YES MY LOVE, JUST HOW YOU LIKE IT JUST THE PERFECT STYLE, I SEE. TAILOR-MADE, YES I AGREE

BOOTH:  TAILOR-MADE OH I (YOU) AGREE, I (YOU) AGREE, I (YOU) AGREE I’M SO HAPPY, SO FILLED WITH EMOTION, JUST/SUCH A SWEET LITTLE SIGN OF DEVOTION, IS THIS HAND-MADE WEDDING NOTION THAT SUSANNA HAS MADE FOR THIS DAY THAT SUSANNA HAS MADE FOR THIS DAY MADE FOR THIS DAY MADE FOR THIS DAY MADE FOR THIS DAY

JOSE MARIA: Yes. What a wonderful day that will be! But wouldn’t it be wonderful if this day was actually mine... all mine!!? Hoo ha ha ha ha!
ROSITA: The Count is not happy, he’s jealous of Figaro and Susanna… and all those gifts!

SINOPA: But Susanna’s a genius! She knows the Count is not happy. And she understands exactly what he’s up to.

FIGUEROA: ¡Ay, pero no entiendo nada!

SINOPA: Our master is a jealous and greedy man. He wants what does not belong to him… our apartment… our wedding celebration…

FIGUEROA: … our wedding celebration?? …Our gifts?! He wants our gifts!!…

SINOPA: He wants to marry ME!

(Takes score from his hands and bops him over the head with it)

FIGUEROA: ¡Ay! You scared me! But the count can’t ruin our happiness

CAMPESINOS: BE WISE AND MAKE A PLAN FOR THIS VERY GREEDY MAN WILL TAKE THE WEDDING FUN OF FIGARO AND SUSANNE.

COUNT: OH YES! I HAVE TO HAVE IT, YOUR WEDDING CELEBRATION I MAKE THIS PROCERAMATION: THIS DAY’S A “ME” CELEBRATION THERE’S NO ONE WHO SHALL OUT DO ME AND HAVE MORE FUN WITH THEIR STUFF AND LIVE HAPPIER THAN I DO! WITH THIS DECREE I SWEAR IT! I’M GONNA TEACH YOU A LESSON I’LL TAKE YOUR STUFF AND KEEP IT AND MAKE YOU SO UNHAPPY AND I WILL LAUGH

FIGUEROA: My what a temper… What a spoiled child, that COUNT! And Scandalous…

SINOPA: MY DEAR, CAN WE CONTINUE?! FIGARO HAS A SONG TO SING ABOUT A PLAN TO GET EVEN WITH THE COUNT!

FIGUEROA: Oooh, Vengeance! I’m good at that! (He snarls, then begins)

DEAR MR. COUNT IF YOU’D LIKE TO DANCE NOW,
DEAR MR. FANCY-PANTS, WALTZ, JIG AND PRANCE NOW.
I’LL PLAY THE MUSIC ON MY GUITAR, "LA"
JUST WAIT AND SEE YOU, WOULDN’T WANNA BE YOU
I’M GONNA SKEW YOU, THEN BAR-B-QUE YOU
I’M GONNA TEACH YOU SOME MANNERS YET I’LL TEACH HIM YET.
Ha! That’s hilarious! I love that aria!

ROSITA: Hilarious indeed! But there’s one person who is not is not laughing, and that’s Countess Rosina, married to a man so greedy.

CAMPESINOS: SHE COULDN’T EVEN TRY TO UNDERSTAND THE REASONS WHY FOR THE SADNESS AND THE PAIN SHE FELT INSIDE MADE HER CRY

ROSITA: What happened to the man I once loved? Now so heartless… so uncaring...

PLEASE, OH LOVE GIVE ME SOME COMFORT
FOR MY SORROW. FOR MY SIGHING.
PLEASE, OH LOVE GIVE ME SOME COMFORT
HEAL ME SORROW. HEAR MY CRY!
GIVE ME BACK THE LOVE I TREASURE OR JUST LET ME DIE!

JOSE MARIA: Ah, but take heart, for the Countess would not die… This was not her time. INSTEAD,
SHE AND SUSANNA ARRANGED A MEETING
TO TALK ABOUT THE COUNT’S OBNOXIOUS AND SELFISH BEHAVIOR.

SINOPA: LET'S TALK ABOUT THE COUNT’S OBNOXIOUS AND SELFISH BEHAVIOR.

JOSE MARIA: THE COUNTESS WAS SO EMBARRASSED BY THE COUNT…

ROSITA: I'M SO EMBARRASSED BY THE COUNT.

JOSE MARIA: SO THE TWO BRILLIANT WOMEN DECIDE TO PUT THEIR TWO HEADS TOGETHER AND...

ROSITA: …DEVISE A PLAN TO TEACH THE COUNT A LESSON!

CAMPESINOS: SO THEY TAKE THIS OPPORTUNITY TO TEACH HIM RIGHT FROM WRONG!
FOR WE ALL KNOW THAT THE PRICE HE’D PAY COULD LAST HIS WHOLE LIFE LONG!

ROSITA: We’ll write a letter to the Count, inviting him to meet you in the garden…

SINOPA: But when he gets there, he’ll find YOU disguised as ME!

ROSITA: BRAVO! WE CAN CATCH HIM IN THE ACT.
SO WHERE EXACTLY DO YOU INTEND TO MEET HIM?

SINOPA: IN THE GARDEN.

ROSITA: LET’S TELL HIM WHERE. WRITE HIM.

SINOPA: ME WRITE HIM? OH, BUT MADAME…

ROSITA: JUST WRITE THE LETTER! I SHALL ACCEPT FULL RESPONSIBILITY.
"..."LITTLE POEM OF WHISPERS"

SINOPA: "...OF WHISPERS."

ROSITA: IN THE PLACE WHERE GENTLE BREEZES BLOW...

SINOPA: PLACE WHERE GENTLE BREEZES BLOW…

ROSITA: AND WHERE SECRET WHISPERS FLOW...

SINOPA: AND WHERE SECRET WHISPERS FLOW…

ROSITA: THERE IN THE SHADOW OF FRAGRANT PINES THAT GROW

SINOPA: IN THE SHADOW…

ROSITA: THERE IN THE SHADOW OF FRAGRANT PINES THAT GROW

SINOPA: IN THE SHADOW… PINES THAT GROW…

BOTH: AND THE REST I THINK HE’LL KNOW.
(During the next short narration, the two ladies exchange disguises.)

JOSE MARIA: And so Susanna and the Countess write a letter to the Count inviting him to the Garden
for a secret rendezvous. Only problem and it’s a big one (snicker)… they didn’t tell Figaro about their plan to catch the Count. So when Figaro comes back… Shh! The fun is just about to begin…

(ROSITA hands JOSE MARIA the letter, blows him a kiss then exits. JOSE MARIA takes a quick glance at the letter then follows after her dropping the letter as he leaves. FIGUEROA grabs the letter and reads.)

FIGUEROA: When the breeze is gently blowing, meet me in the garden…?
¡Ay, mi madre! What’s this? An invitation to a secret rendezvous?
In the garden? With Sinopa!?
¿Ay, pero que está pasando aquí, en frente de mis propios ojos…?
...¡Ay, que tonto! ¡Como es que...!

CAMPESINOS: Now what?!

FIGUEROA: ON THE NIGHT OF MY WEDDING, I AM ALREADY PLAYING THE ROLE OF JEALOUS HUSBAND!

CAMPESINOS: Aye aye aye...

FIGUEROA: IMAGINE! I’VE BEEN LAUGHING AT MYSELF AND WITHOUT KNOWING! OH, SINOPA, SINOPA...
WHAT PAIN YOU HAVE CAUSED ME!
(Gathers some things to use as weapons placing them all into a sack)
WHOEVER TRUSTS A WOMAN, A WOMAN MUST BE HALF CRAZY!

FIGUEROA: YOU BOYS, JUST LOOK AROUND YOU!
GIRLS FULL OF COOTIES SURROUND YOU!
COME ON, WAKE UP! JUST LOOK AT THEM,
AND SEE THEM AS THEY ARE… AND SEE THEM AS THEY ARE!

BOYS: MR. FIGARO WE BOYS ARE ALL WITH YOU!
IN OUR EXPERIENCE WE FOUND GIRLS ARE FULL OF COOTIES TOO!

FEMALES: MR. FIGARO YOUR FAITH IN LOVE IS SPENT IN OUR EXPERIENCE WE FIND THAT BOYS MISUNDERSTOOD OUR TRUE INTENT.

MALES: GIRLS ARE SILLY, STRANGE AND WEIRD THEY'RE HARD TO UNDERSTAND THEY PLAY WITH DOLLS AND PARASOLS IT'S REALLY OUT OF HAND.

FEMALES: WELL BOYS ARE GOOFY AND THEY SMELL THEY WALLOW IN THE MUD AND WHEN IT COMES TO INTELLECT THEIR BRAINS UNFORTUNATELY ARE A DUD!

MALES: WELL, GIRLS DON'T PLAY WITH NEATO TOYS, THEY DRESS IN PINK AND WHITE.

FEMALES: AND BOYS PUT ON THE SAME OLD DIRTY CLOTHES NOW THAT IS NOT POLITE.

MALES: WELL, GIRLS LIKE SILLY ROSES!

FEMALES: AND BOYS LIKE RUNNY NOSES!

MALES: YOU SCREAM AND RUN FROM SLUGS!
FEMALES: YOU EAT POOR LITTLE BUGS!

BOTH: DO NOT / DO TOO! DO NOT / DO TOO!

FIGUEROA: WHOA! LET'S CALL IT A DAY, LET'S STOP FIGHTING. I'VE SAID WHAT YOU ALREADY KNOW. I'VE SAID WHAT YOU KNOW YOU ALREADY KNOW

How can this be happening on the day of my wedding? I have to catch my wife, Sinopa and her meddlesome suitor, Jose Maria! To the Garden!

CAMPESINOS: FIGUEROA, STRUCK BY JEALOUSY RUNS TO THE GARDEN QUICK TO SEE COUNT & SUSANNA UNDER A TREE, K-I-S-S-I-N-G!

JOSE MARIA: WE'RE FINALLY TOGETHER. COME NEAR TO ME, MY DEAREST!

ROSITA: IF THAT IS WHAT YOU WISH, SIR. YOUR WISH IS MY COMMAND, SO HERE I AM FOR YOU!

FIGUEROA: SO POLITE AND OBEYDIENT AND IT SEEMS SHE LIKES HIM TOO!

JOSE MARIA: GIVE ME YOUR HAND, MY VALENTINE.

ROSITA: HERE IS MY HAND.

JOSE MARIA: MY PORCUPINE!

FIGUEROA: HIS PORCUPINE?!

JOSE MARIA: WHAT TENDER LITTLE PINKIES! AND THUMBS AS SWEET AS TWINKIES! I LOVE THOSE TWINKIES! I'M ALL OUT OF RHYME!

FIGUEROA: EVERYBODY, COME WITH WEAPONS!

JOSE MARIA: WHAT'S THE MATTER?!

FIGUEROA: EVERYBODY, COME AND HELP ME!

JOSE MARIA: WHAT'S GOING ON!

CAMPESINOS: WHAT'S THE MATTER, WHAT HAS HAPPENED?

FIGUEROA: THIS WICKED MAN DISHONORED MY FAM'LY AND BETRAYED ME AND WITH WHOM, JUST WAIT AND SEE!

CAMPESINOS: I AM SPEECHLESS AND BEWILDERED! WHO COULD THINK THAT THIS IS TRUE!

FIGUEROA: RESISTANCE IS FUTILE, DON'T EVEN TRY HIDING. COME OUT NOW, MY GOV'RNESS, FOR YOUR JUST REWARD!

ROSITA: FORGIVE ME

CAMPESINOS: FORGIVE THEM!

FIGUEROA: NO, NO, NO, NEIN, NYET, NOPE!
SINOPA: THEN I SHALL GRANT THEM THE PARDONS THEY SEEK!
*(Figueroa sheds away his Figaro character and becomes the Count. SINOPA becomes the COUNTESS)*

FIGUEROA: What’s going on here?! But I thought…!

SINOPA: You thought that Jose Maria would steal me away from you?
Like you stole all this?! *(Referring to mission)*

FIGUEROA: I like to play Robin Hood…

POBLANO #1: Hey, that’s my dinner!

POBLANO #2: Robin Hood steals from the rich *(snatches back the bow)*… not the poor!

SINOPA: And all this?! Did you think we wouldn’t notice?!

CAMPESINOS: THE WEDDING GIFTS WERE FREE BUT THIS STUFF YOU TOOK WAS NOT. AND HOW COULD YOU TAKE OUR LAND WITHOUT KNOWING YOU’D GET CAUGHT?!

ROSITA: IS IT CLEAR TO YOU? A GOVERNOR CAN’T BEHAVE THIS WAY

JOSE MARIA: EVEN THE COUNT IN MOZART’S OPERA LEARNED THAT STEALING DOESN’T PAY.

FIGUEROA: You mean…?

CAMPESINOS: JUST LIKE IN THE OPERA, YOU TOOK WHAT DID NOT BELONG BUT IN THE END THE COUNTESS TAUGHT THE COUNT WHAT’S RIGHT FROM WRONG! SHE FORGAVE HIS ERRORS GLADLY WHEN HE LEARNED THIS SIMPLE SONG: DON’T TAKE AWAY FROM OTHERS WHAT TO YOU DOES NOT BELONG ‘CAUSE IN THE END THE PRICE YOU’D PAY COULD LAST YOUR WHOLE LIFE LONG.

FIGUEROA: I SEE THE ERROR OF MY WAYS FORGIVE ME, FOR I’M WRONG! ’TIS TRUE I TOOK THE LAND, WHICH TO ME DID NOT BELONG! AND SO TO SHOW MY GRATITUDE… I SAY WITH THIS DECREE THAT ALL THIS LAND BELONGS TO YOU AS ALWAYS MEANT TO BE

ALL: AND SO WE END OUR STORY WITH OUR FUNDAMENTAL SONG:
DON’T TAKE AWAY FROM OTHERS WHAT TO YOU DOES NOT BELONG FOR IF YOU LIVE YOUR LIFE THIS WAY AND LEARN WHAT’S RIGHT FROM WRONG GOOD THINGS WILL COME TO YOU WITH LOVE THROUGHOUT YOUR WHOLE LIFE LONG!
PRAISES TO THE GOVERNOR JOSE FIGUEROA HAPP’LY WED FOREVERMORE TO HIS WIFE SINOPA! LONG LIVE THE NEWLY WEDS OF UPPER CALIFORNIA TRA-LA LA, LA-LA LA, LA-LA LA LA LA!

*The End*
Libretto Study Guide Worksheet

Standards: Common Core RL 5.1 Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.

Directions: Read the libretto of The Marriage of Figueroa and underline anything that specifically mentions furniture or what the set may look like. Also, underline passages that spark ideas of what should be on stage, even if it is not discussed as furniture or a set piece. List the set pieces you’ll want and then quote the text you underlined to support your argument.

Set Pieces Needed:

1. ___________________________ 6. ___________________________
2. ___________________________ 7. ___________________________
3. ___________________________ 8. ___________________________
4. ___________________________ 9. ___________________________
5. ___________________________ 10. ___________________________

Quote from text to support set piece decision:

1. __________________________________________________________________________
2. __________________________________________________________________________
3. __________________________________________________________________________
4. __________________________________________________________________________
5. __________________________________________________________________________
6. __________________________________________________________________________
7. __________________________________________________________________________
8. __________________________________________________________________________
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10. __________________________________________________________________________
Criteria for Set Design

Directions: Read the following requirements for your set design.

You are going to design a set that is **supported by the text in the libretto**. Your set should meet the requirements of the libretto to tell the story described in the text.

Additionally, your set must meet the following specific criteria:

1. The set must fit on your school’s stage, according to your measurements and calculations on your Stage Measurement Worksheet, and converted to centimeters for your diorama.

2. The set must have a 1 meter entrance on each side of the stage that is not blocked by any furniture or set pieces.

3. The set must have room for the actors to move around for their blocking.

4. The set must stay within your budget of $10,000 for the entire opera, including any pieces for set changes.

5. The set must help tell the story according to specific examples from the text.

Technical Theater Toolbox

Here are some important technical theater vocabulary words that you will need to know for your set design.

<table>
<thead>
<tr>
<th><strong>stage</strong> – the performance area where the action in the opera or play takes place</th>
<th><strong>upstage</strong> – toward the back wall of the stage, away from the audience</th>
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<td><strong>audience</strong> – the people who watch the opera or play, or the place where they sit</td>
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Materials Price Sheet

Directions: You have a set design budget of $10,000. Look at the items below and choose your set design based on your budget. Make sure to include your work. Careful, don’t go over budget!

Set Design Items to Cut-Out and Pop Up:

<table>
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Remember: your design should stay under $10,000. Show your work here:
Self-Evaluation Checklist

Directions: Read the following checklist to help you evaluate your set design. As you go, check off the requirements that your set design meets. If there are any requirements that your set design doesn’t meet, go back and revise your design.

☐ My set design fits on my school's stage, according to my Stage Measurement Worksheet.

☐ My set design has a 1 meter entrance on each side of the stage that is not blocked by any furniture or set pieces.

☐ My set design has room for the actors to move around for their blocking.

☐ My set design stays within my budget of $10,000 for the entire opera.

☐ My set design helps tell the story according to examples from the libretto.

☐ I've finished assembling my set design diorama accurately to scale of my school's stage.
Post-Test

Directions: Complete the Post-Test AFTER your last session with the LA Opera Teaching Artist.

1. Convert the following measurements from centimeters to meters.
   c. 10cm = _____m  
   d. 620cm = _____m

2. Convert the following measurements from meters to centimeters.
   c. 0.43m = _____cm  
   d. 1.7m = _____cm

3. Calculate the following areas \((l \times w = A)\).
   a. 6m long, 8m wide = _____m\(^2\)  
   b. 11m long, 9m wide = _____m\(^2\)

Work Space:

4. Define the following words.
   a. prop: ___________________________________________________________
   b. set piece: _______________________________________________________

5. On the stage below, label upstage, downstage, stage right, and stage left.
For more information about LA Opera’s extensive Education and Community Engagement programs which reach approximately 130,000 people per year, please visit our website: www.LAOpera.org, call 213.972.3157, or email EduCom@LAOpera.org.
Stage Measurement Worksheet

Standards: Common Core MD 4.3 Apply the area formula for rectangles in real world/mathematical problems.
        Common Core MD 5.1 Convert like measurement units within a given measurement system.

Directions, Part One: Measure the length and width of your stage in meters, and then convert those measurements to centimeters. Calculate the area \((l \times w = A)\) of the stage in square meters, then convert that calculation to square centimeters. Write your measurements down below. Be sure to show your work!

Length: \(\underline{\quad} \text{m} = \underline{\quad} \text{cm}\)

Width: \(\underline{\quad} \text{m} = \underline{\quad} \text{cm}\)

Work Space:

Area: \(\underline{\quad} \text{m}^2 = \underline{\quad} \text{cm}^2\)

Directions, Part Two: Label the drawing of the stage below with your measurements of length and width in meters.
Libretto Study Guide Worksheet

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LIGHTING DESIGN FOR OPERA:
STEAM INTEGRATION FOR THE MUSIC! WORDS! OPERA! CURRICULUM

Designed for & Piloted with Upper Elementary Grades 3-6

**Goal:**
Students will understand and practice proper use of materials and tools to plan and execute a lighting design for use in their classroom opera using principals of science, engineering, and math.

**Essential Questions:**
1. What does a Lighting Designer do?
2. How will lighting design help to tell the story of your opera?
3. What is the process of designing and running lighting for an opera?

**Specific Objectives**
Students will be able to:
- Use the Scientific Inquiry process to learn about properties of light, as we use them in theatre.
- Articulate the specific challenge of Lighting Design: What is the problem we’re trying to solve? What are the criteria for success? What are the constraints?
- Practice the Engineering/Creative Process to design a lighting plan and implement it for their opera.
- Use math skills: taking measurements of distances, angles, and time.
- Learn and use terminology used in theatrical lighting design and opera.
- Reflect on the learning experience and teach peers how to follow the same process.

**Lesson Activity:**
1. Science: Exploring Light
2. The challenge, criteria, and constraints
3. Engineering/Art: Creating a Solution
4. Reflection

--- IN DETAIL ---

1. **Science: Exploring Light**
   a. Discuss and Assess Prior Knowledge:
      i. What do we know already about light and its properties?
      ii. What is the Scientific Method? See Scientific Method Handout
      iii. How is Lighting useful in opera/theatre?
   b. Introduce Exploratory Activity:
      i. Introduce lighting equipment. Discuss how the equipment works and agree upon shared rules and etiquette for safety.
      ii. Turn off lights in room and close shades, to darken as much as possible.
      iii. One student volunteers to hold lighting fixture- “Technician”
      iv. Another student volunteers to write down questions and answers- “Recorder”
      v. Other students are “observers” or “scientists.”
c. Explore the property of **Brightness/Distribution** of the light.
   i. Ask the students: What do we think will happen when...
   ii. Recorder records this question
   iii. Students hypothesize an answer: “We think it will...”
   iv. Technician performs this task with the light
   v. Students observe what actually happened, and describe it using vocabulary from the *Toolkit Handout*.
   vi. Recorder writes down their observations, using vocabulary from the toolkit
   vii. Repeat this process, with different students taking turns as Technicians and Recorders.

   **For example:**
   i. What do we think will happen when we move this light CLOSER to the wall?
   ii. Recorder writes down this question.
   iii. Students hypothesize: “The light will get smaller.”
   iv. Technician walks closer to the wall, holding the light.
   v. Students observe that the light did, in fact, get smaller. Did they also observe that it got brighter?
   vi. Recorder writes down their observations

---

d. Explore the property of **Angle** of the light.
   i. Repeat this process for different angles of light: What happens when we illuminate people and objects from different angles? How does the light look and feel?

   **For example:**
   i. What do we think will happen when we use this light to illuminate someone from the back? What will it look/feel like?
   ii. Recorder writes down this question.
   iii. Students hypothesize: “The light will look different.”
   iv. Technician tries it out, with the light.
   v. Students observe that the light looks and feels different- it’s hard to see the person’s face, but it looks very cool and eerie. Teacher encourages them to think deeper, using vocabulary from the toolkit.
   vi. Recorder writes down their observations

---

e. Explore the property of **Color** of the light.
   i. Repeat this process when changing the color of the light, using gels or other objects.
   How does the light look and feel as it illuminates people and objects?
f. Explore how you could make the light **change** over time.
   i. Repeat this process, asking students to make **changes** in the properties we already explored.

   **For example:**
   i. What do we think will happen when we use this light to make shadows that move across the wall? What will it look/feel like?
   ii. Recorder writes down this question.
   iii. Students hypothesize: “The shadows will move from here to there, and it’ll look cool.”
   iv. Technician tries it out, with the light.
   v. Students observe what happens, teacher encourages them to think deeper, using vocabulary from the toolkit.
   vi. Recorder writes down their observations.

2. **The Challenge: Design and create lighting for your opera**
   a. Discuss: Criteria: What is good lighting design?
      i. Use vocabulary from the toolkit
   b. Discuss: Constraints: What are the limits we’re working within?
      i. Use vocabulary from the toolkit

3. **Engineering/Art: Creating the solution**
   a. Discuss: What is the Engineering process?
      i. See *Engineering Handout*
      ii. How will this process help us create a lighting design?
      iii. What is the relationship of Engineering to Art?
         1. Engineering and Art/Creative processes are very similar
         2. Art tends to add an element of Interpersonal Communication
      iv. What is the relationship of Engineering to Science?
         1. Engineering is a type of Applied Science.
         2. But how do we apply?
   b. Set up the activity
      i. Discuss: What’s the process we’re going to go through, to create lighting for this opera?
      ii. Assign roles: Technicians, Designers, Recorders (or your Stage Manager), Performers
   c. Design lighting for your opera (start with one scene)
      i. The performers “run” the scene, or show, for the designers
      ii. Stage Manager calls “hold” and the performers “freeze”
      iii. The designers discuss how they’ll use the properties of light to light the show using the *Criteria and Constraints of Lighting Design Handout*
      iv. Make a plan: What are we going to try? Designers decided how many “moments” or “cues” are in the scene.
v. Communicate: Designers communicate to Technicians how the lighting should look in the first cue.

vi. Technicians set up the lighting for this moment or “cue”

vii. Stage Manager calls to “Run” this moment “with tech” – performers “run” the scene again and Designers watch.

viii. Designers Discuss: Did it work: How does this lighting look and feel? How can we modify it, to make it better?
   1. Teacher asks questions, for example, “What happens if you…”
      a. Put the light at a different angle?
      b. Use multiple lights from different positions?
      c. Make transitions from one moment to another?
      d. Give the show an extra-dramatic beginning, and ending
      e. Make one moment brighter or darker than the next?
      f. Make the light source move during the scene?

ix. Make changes, and “run it” again!

d. Document your solution
   i. As you “tech” the show, document the exact details of each light for each moment or “cue” in a cuelist Use blank Cuelist Template
   e. Repeat steps c, d, and e for each moment of the show
   f. Put the whole scene together, and practice!
   g. Put the whole show together, and practice!

4. Reflection and wrap-up
   a. Review lesson: what did we learn and how did we apply it to our opera? Were we successful? Why or why not?
   b. Make sure equipment is safely put away
   c. Make sure cue lists are organized with the Stage Manager for future rehearsals and performance.

**Recommended materials list:**

- 3x PAR38 spotlights
- 3x Extension Cords
- 6x LED bulbs *(Make sure you source LEDs so they don’t get too hot for students to handle)*
- Assortment of colored lighting gels
- Classroom Opera script/score
- Scientist’s lab book
- Blank Cuelist document

**Dan’s teaching notes:**

- Where it says “Discuss” can be done as a didactic explanation by the teacher, or socratically derived.
- Where you do activities, you can explain the steps, or students can jump right in and you guide them (this is my preference, since many things teach themselves).
- In skills-based education, often the Lesson Activities ARE the content.
Daniel H. Jentzen is a lighting designer and educator. As a lighting designer, he has created lighting for over 500 plays, musicals, concerts, and special events including Oprah, Hillary Clinton, LL Cool J, The Roots, Bela Fleck, Alison Krauss, Brandi Carlile, Vice Media, WGBH, Google, General Electric, the Walt Disney Corporation, and the Romance Writers of America. Daniel is on faculty in the Theater Department at Boston Arts Academy in Lighting Design. He also creates interdisciplinary STEAM lessons on neuroscience and art for students across Massachusetts. Daniel is the Founder and Executive Director of Brighter Boston, a creative youth development non-profit that trains, mentors, and employs Boston public high school youth in professional lighting design projects throughout the city. Daniel holds a B.F.A. in Drama from Carnegie Mellon and an Ed.M. in Educational Neuroscience from Harvard University.

**Equipment Sourcing**

Many retailers will donate in-kind to public schools including Lowes, Home Depot, True Value Hardware, or others. The suggested equipment below is also very inexpensive and easily sourced. To find gels, reach out to your local opera (or theatre) company who may have leftover gels they'd be more than happy to donate.

<table>
<thead>
<tr>
<th>OPTIMA LIGHTING PRO Short PAR38 Black</th>
<th>75W Equivalent Warm White PAR38 Spot LED Light Bulb (4-Pack)</th>
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<tbody>
<tr>
<td>$22.50 /each</td>
<td>$21.97 /4-pack</td>
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Note: If you can’t find the bulbs above, these are other options that will work:

https://www.amazon.com/Philips-Outdoor-Dimmable-25-Degree-Classic/dp/B06XQSMMNC/ref=sr_1_2_sspa?ie=UTF8&qid=1522856166&sr=8-2-spons&keywords=par38+led+spot+75w&psc=1

https://www.amazon.com/Hyperikon-Dimmable-Equivalent-Indoor-Outdoor/dp/B074MMCSWN/ref=sr_1_3?ie=UTF8&qid=1522856166&sr=8-3&keywords=par38+led+spot+75w&dplID=41ZdH7IZ9AL&preST=_SX300_QL70_&dpSrc=src

 Designed and piloted in collaboration with Daniel H. Jentzen, Lighting Designer, Boston Arts Academy Faculty, Founder of Brighter Boston, and BLO Teaching Artist. Spring 2018
**LIGHTING TOOLS**

The Science: Properties of Light

**Brightness**: *How bright or dim the light looks depending on the following factors.*
- Intensity
- Distribution
- Beam
- Beam Spread

**Angle**: *Where the light is coming from and where it is pointing.*
- Frontlight
- Sidelight
- Backlight
- Downlight
- Uplight
- Silhouette

**Color**: *What combination of gels are being used to create color*
- Hue
- Saturation

**Change**: *How the light moves or changes during, after, before or between moments.*
- Cue
- Placement
- Duration

**VOCABULARY**

**Fixture**- something that makes light, and which you can interact with to control the light
**PAR38**- a small lighting fixture that uses spotlight or floodlight lamps
**Beam**- the light that gets projected out of a fixture
**Angle**- How your beam of light relates to your object. For example:
- **Frontlight**- light that hits a performer from the front (downstage)
- **Backlight**- light that hits a performer from the back (upstage)
- **Sidelight**- light that hits a performer from their sides (stage left or stage right)
- **Toplight**- light that hits a performer from the top

**Outlet**- A place in the wall where electricity comes from
**Extension cord**- something you plug into an outlet, to get your light farther away
**Gel/Filter**- a piece of plastic you use to change the color of the light, by absorbing the colors you DON’T want
**Transition**- a change in the staging, to tell part of the story
**Cue**- a change in the lighting, over a certain amount of time
The Engineering: Tools to for Creation

1. **Confirm Roles:** *The whole company works together as a team in their specific roles.*
   a. Performers – Stand on stage in their places so that the lighting design can be just right.
   b. Lighting Designers – Work with the directors to make choices about specific lighting look.
   c. Technicians—Work as a team to set up, break down, operate, move, measure, and test lighting equipment while keeping everyone safe.
   d. Stage Manager—Records the cues on a cue list and works with the director to write everything down and know where each part and person is at all times.

2. **Go through Design Process** *(see lesson plan)*

3. **Technical rehearsal** or “Tech” *(as a noun)*—the process of designing, practicing, perfecting, and recording the lighting and scenic elements of a show. "Tech" *(as a verb)* means to add or fix the technical aspects (lighting, sound, scenic, props, costumes etc.) of a show.

**ADDITIONAL VOCABULARY**

   a. **Run the scene/show** or “Run it” –like pushing “PLAY” on a video and going until someone decides to “STOP” in order to see/hear/feel how all the parts work together.

   b. **Hold** or “Hold, Please” – What someone says to ask everyone to stop what they are doing, be still in their spot and silent as one person needs to fix something before continuing.

   c. **“Run it with tech”** – what you say when you want to try the scene/show with the technical elements you just added to see how it works.

   d. **Cue** – the term to denote signal for a specific thing must happen at a specific time. Cues are used for technical theater, music, performers on stage, even signals to get ready for something to happen. The Stage Manager keeps track of all the cues and "Calls the show" by reminding everyone of their cues exactly when they have to do something to make all the parts of the show run smoothly together.

**CRITERIA OF LIGHTING DESIGN**

   - VISIBILITY – *Can things be seen that need to be seen?*
   - STORYTELLING – *Does the lighting help to tell the story you want to tell?*
   - FOCUS – *Does lighting show the audience what the should look at to help tell the story?*
   - MOOD – *Does the lighting help to show the audience the mood of the story?*
   - INTEREST – *Does the lighting attract or detract your attention in a way that serves the story?*

**CONSTRAINTS ON LIGHTING DESIGN**

   - SAFETY
   - PHYSICAL LIMITS
   - RESOURCES – *What equipment, tools, time, and money do we have to use?*
   - LAYOUT of the room, stage
   - AUDIENCE needs
   - COLLEAGUES—*Needs of the performers, directors, and designers*
<table>
<thead>
<tr>
<th>Cue #</th>
<th>When does it happen?</th>
<th>How long does it take?</th>
<th>What does it look like?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Placement</td>
<td>Duration</td>
<td>Description</td>
</tr>
</tbody>
</table>

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</table>

**Lighting Cue List**

<table>
<thead>
<tr>
<th>LIGHT #1</th>
<th>LIGHT #2</th>
<th>LIGHT #3</th>
<th>LIGHT #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Color</td>
<td>Color</td>
<td>Color</td>
</tr>
<tr>
<td>Position</td>
<td>Position</td>
<td>Position</td>
<td>Position</td>
</tr>
<tr>
<td>Height</td>
<td>Height</td>
<td>Height</td>
<td>Height</td>
</tr>
</tbody>
</table>

**Name of show:**

**Venue:**

**Date:**

Today's Date: _________