



## TEACHER'S GUIDE: LESSONS 9-12



*WORLD OF LITTLE LEAGUE® MUSEUM*



Dear Educator,

Thank you for your interest our free printable Lesson Plans. Each lesson plan includes the lesson’s main objective, common core standards, and an activity. They are a great way to get more out of an on-site field trip or one of our virtual field trips, or if you just want to teach the subject material in a new and fun way. The best thing about each lesson is that they are separated into three different levels, Minors (elementary), Majors (middle school), and Seniors (high School) so it doesn’t matter what age group you are teaching -- our lessons adapt to fit. We have topics from all the major categories (Science, Math, History, Art, and Language Arts), plus we plan on adding new lesson plans to these categories each year.

We ask that you take the time after you complete the lesson to have your students fill out an “Exit Ticket.” It is a quick one-page questionnaire, that can be printed out *or* filled out online, so the Museum staff can gather information on how the lessons were perceived and what we may need to improve on in the future.

Sincerely,

Melissa Mull, *World of Little League Museum* Tour Director



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## Introduction of the Topic: Origami Cranes

In this lesson you will learn a little about the history of origami in Japan, how paper folding was part of ceremonial rituals, as well as learn why, for one team, it became a special part of the Little League Baseball® World Series in 2010. You will also learn how to make one of the most famous origami designs in Japan, the Japanese crane.

## Seniors (9-12)

### Origami Cranes

**Objective:** Students will be able to:

- Demonstrate their understanding of the history of origami and the importance of the “Senbazuru” (thousand origami cranes)
- Consider the cultural importance of the origami crane to the 2010 LLBWS championship team
- Create their own origami crane

### Standards:

- Anchor Standard #1. Generate and conceptualize artistic ideas and work.
- Anchor Standard #2. Organize and develop artistic ideas and work.
- Anchor Standard #3. Refine and complete artistic work.

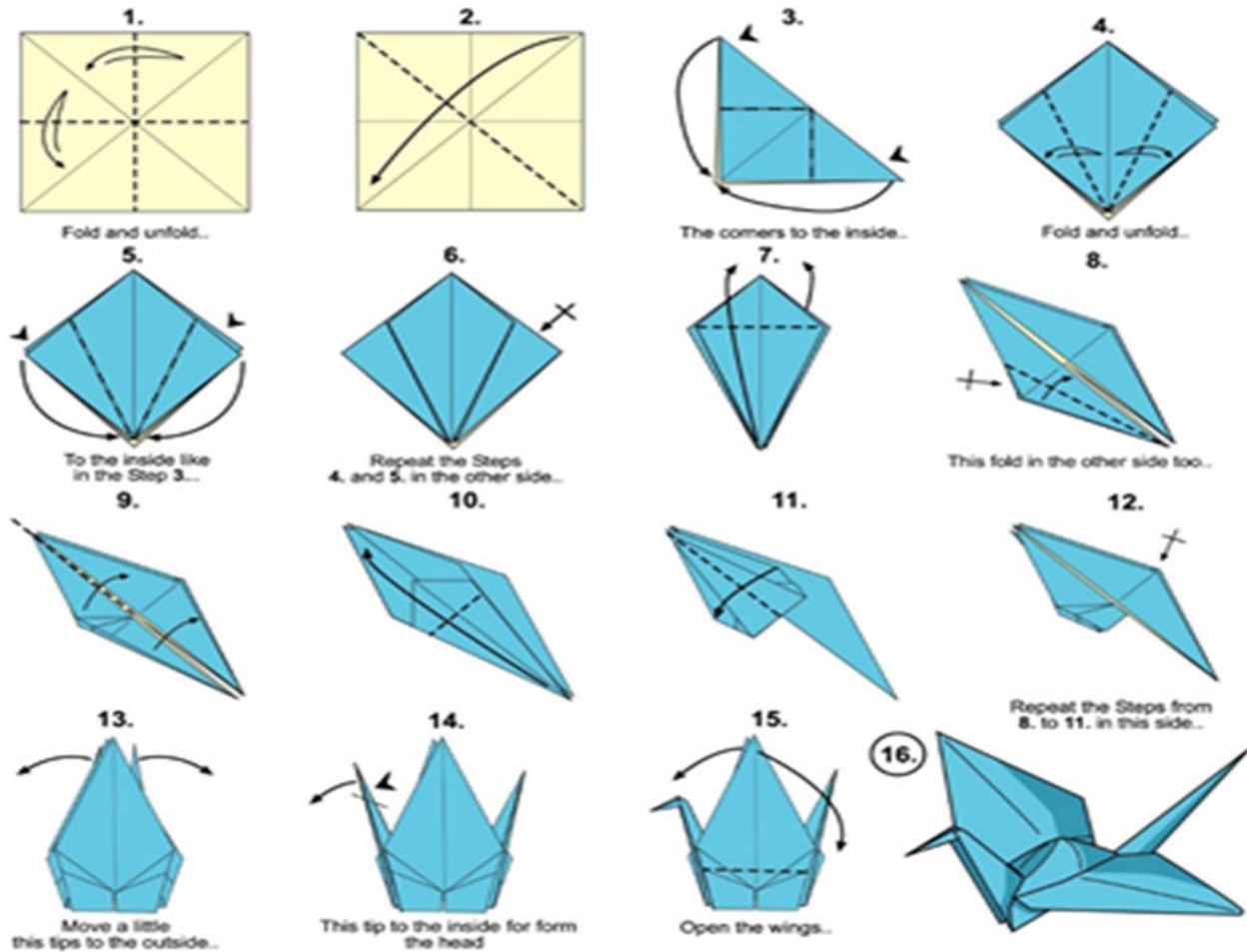
### Activity:

1. Discuss attached PowerPoint.
2. Students then learn to create their own origami crane as a symbol of good luck.



Steps:

### CRANE TSURU



Click here for a more detailed walk through of this lesson: [Lesson Plans\Art Cranes Powerpoint.pptx](#)

Prepared by: Jess Riordan from Lycoming College



## Introduction to the Topic: Build your Own Brochure

Write and arrange a descriptive and engaging brochure for the *World of Little League® Museum*. Using materials provided by the Museum, tell us what you loved most about your visit or virtual tour by creating your own brochure and present them to your class.

## Senior League (9-12)

### Baseball Brochure **We need to add photo link**

**Objective:** Students will be able to:

- Write and arrange a descriptive and engaging brochure for the *World of Little League Museum* based on their own virtual tour.

#### Common Core Standards:

- CCSS.ELA-LITERACY.RI.9-10.5 Analyze in detail how an author's ideas or claims are developed and refined by particular sentences, paragraphs, or larger portions of a text (e.g., a section or chapter).
- CCSS.ELA-LITERACY.W.9-10.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

#### Activity:

1. Students will watch a virtual tour of the *World of Little League Museum*. **(link)**
2. After, the class will discuss important and interesting things they noted while watching the tour.

(Uniforms, Girls featured in the Museum, Hall of Excellence)





3. Have students create a brochure for the Museum.

- a. Brochures can be trifold or single page like examples shown below (created by hand or on Word, Adobe, or Canva):



1. Students will present their brochures to the class.
2. Students will write a paragraph on why they included the pictures they did.
  - a. An example paragraph would be: The topic that caught my eye the most in the museum was the glove that was engineered by a little boy across the world that did not have any equipment that we are lucky enough to have here in the United States. Therefore, I focused on different cultures and how they play baseball/softball around the world. I was also interested in the poverty cultures around the United States and what equipment they used to play baseball/softball. I hope my brochure is used to educate people on poverty levels and allows people to recognize that they should be grateful for what they have.

Prepared by: Jess Riordan from Lycoming College

## Introduction of the Topic: Leadership

Students will learn through discussion why good sportsmanship is important both on and off the field. Students will design a situation where they can be a good citizen or “sport” in the community and discuss the benefits of being kind to others.

### Senior League (9-12)

## Leadership

**Objective:** Students will be able to:

- Learn through discussion how good sportsmanship is important in sports and life.
- Brainstorm a situation in which they can a good sport.
- Write an essay describing their situation and the impact.

## Common Core Standards:

- CCSS.ELA-LITERACY.RH.9-10.2

Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.

- CCSS.ELA-LITERACY.WHST.9-10.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.





**Activity:**

1. Students learn about why it important to be a good citizen or “sport” in the community. Explain how they can be good sports through doing their part such as signing up to vote, signing up to serve their country, and working community service events.
2. Explain how this connects to sports, specifically the Little League World Series. Share this info: Players for the Little League World Series come from all over and represent different communities, but they come together to make one Little League community. Within the community they create, they all have to be good sports on and off the fields. When at the World Series, an American team will live next to a team from another country. When this happens, they have to respect each other and respect their customs. They are good sports through keeping their areas clean and being kind to one another. On the field, they are good sports through showing respect to each other and the umpires. After the game, they shake hands and congratulate each other on their playing. Through this, it creates a strong community that can be expanded upon to other parts of the country and world.
3. Students write an essay on being a good sport in their community or in a sport. Within the essay, discuss the impact it has on themselves and others.
4. Finish the lesson, by sharing a summary of each essay with the class.



## Introducing the Topic: Civil Rights

Learn all about the inspiring story behind Carl Johnson and the Cannon Street YMCA Little League all-stars back in the summer of 1955 and how their league helped serve as a trailblazer in Little League’s history and communities around the world. Then, continue with an activity that discusses segregation both on and off the field along with the struggles and contributions made by African Americans to the game of baseball and softball.

## Senior League (9-12)

**Civil Rights:** Carl Johnson

**Objective:** Students will be able to:

- Name and describe Carl Johnson and his life story.
- Connect Little League for African Americans to Civil Rights
- Summarize African Americans that contributed to the Little League World Series and the struggles they might have faced.

**Common Core Standards:**

- CCSS.ELA-LITERACY.WHST.9-10.1.D  
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- CCSS.ELA-LITERACY.WHST.9-10.2.B  
Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

- ////////////////////////////////////
- CCSS.ELA-LITERACY.RH.11-12.9  
Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

**Activity:**

1. To begin, start lesson by discussing Reconstruction.
  - a. After the Civil War, the United States entered an era known as Reconstruction. During this time, the nation faced problems of rebuilding the South, reuniting the states, and ensuring the rights of newly freed African Americans. Congress passed the 13<sup>th</sup> Amendment to the Constitution in 1865, formally ending slavery. The 14<sup>th</sup> and 15<sup>th</sup> amendments (passed in 1868 and 1870 respectively) gave blacks citizenship and gave black men the right to vote. During this time, African Americans looked for ways to enjoy their newfound freedom, assert their independence, and exercise their rights as American citizens. Many white Americans, however, were uncomfortable with the idea that African Americans would become their social equals. In spite of Constitutional Amendments that were supposed to protect the rights of African Americans, many states passed Black Codes which severely limited the rights of African Americans. Due to these laws, blacks experienced segregation, lynching, intimidation, voting restrictions, and unequal justice. With the Supreme Court case Plessy v. Ferguson in 1896, it became legal to create separate public facilities for African Americans, ranging from transportation to schools.
2. Discuss that during the era of Reconstruction, the popularity of baseball soared in communities across the United States.
3. Explain that students will be looking at how the experiences of African Americans in baseball reflected changes happening in American society during, and immediately following, Reconstruction.
4. Discuss that there was segregation in everyday life including sports.
  - a. Introduce Carl Johnson: <https://www.littleleague.org/news/little-league-international-remembers-cannon-street-ymca-little-leaguer-carl-johnson/>
5. Introduce Activity.
6. Students will create a sequence chart from when the Emancipation Proclamation freed the slaved (1863), to when the Civil War ended (1865), to when states began passing “Jim Crow” laws, which allowed for segregation (1877), to when in Plessy v. Ferguson, the Supreme Court ruled that blacks and whites could be segregated as long as the facilities were equal. (1896) to

when Little League World Series started (1947), to when African Americans were allowed to play in Major League Baseball (1947), to when segregation completely ended (1964), to monumental African Americans today in sports or daily life that have made a change.

- a. Students can include African Americans that have earned Little League’s highest honor using this link: <https://www.littleleague.org/news/meet-the-african-american-members-of-the-little-league-hall-of-excellence/>

7. Conclude this lesson by discussing the sequence chart and writing an essay on how African Americans have contributed to the game of baseball/softball and struggles they had to face.

8. Show video on how Cannon Street Team helped inspire the Nation.

<https://www.littleleague.org/news/video-featuring-1955-cannon-street-ymca-little-league-team-earns-2020-ishy-award/>

Prepared by: Jess Riordan from Lycoming College

## Introducing the Topic: Diversity

Students will learn the definition of a “community” and how it is important to recognize that everyone in your community is not the same. Students will engage in a hands-on exercise and discussion to find out what types of micro communities they have in their own classroom? Do you have a soccer fan community, math lovers’, or perhaps something like a cheese pizza lovers’ community? Lastly students will be questioned about what would happen to our class/school if one particular group left?

## Senior league

## Diversity

**Objective:** Students will be able to:

- Give examples of people who are community helpers and leaders and describe how they help us.
- -Explain why people in a community do different jobs.
- Summarize different communities that contributed to the Little League World Series.

## Common Core Standards:

- CCSS.ELA-Literacy.SL.9-10.1, SL.11-12.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade-appropriate topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.
- CCSS.ELA-Literacy.W.9-10.4, W.11-12.4 Produce clear and coherent writing in which the.
- CCSS.ELA-Literacy.W.9-10.7, W.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow

or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

## Activity:

### Community:

1. As a class, discuss community. The word "community" actually has many meanings. According to the Merriam-Webster Dictionary, community could refer to:
  - a. "The people with common interests living in a particular area"
  - b. "An interacting population of various kinds of individuals in a common location"
  - c. "A group of people with a common characteristic or interest living together within a larger society"
2. Discuss that the place in which you live is a community made up of many different people. Everyone has a different background, different skills, and different interests. When people of similar backgrounds, skills, or interests get together, they also form communities - even though they may not live in the same place.
3. Divide students into pairs. When possible, match up students who don't regularly interact with one another. Have each pair create a Venn diagram on a sheet of paper.
4. Ask each student to identify three things that he or she has in common with his or her partner and note these in the area of the diagram where the circles intersect. Tell each student to list three things that he or she does not have in common with his or her partner and list those in the areas of the diagram that do not intersect.
5. Have the pairs take turns reporting their findings. Were any students surprised by what they learned about their partners? If so, what was surprising and why? Ask students how similarities and differences (talents, cultures, interests, viewpoints, etc.) strengthen the classroom community.
6. Discuss that the diversity of a community is what makes it strong. Everyone brings something different to the larger group.
7. Conclude with the example of Little League World Series.
  - a. Teams come from all over the world to compete in the Little League World Series. They include teams from the United States, Europe and Africa, Mexico, Australia, and many more. These teams speak many different languages, and all of these teams have their



own community, but they come together to make one Little League community at the Little League World Series. If one of these teams were missing, the community would not be the same and would lack diversity.

## Activity:

1. Begin the activity by asking if there are any students who belong to the baseball/softball fan community.
2. Discuss that baseball/softball is a game that brings people together. The ballpark is a meeting ground for people of all backgrounds and the game unites fans. Explain that you would like to find out more about the baseball/softball fan community.
  - b. For example:
    - i. How often do they watch baseball/softball?
    - ii. Why is baseball/softball important to them?
    - iii. Do they give anything back to the game?
3. Ask students, "How could I find this information?"
4. As a class, brainstorm a list of ways that more information could be gathered about fans.
  - a. Some suggested responses may include:
    - i. Read a fan's blog or visit a fan's website.
    - ii. Do a survey.
    - iii. Interview someone who watches baseball/softball.
5. Explain that one of the best ways to find out this sort of information is to do a survey. Discuss that surveys are used to find out all sorts of information including what TV shows are popular, who people plan to vote for in an election, and what brand of breakfast cereal they like best.
6. As a class, brainstorm a list of questions that might be useful for a survey of baseball/softball fans. Record student ideas on the board or on a sheet of chart paper.

a. Possible questions include: How long have you been a fan?, Do you watch games on TV?, Do you attend live games?, Do you fill out a score card at a live game?, Do you own a baseball jersey or cap?



7. Explain that there are two different kinds of questions, each has a different purpose. Open-ended questions are meant to invite the other person to offer more information or tell stories. Open-ended questions are commonly used in interviews.
8. Work with the class to develop a list of open-ended questions. Record student ideas.
  - a. Some examples include: How did you become a baseball fan?, Which team is your favorite and why?, What do you think of today's game compared to the way the game was when you were a child?, Can you describe your favorite experience as a baseball/softball fan?
9. Explain that even though the questions may seem suitable, open questions may not be very useful in a survey, because they take a long time to record, and they may be harder to analyze.
10. Discuss that sometimes, offering multiple choice answers to an open-ended question is more useful.
  - a. For example: What is the best aspect of being a baseball/softball fan?—The feeling of pride in your team, being in the stadium with other fans, or following the team throughout the season. Discuss that sometimes, offering multiple choice answers to an open-ended question is more useful.
11. Explain that closed-ended questions are questions resulting in a 'yes' or 'no' or other simple answer. Using closed-ended questions can often result in short, quick answers that are useful in a survey.
12. Work with the class to develop a list of closed-ended questions for the survey. Record student ideas.
  - a. Some examples include: How often do you attend a baseball/softball game?, Have you ever played baseball/softball?, What team(s) do you support?, How many years have you been a fan?
13. Review all student ideas for survey questions recorded on the board. Then have students vote to select 10-15 questions to use for their survey.
14. Have students practice taking the survey prior to interviewing others to familiarize themselves with the questions, and to make sure they understand each question.
15. Discuss who students will survey, how students plan to access their respondents, and any additional options such as conducting the surveys by phone, e-mail, or mail.
16. Give students one week to survey five people. Offer students five points for each completed survey they turn in.





17. When all surveys have been returned, tally the results. As a class, determine the most effective way of showing the survey results in graph form. Graph the survey results accordingly.

Prepared by: Jess Riordan from Lycoming College

## Introducing the Topic: Girls with Game

In this lesson students will discuss stereotypes between boys and girls and then connect them back to sports using a Venn Diagram. Students will hear the story of Kathryn Johnston, who in 1951 caused quite the stir when she dressed as a boy and signed up to play Little League out of Corning, New York, and unknowingly paved the way for future girls to play baseball without controversy.

## Senior League (9-12)

### Girls with Game

**Objective:** Students will be able to:

- Use discussion to conversate about stereotypes in girl vs boy sports.
- Select one girl that contributed to girls in the Little League World Series through research and write an essay from her point of view.

### Vocabulary:

- Stereotype: A simplified view of a group of people.

### Common Core Standards:

- CCSS.ELA-LITERACY.WHST.9-10.1.D  
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.



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- CCSS.ELA-LITERACY.WHST.9-10.2.B  
Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
  - CCSS.ELA-LITERACY.RH.11-12.9  
Integrate information from diverse sources, both primary and secondary, into a coherent understanding of an idea or event, noting discrepancies among sources.

### Activity:

1. Students start lesson by discussing what a **stereotype** is and common **stereotypes** they have heard.
2. Class discusses **stereotypes** that lead to boy vs girl sports.
3. Ask the class how they believe these **stereotypes** started. Share this info: There have been 20 girls to contribute the Little League World Series. Girls were officially allowed to play in the World Series in 1974. Before that the first girl, Kathryn Johnston, in 1950 tucked her hair into her cap and used a boy nickname to play. Since then, there has been 20 girls to contribute to the game, with the most recent being Ella Bruning, Maddy Frecking, Mo'ne Davis, and Emma March. More info here: <https://www.littleleague.org/news/girls-who-made-little-league-baseball-world-series-history/>. These girls broke the **stereotype** that only boys could play in the Little League World Series.
4. Use the research sheet (attached below) to have students pick one of the 20 girls to research information on.
5. Students write an essay from the girl they researched point of view and discuss what it was like to compete in the Little League World Series.



6. Wrap up lesson by discussing what discrimination they think the girls dealt with.



Prepared by: Jess Riordan from Lycoming College



Date of Birth \_\_\_\_\_  
Hometown \_\_\_\_\_  
Significance \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Why was she an important person in Little League World Series History? What kind of positive impact did she make on her community and the world?

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## **Introducing the Topic: Hall of Excellence**

Students will learn about the importance of being a role model in their community and how to become one themselves. Students will also learn how Little League’s Hall of Excellence recognizes their special role models

### **Senior League (9-12)**

#### **Hall of Excellence**

**Objective:** Students will be able to:

- Complete examples of what it means to be a role model.
- Identify members of the Little League Hall of Excellence.
- Write about an experience where they were a role model.

#### **Common Core Standards:**

- CCSS.ELA-LITERACY.RH.9-10.2  
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.





- 
- CCSS.ELA-LITERACY.WHST.9-10.1.D

Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

### **Activity:**

1. Students learn about why it important to be a role model in the community. Explain how they can be role models through doing their part such as demonstrate positive qualities to younger students around them, read books to younger classes, and having a positive attitude.
2. Explain how this connects to sports, specifically Little League. Share this info: Little League has a Hall of Excellence that started in 1988. To be considered for the Hall of Excellence you must have played in a chartered local Little League and must be recognized as a role model as an adult.
3. Share the example of Dr. Story Musgrave. Dr. Story Musgrave was inducted into the Hall of Excellence in 1994. Dr. Musgrave is a NASA Astronaut who has flown more than 17,000 hours in more than 160 types of aircraft including five missions on the Space Shuttle. Dr. Musgrave, who was instrumental in the repair of the Hubble Space Telescope, has three bachelor's degrees and five master's degrees in addition to a Doctorate in Medicine. Dr. Musgrave played Little League in Boston, Massachusetts.
4. Use this website to talk about other individuals in the Hall of Excellence such as Sydney Leroux, Heather Tarr, and many of our presidents! <https://www.littleleague.org/world-of-little-league/hall-of-excellence/>



5. As a class, pick a project where the students can be a role model. Complete this project at home, at school, or some place within the community. Some examples include being a part of Big Brother Big Sister, holding a community sports game, and creating a charity and gathering donations.
  
6. After the project is complete, have students write an essay on their experience and what it means to them to be a role model.

Prepared by: Jess Riordan from Lycoming College

## **Introducing the Topic: Throwing Length**

Using word problems involving distances, intervals of time, masses of objects, etc. students will identify how length is used in sports, such as the length that a baseball/softball is hit or how far is a ball thrown.

## **Senior League (9-12)**

### **Hitting Length**

**Objective:** Students will be able to:

- Identify how length is used in sports such as the length of how far a ball is hit, how far a ball is thrown, and how far away a player can catch a ball.

### **Common Core Standards:**

- CCSS.MATH.CONTENT.HSN.Q.A.1 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.





- CCSS.ELA-Literacy.SL.6.4, SL.7.4, SL.8.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
- CCSS.ELA-Literacy.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**Activity:**

1. Begin activity by explaining to students<sup>2</sup> what measurements are (specifically kilometers and meters for this activity).
2. Students will experiment with measurements by **hitting** a baseball/softball with a bat as far as they can on four attempts.
3. Students will record the length on the chart and will perform multiple attempts to see if their length improves.

Attempt #	Length in meters converted to kilometers (ex. 150 ft = 45.72 m = .045 km)

4. Student will present their findings to the class.





Prepared by: Jess Riordan from Lycoming College

## **Introducing the Topic: Reaction Time**

Through experimentation, students will begin to understand reaction time and how it is important in sports as well as everyday activities. Students will be asked to record their own reaction times in a chart during the experiment and try to improve upon time.

## **Senior League (9-12)**

### **Reaction Time**

**Objective:** Students will be able to:

- Understand reaction time through experimentation.
- Identify how reaction time is used in sports
- Use the engineering design process to solve a problem.

### **Common Core Standards:**





- CCSS.ELA-LITERACY.RST.6-8.9: Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.
- CCSS.ELA-Literacy.SL.6.4, SL.7.4, SL.8.4 Present claims and findings, sequencing ideas logically and using pertinent descriptions, facts, and details to accentuate main ideas or themes; use appropriate eye contact, adequate volume, and clear pronunciation.
- CCSS.ELA-Literacy.RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

**Activity:**

1. Begin activity by explaining to students what reaction time is (the length of time it takes to respond to a stimulus).
2. Explain that reaction time can be important in emergency situations, everyday activities, and playing sports. Ask students if they can think of any examples.
3. Explain that reaction time plays a key role in baseball/softball. Baseball and softball players must react fast for their safety and for the game. Watch this video to see reaction time in action! <https://www.youtube.com/watch?v=LJxJN3hK9bs>
4. Students will then test their reaction time by performing a baseball/softball drop test. The teacher will drop a baseball/softball **behind** the student to either side, and the student will try to react as fast as possible to find and then catch the ball. This allows students to experience hand/eye coordination, which is also important in baseball/softball. A student will work a stopwatch.
5. Students will record their time on the chart and will perform multiple attempts to see if their time improves.

Attempt #	Stopwatch Speed






6. Students will present their findings to the class.

Prepared by: Jess Riordan from Lycoming College

### **Introducing the Topic: Paint/Draw Lamade Stadium**

This activity can be done both in the classroom or right here at the Little League International Complex! Students will have the chance to paint or draw Howard J. Lamade Stadium while also considering how the atmosphere during the Little League Baseball World Series, such as the number of fans or being on camera, could impact the young players.

### **Senior League (9-12)**

#### **Paint/Draw the Stadium**

**Objective:** Students will be able to:

- Demonstrate their knowledge of the Little League Baseball World Series and where it is played.
- Consider how the stadium affects the players.
- Create their own painting/drawing of the stadium.

#### **Standards:**

- Anchor Standard #1. Generate and conceptualize artistic ideas and work.





- 
- Anchor Standard #2. Organize and develop artistic ideas and work.
  - Anchor Standard #3. Refine and complete artistic work.

### Activity:

1. Students learn that the Little League Baseball World Series is in Williamsport, Pennsylvania.
2. As a class, look up pictures of the stadium and the field of Howard J. Lamade Stadium.  
<https://www.littleleague.org/news/lamade-stadium-little-league-baseball-world-series-gets-fresh-look/>
3. Consider how the atmosphere (such as the number of fans, the cameras, the size) impacts players (such as nervousness, tiny mistakes, camera shy).
4. Students decide to paint or draw the entire stadium including surrounding fan sections.

Prepared by: Jess Riordan from Lycoming College

## Introducing the Topic: Innovation-Creating different Sports Equipment

Design and build different types of sports equipment using science, mathematics, and engineering concepts. As well as learning how, different designs impact the equipment’s performance.

### Senior League (9-12)

**Innovation** (In connection to baseball equipment handmade by a little boy featured in the *World of Little League Museum*)

**Objective:** Students will be able to:

- Learn through experimentation how design impacts performance.
- Design and build a baseball glove using science, mathematics, and engineering concepts.
- Use the engineering design process to solve a problem.



## Common Core Standards:

- CCSS.ELA-LITERACY.RST.11-12.3: Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
- CCSS.ELA-LITERACY.RST.9-10.9: Compare and contrast findings presented in a text to those from other sources (including their own experiments), noting when the findings support or contradict previous explanations or accounts.

## Activity:

1. Students imagine they work for a sporting goods company, and they must design a baseball glove.
2. Students will work in pairs or small groups. Each team will:
  - a. Design and draw their own baseball glove
  - b. Create a prototype of their baseball glove
  - c. Test the baseball glove for functionality on four attempts based on the ability to catch a ball.

Attempt #	Catch a ball Yes/No

- c. Redesign the baseball glove based on the test
- d. Retest on four attempts based on the ability to catch a ball

Attempt #	Catch a ball Yes/No






- e. Present their findings to the class and compare/contrast results
3. Students may use any household or art supplies they can find to create their baseball gloves.
    - a. Their baseball gloves do not need to match the standard weight.
  4. Have students write an essay about how using their baseball glove in a Little League game may affect the outcome.

Prepared by: Jess Riordan from Lycoming College

**Introducing this Topic: Visual Literacy**

In this activity, students will be given various pictures to look at and questions to answer by writing narratives to develop real or imagined experiences using descriptive details and clear event sequences.

**Senior League (9-12)**

**Visual Literacy**

**Objective:** Students will be able to:

- Analyze photographs to create narratives.

**Common Core Standards:**

- CCSS.ELA-LITERACY.RH.9-10.2  
Determine the central ideas or information of a primary or secondary source; provide an accurate summary of how key events or ideas develop over the course of the text.
- CCSS.ELA-LITERACY.WHST.9-10.1.D  
Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.





## Activity:

1. Have students look at different pictures included in this activity and have them answer the questions listed below.



- a. Write a narrative about what happened before this photo was taken? Did the batter hit the ball or strike out? Was it game winning or losing? How would this make you feel?

2.



- a. Write a narrative from the perspective of this boy. Does he hit the ball? What is he thinking? Is he nervous? Would you be nervous in this situation?

3.





- a. Write a narrative from the perspective of this boy. What game is it? What is he thinking? Does he strike out the batter? Has he thrown a perfect game? Is his team going to win? How does the blurred background affect the “focus” of this picture?

Prepared by: Jess Riordan from Lycoming College

## **Introducing the Topic: Earth Science-The Danger of Rainstorms**

Students will learn the dangers of playing baseball/softball in the rain/thunderstorm and then be asked to pair up and find reasons whether or not they believe all outside sports should postpone due to heavy rain and report their findings to the class. Last students will look up weather reports for the day/week and discuss why or why not it would be safe to play outside.

### **Senior League (9-12)**

#### **Earth Science**

**Objective:** Students will be able to:

- Explain the danger of a storm.
- Recall the importance of not playing baseball/softball in the rain.
- Debate if all outside sports should be cancelled with heavy rain.

#### **Common Core Standards:**



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- CCSS.ELA-LITERACY.RL.9-10.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
  - CCSS.ELA-LITERACY.W.11-12.1.B Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.

### Activity:

1. Explain to students that storms of any kind can cause a great deal of damage, and it is important to stand inside during storms.
2. Give the example that baseball/softball is stopped in heavy rain and will not play in storms. Share Little League's Lightning Safety Guidelines– [www.littleleague.org/playing-rules/appendices/appendix-a/](http://www.littleleague.org/playing-rules/appendices/appendix-a/)
3. Ask the class if they can think of any reasons why.
  - a. Examples: Chance of injury, slip on muddy ground, water puddles slow players down making it hard to catch balls or run to bases, cloud coverage and wind impact the game/reduces vision and can distract the players/lightning strikes, wind has the potential to change the baseballs trajectory, causing an issues with both pitchers and hitters, **Ball becomes heavy and wet-absorbs water and humidity and can actually increase the ball's size which can make the ball harder to play with. The pitcher has a harder time throwing the ball at the right angle and the hitter is unable to hit the ball far away. Can cause the arms of the pitchers to get hurt and can affect the players in the field as well,** a wet ball can be harder to catch, slippery- can cause more injuries, a wet ball doesn't bounce the same as a dry ball making it more unpredictable.
4. Inform students that baseball and softball are the only two sports that stop just because of heavy rain.



5. After, share the story of the one Major League player struck by lightning. \*On August 24, 1919, a pitcher named Ray Caldwell who played Cleveland Indians was playing against the Philadelphia Athletics during a thunderstorm. Ray was struck by lightning and was knocked unconscious for five minutes, he got up and played the rest of the game. He is the first and only known baseball player to be struck by lightning.
6. Divide the class in half and have each side come up with reasons whether or not they believe all outside sports should postpone their game due to heavy rain.
7. Have students debate to the class after.
8. After discussion, as a class look at local weather for the next 10 days. (weather.com) Have students write a report deciding which days they would play baseball or softball in the weather forecasted for each specific day and why or why not. Discuss how forecasts can change and have students keep that in mind while writing their report.

Prepared by: Jess Riordan from Lycoming College

## Introducing the Topic: Baseball Word Problems

Students will read and identify problems within a passage as they learn to correctly set up a mathematical problem and justify the way they choose to solve it. This lesson also identifies how math is used in various ways in sports.

## Senior League (9-12)

### Word Problems

**Objective:** Students will be able to:

- Read and identify problems within a passage as they correctly set up a mathematical problem and justify the way they choose to solve it.
- Identify uses of math in sports.
- Use a multistep process to solve a problem.





## Common Core Standards:

- CCSS.MATH.CONTENT.HSA.REI.A.1 Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
- CCSS.MATH.CONTENT.HSA.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

## Activity:

1. Have students complete word problems in handout.

## Word Problem Handout:

- A. Two teammates together hit a softball 142 times. One hit the softball 78 times. How many times did the other teammate hit the softball? Solve for  $x$ .

- B. The local minor league baseball team is holding a charity event and sells two kinds of tickets. Tickets for children cost \$.50. Adult tickets cost \$2. On that same day the admission fees collected totaled \$376. 120 Children were let in, how many adults were let in? Solve for  $x$ .









**EXIT TICKET**

**WHAT ARE TWO THINGS THAT STOOD OUT MOST TO YOU TODAY IN THIS LESSON?**

**1.**

**2.**





**IS THERE STILL SOMETHING YOU ARE CONFUSED ABOUT?**

**1.**

**2.**

**WHAT DID YOU LIKE MOST ABOUT THE LESSON?**

**1.**

**WHAT DID YOU LIKE LEAST ABOUT THE LESSON?**

**1.**

