“Measurement Olympics”

For further information contact...

Leslie Fernbaugh
Churchwell Elementary
8201 Park Byrd Road • RTE A
Lakeland, FL 33810
863-853-6011
Leslie.Fernbaugh@polk-fl.net

2011 - 2012 IDEA CATALOG OF EXCELLENCE

PROGRAM OVERVIEW

Measurement Olympics was designed to be a culminating hands-on activity at the end of the second grade measurement unit. The objective of the program is to provide students with multiple hands-on opportunities using standard and alternative measurement tools to measure a variety of lengths in inches, feet, and centimeters and capacity in cups. This program will allow students to increase their measurement abilities. This program also promotes social interactions as students encourage each other during each event.

This program was developed to provide all second grade students at Churchwell Elementary School more opportunities for hands-on measurement practice. All students, including ESE (Exceptional Student Education) students, are able to participate in this program. Measurement Olympics can be adapted for grades K-5.

Measurement Olympics is a series of six events and culminates with an awards ceremony. Students participate in an Opening Ceremony where they are introduced to the history of the Olympics before beginning any of the events. Students will experience events such as Olympic Golf where a cotton ball is hit with a golf club and measure the distance they were able to hit the cotton ball in feet and inches. In Olympic Death Grip students squeeze a wet sponge with one hand one time above a measuring cup to measure how much water they are able to squeeze from the sponge.

At Churchwell Elementary, Measurement Olympics is held on one day. Each second grade teacher manages one event. At the end of the day, students participate in the Closing Ceremony where medals are given. Classrooms are teamed together, and the top three measurement winners for each event between the two classes receive a gold, silver, or bronze medal for their respective achievement. Since there are six second grade classes, there are three gold medal winners, three silver medal winners, and three bronze medal winners for each event.

Measurement Olympics can be implemented as a grade level or by an individual teacher. It may be completed in one day where students rotate from one event to another event or over several different days. Volunteers were also invited to participate in making this program run smoothly.

Churchwell Elementary School is a Title 1 school that has not met AYP since the 2006-2007 school year. The first year this program was implemented, 122 second graders were able to participate in the program. In the 2010-2011 school year, 77 second graders participated in Measurement Olympics.

Measurement Olympics can be implemented for any grade level or number of students. It is a completely flexible program capable of meeting the needs of the students and the resources available to the teachers.

OVERALL VALUE

I believe Measurement Olympics is a powerful program that will create everlasting memories of measurement. Students are actively engaged in every event and are allowed to take ownership of the hands-on measurement tasks instead of just completing a reproduced worksheet.

This program not only provides multiple measurement opportunities, it also promotes valuable skills like cooperation and teamwork. Students encourage one another and help build a positive nontargeting learning environment. Seeing the smiles of the students as they participate in this program will make every teacher realize what a wonderful program Measurement Olympics is for every student.
**LESSON PLAN TITLES**

1. Opening Ceremony
2. Olympic Golf
3. Olympic Smiles
4. Olympic Frisbee
5. Olympic Flying High
6. Olympic Death Grip
7. Olympic High Jump
8. Closing Ceremony

The lessons for the specific events can be arranged in any order.

**MATERIALS**

At Churchwell Elementary School, the second grade teachers and students spend the afternoon outside where students rotate from one event area to another.

This program can be implemented in several ways. *Measurement Olympics* may take place inside the classroom or outside. Materials for each activity are listed in the lesson plan. Computer, projector, CD player, rulers, scissors, chart paper, pencil, and paper are materials supplied by school. The materials budget, found after the lesson plan, includes the list of supplies not provided by the school, including pricing and vendors.

**ABOUT THE DEVELOPER**

Leslie Fernbaugh received her Bachelor of Arts degree in 2004 from Augustana College in Rock Island, Illinois. In 2009, she earned her Master of Science degree from Walden University. She is certified to teach Elementary Education, English Speakers of Other Languages, and Middle School Language Arts.

She began teaching in Osceola County in 2004, and has taught second grade at Churchwell Elementary School in Polk County since August 2007.
**SUBJECTS COVERED**
Social Studies, Mathematics

**GRADES**
Second

**OBJECTIVES**
- Students will learn about the history of the Olympics
- Students will be introduced to the Measurement Olympics Events.

**SUNSHINE STATE STANDARDS**
SS.2.A.1.2: Utilize the media center, technology, or other informational sources to locate information that provides answers to questions about a historical topic.

MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.

MA.2.G.5.4: Measure weight/mass and capacity/volume of objects. Including the use of appropriate unit of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lb), grams (g), kilograms (kg), milliliters (mL), and liters (L).

**MATERIALS**
- Computer
- Projector
- “Bugler’s Dream and Olympic Fanfare Medley” by NBC Presents Summon the Heroes
- CD player
- PowerPoint presentation on the Olympics
- Paper
- Pencil

**DIRECTIONS**
Gather all of the students who will be participating in Measurement Olympics to one location that is equipped with a projector and a computer. As students enter the room, have the song “Bugler’s Dream and Olympic Fanfare Medley” by NBC Presents Summon the Heroes playing. This song is NBC’s theme song for the Olympics and will help set the tone for the events.

With the use of a PowerPoint presentation, students will learn about the history of the Olympics. They will learn why the Olympics started, what the colors of the rings mean, and how the Olympics have change over time.

After that, students will be introduced to the events of Measurement Olympics. Students will hear a description of each event and the type of measurement that is required. The teacher will explain the Measurement Olympic Data sheet where students will record their estimates and actual measurements for each event. Discuss how students are responsible for the sheet and should keep it in a safe place such as a folder while they are participating in all the events for the day.

On a piece of paper, students will write a summary that includes three things they learned about the Olympics, two events they are excited for, and one sentence about how they will use measurement in the events. Once all students are done, have students Mix Pair Share what they wrote. Collect all papers before students leave for events.

**EVALUATION/ASSESSMENT**
Students will be informally assessed through their summarizer and through teacher observation as they share with classmates.

**ADDITIONAL INFORMATION**
Request a copy of the PowerPoint presentation on the Olympics by contacting the developer.

★★★
“Measurement Olympics” Leslie Fernbaugh
Lesson Plan No 2: Olympic Golf

■ SUBJECTS COVERED
Mathematics

■ GRADES
Second

■ OBJECTIVES
• Students will measure how far they are able to hit a cotton ball with a golf club in inches and feet.

■ SUNSHINE STATE STANDARDS
MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.

■ MATERIALS
• 2 plastic golf clubs
• Bag of cotton balls
• Tape measure
• 2 cones
• 16 quart container

■ DIRECTIONS
All materials for this event are stored in a 16 quart container for convenience. The teacher will set up the materials and the two cones. One cone is where all students will tee up their cotton ball and hit from. The second cone is for students to line up behind so that they stay a safe distance away from the golfer as he or she swings the club.

The teacher will model the event for the students, explaining that the way the face of the club is aimed is where the cotton ball will go and how to measure from the cone to the cotton ball using a tape measure.

All students will take turns to practice hitting a cotton ball with a golf club. After practicing, students will estimate how far they think they can hit the cotton ball.

Students will partner up to find a measurement buddy. This person will help hold the end of the tape measure at measurement time.

A cotton ball will be placed next to the cone to mark where the cotton ball is teed up. One student will hit the cotton ball. Using a tape measure, one student will hold the end of the tape measure at the starting cone, while the golfer takes the tape measure out to the cotton ball and reads the measurement. Students will measure the distance the cotton ball traveled in feet and inches and record it on their chart. Partners will switch roles and repeat the process.

All students will participate. While not golfing, all students are expected to cheer on their classmates during the event.

■ EVALUATION/ASSESSMENT
1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

■ ADDITIONAL INFORMATION
See attached Measurement Olympic Rubric for Evaluation and Assessment Information

★ ★ ★
OBJECTIVES

Students will measure how wide their smile is using a piece of yarn as an alternative measuring tool and then measure the piece of yarn in centimeters using a ruler.

SUNSHINE STATE STANDARDS

MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.

MATERIALS

- Skein of yarn
- One pair of scissors
- Eight rulers
- 16 quart container

DIRECTIONS

All materials for this event are stored in a 16 quart container for convenience. The teacher will need to precut string ahead of the event. At the event, teacher will need to lay out the materials needed for the event so they can easily pass out all of the materials.

The teacher will model the event for the students, explaining how to use the string to measure a smile and then figure out the measurement of the string by using a ruler.

Students will estimate how wide they think their smiles are in centimeters on their date chart.

Students will partner up to find a measurement buddy. The teacher will pass out two pieces of string and one ruler to each set of partners.

Partner one will measure the smile of partner two by holding a piece of string to their smile. Students will pinch the ends of the string at the corners of their partner’s mouth.

Once the yarn is pinched off to the correct measurement, partner two will hold the ruler up so the partner one may measure the length of the yarn in centimeters to determine the width of his or her partner’s smile.

Students will record the measurement of how wide their smile is on their data chart. Be sure to explain that even though they are measuring the width of their partner’s smile, they are only recording the width of their smile. Partners will switch roles and repeat the process.

EVALUATION/ASSESSMENT

1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

ADDITIONAL INFORMATION

See attached Measurement Olympic Rubric for Evaluation and Assessment Information
Lesson Plan No 4: Olympic Frisbee

**DIRECTIONS**

All materials for this event are stored in a 16 quart container for convenience. The teacher will set up the materials and the two cones. One cone is where all students will throw their paper plate from. The second cone is for students to line up behind so that they stay a safe distance away from the participant.

The teacher will model the event for the students and explain how to measure from the cone to the paper plate using a tape measure.

All students will take turns to practice throwing the paper plate like a Frisbee. After practicing, students will estimate how far they think they can throw the paper plate.

Students will partner up to find a measurement buddy. This person will help hold the end of the tape measure at measurement time.

One student will throw his or her Frisbee from the cone. With their partner, students will measure the distance his or her Frisbee was able to travel in inches and feet. Using a tape measure, one student will hold the end of the tape measure at the starting cone, while the thrower takes the tape measure out to the paper plate and reads the measurement. Students will measure the distance the paper plate traveled in feet and inches and record it on their chart. Partners will switch roles and repeat the process.

All students will participate. While not throwing, all students are expected to cheer on their classmates during the event.

**EVALUATION/ASSESSMENT**

1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

**ADDITIONAL INFORMATION**

See attached Measurement Olympic Rubric for Evaluation and Assessment Information

★ ★ ★
“Measurement Olympics” Leslie Fernbaugh
Lesson Plan No 5: Olympic Flying High

**SUBJECTS COVERED**
Mathematics

**GRADES**
Second

**OBJECTIVES**
- Students will make a paper airplane and measure how far they are able to throw it using feet and inches.

**SUNSHINE STATE STANDARDS**
MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.

**MATERIALS**
- Ream of paper
- Two cones
- Tape measure
- 16 quart container

**DIRECTIONS**
All materials for this event are stored in a 16 quart container for convenience. The teacher will set up the materials and the two cones. Students will stand at one cone and throw their airplane. The second cone is for students to line up behind so that they stay a safe distance away from the participant.

The teacher will model the event for the students, explaining how to measure from the cone to their airplane using a tape measure. The teacher will pass out a piece of paper to all the students.

Students will be given time to make a paper airplane and practice throwing it. After practicing, students will estimate how far they think they throw their airplane and record that information on their data chart.

Students will partner up to find a measurement buddy. This person will help hold the end of the tape measure at measurement time.

One student will throw his or her airplane from the cone to mark the starting location. With their partner, students will measure the distance his or her airplane was able to fly in feet and inches. Using a tape measure, one student will hold the end of the tape measure at the starting cone, while the thrower takes the tape measure out to his or her airplane and reads the measurement. Students will measure the distance their airplane traveled in feet and inches and record it on their chart. Partners will switch roles and repeat the process.

All students will participate. While not throwing, all students are expected to cheer on their classmates during the event.

**EVALUATION/ASSESSMENT**
1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

**ADDITIONAL INFORMATION**
See attached Measurement Olympic Rubric for Evaluation and Assessment Information

2011 - 2012 IDEA CATALOG OF EXCELLENCE
DIRECTIONS

All materials for this event are stored in a 16 quart container for convenience. The teacher will set up three stations for the event. The stations can be placed on a table, desk, or the sidewalk. One container will be placed at each station. A measuring cup will be placed inside each container. The sponges will be placed in the bucket of water and set in a location accessible from each station.

The teacher will model the event for the student, explaining that one hand will be placed behind their back while they will grab the sponge with the other hand and squeeze the sponge one time. The teacher will model how to measure the liquid they were able to squeeze into the measuring cup.

All students will take turns to practice squeezing the sponge one time. After practicing, students will estimate how much water they are able to squeeze from the sponge and record it on their data chart.

Students will partner up to find a measurement buddy. This person will help read the amount of liquid in the measuring cup.

EVALUATION/ASSESSMENT

1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

ADDITIONAL INFORMATION

See attached Measurement Olympic Rubric for Evaluation and Assessment Information

GRADE:

Second

OBJECTIVES

- Students will measure how much water they are able to squeeze from a sponge using cups

SUNSHINE STATE STANDARDS

MA.2.G.5.4: Measure weight/mass and capacity/volume of objects. Including the use of appropriate unit of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lb), grams (g), kilograms (kg), milliliters (mL), and liters (L).

MATERIALS

- Three sponges
- Bucket of water
- Three 16 quart containers
- Three 2 cup or larger measuring cups

SUBJECTS COVERED

Mathematics

ADDITIONAL INFORMATION

See attached Measurement Olympic Rubric for Evaluation and Assessment Information

2011 - 2012 IDEA CATALOG OF EXCELLENCE
**SUBJECTS COVERED**
Mathematics

**GRADES**
Second

**OBJECTIVES**
• Students will measure how high they are able to jump using feet and inches.

**SUNSHINE STATE STANDARDS**
MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.

**MATERIALS**
• One sponge
• Bucket of water
• Chart paper
• Tape measure
• One cone
• 16 quart container

**DIRECTIONS**

All materials for this event are stored in a 16 quart container for convenience. Prior to the event, the teacher will need to hang a large piece of chart paper to a wall. The teacher will set up the remaining materials and one cone. The cone is for students to line up behind so that they stay a safe distance away from the participant.

The teacher will model the event for the student, explaining safety precautions as they jump by the wall and how to measure from the ground to the wet mark left by the sponge using a tape measure.

All students will take turns to practice jumping next to the wall and hitting it without a sponge. After practicing, students will estimate how high they think they can jump.

Students will partner up to find a measurement buddy. This person will help hold the end of the tape measure at measurement time.

Students will get the sponge from the bucket of water. They will jump up holding the wet sponge in one hand and touch the paper. With a partner, students will then measure how high they were able to jump by measuring the distance from the ground to the wet spot they created on the chart paper in feet and inches using a tape measure. Students will record the data on their data chart. Partners will switch roles and repeat the process.

All students will participate. While not jumping, all students are expected to cheer on their classmates during the event.

**EVALUATION/ASSESSMENT**
1. Teachers will observe students at each event.
2. Students will record estimate and measurement data on a chart.
3. Students’ skills will be assessed based on criteria established from the rubric to determine their level of mastery.

**ADDITIONAL INFORMATION**
See attached Measurement Olympic Rubric for Evaluation and Assessment Information

★★★
**SUBJECTS COVERED**
Social Studies, Mathematics

**GRADES**
Second

**OBJECTIVES**
- Students will come back together, be recognized for their achievements, and share their Measurement Olympic experiences with others.

**SUNSHINE STATE STANDARDS**
SS.2.A.1.2: Utilize the media center, technology, or other informational sources to locate information that provides answers to questions about a historical topic.
MA.2.G.3.1: Estimate and use standard units, including inches and centimeters, to partition and measure lengths of objects.
MA.2.G.5.4: Measure weight/mass and capacity/volume of objects. Including the use of appropriate units of measure and their abbreviations including cups, pints, quarts, gallons, ounces (oz), pounds (lb), grams (g), kilograms (kg), milliliters (mL), and liters (L).

**DIRECTIONS**
The teacher will collect all student data charts prior to closing ceremonies and determine who will receive the gold, silver, and bronze awards for each Measurement Olympic event.

All of the students who participated in Measurement Olympics will gather in one location. As students enter the room, have the song “Bugler’s Dream and Olympic Fanfare Medley” by NBC Presents Summon the Heroes playing. This song is NBC’s theme song for the Olympics and will help set the tone for the events.

Students will write a summary about what they learned by participating in Measurement Olympics. Focus student writing on the measurement portion of the events. Once all students are done writing, have students Mix Pair Share what they wrote. Collect all papers.

Teacher will pass out Participant medals to all students in recognition of their hard work and participation.

Then recognize the first, second, and third place winners for each event. Have students come and stand on podium to receive their medal if one is available. When all medals are given out, replay the song “Bugler’s Dream and Olympic Fanfare Medley” as Measurement Olympics comes to an end.

**EVALUATION/ASSESSMENT**
Students will be informally assessed through their summarizer and through teacher observation as they share with classmates.

**ADDITIONAL INFORMATION**
Ask for a volunteer to build a podium for the Closing Ceremony.

**MATERIALS**
- “Bugler’s Dream and Olympic Fanfare Medley” by NBC Presents Summon the Heroes
- CD player
- Winner medals
- Participant medals
- Paper
- Pencil
- Podium for first, second, and third place (optional)
### Measurement Olympics Data

<table>
<thead>
<tr>
<th>Name</th>
<th>Event</th>
<th>Estimate</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olympic Golf</td>
<td>feet &amp; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Smiles</td>
<td>centimeters</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Frisbee</td>
<td>feet &amp; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Flying High</td>
<td>feet &amp; inches</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Death Grip</td>
<td>cups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic High Jump</td>
<td>feet &amp; inches</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### “Measurement Olympics” Leslie Fernbaugh
#### Measurement Olympics Rubric

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Student’s ability to measure the event</th>
<th>Student’s ability to read the measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2 1 0</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Olympic Golf</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Smiles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Frisbee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Flying High</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic Death Grip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olympic High Jump</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Scale**
- 2 = independently
- 1 = with some guidance
- 0 = completely dependent on others

Total _______ /24
# Materials Budget

<table>
<thead>
<tr>
<th>SUPPLIER</th>
<th>ITEM DESCRIPTION</th>
<th>COST</th>
<th>QUANTITY</th>
<th>TOTAL COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientaltrading.com</td>
<td>Goldtone “Winner” Medals package of a dozen</td>
<td>$4.00</td>
<td>10</td>
<td>$40.00</td>
</tr>
<tr>
<td></td>
<td>Colorful Traffic Cones set of a dozen</td>
<td>$12.99</td>
<td>1</td>
<td>$12.99</td>
</tr>
<tr>
<td></td>
<td>Silver “2nd Place” Medallions package of a dozen</td>
<td>$4.00</td>
<td>1</td>
<td>$4.00</td>
</tr>
<tr>
<td></td>
<td>Bronze “3rd Place” Medallions package of a dozen</td>
<td>$4.00</td>
<td>1</td>
<td>$4.00</td>
</tr>
<tr>
<td></td>
<td>“Super Star Gold” Medals package of a dozen</td>
<td>$4.00</td>
<td>1</td>
<td>$4.00</td>
</tr>
<tr>
<td>Jo Ann’s Fabric Store</td>
<td>Skein of yarn</td>
<td>$4.99</td>
<td>1</td>
<td>$4.99</td>
</tr>
<tr>
<td>Target</td>
<td>Set of toy plastic golf clubs</td>
<td>$9.99</td>
<td>1</td>
<td>$9.99</td>
</tr>
<tr>
<td></td>
<td>Up &amp; Up bag of 200 jumbo size cotton balls</td>
<td>$2.34</td>
<td>1</td>
<td>$2.34</td>
</tr>
<tr>
<td></td>
<td>25 foot tape measure</td>
<td>$7.99</td>
<td>4</td>
<td>$31.96</td>
</tr>
<tr>
<td></td>
<td>Up &amp; Up package of 120 paper plates</td>
<td>$3.99</td>
<td>1</td>
<td>$3.99</td>
</tr>
<tr>
<td></td>
<td>O-Cell-O 2 pack sponges</td>
<td>$1.99</td>
<td>3</td>
<td>$5.97</td>
</tr>
<tr>
<td></td>
<td>14 quart pail</td>
<td>$4.14</td>
<td>2</td>
<td>$8.28</td>
</tr>
<tr>
<td></td>
<td>2 1/2 cup measuring cup</td>
<td>$1.99</td>
<td>3</td>
<td>$5.97</td>
</tr>
<tr>
<td></td>
<td>16 quart box container</td>
<td>$3.99</td>
<td>8</td>
<td>$31.92</td>
</tr>
<tr>
<td>iTunes</td>
<td>“Bugler’s Dream and Olympic Fanfare Medley” -</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NBC Presents Summon the Heroes</td>
<td>$0.99</td>
<td>1</td>
<td>$0.99</td>
</tr>
</tbody>
</table>

Supply List is based on need for 120 students.

Teacher’s Name: **Leslie Fernbaugh**  
School: **Churchwell Elementary**

<table>
<thead>
<tr>
<th></th>
<th>Subtotal</th>
<th>Tax if applicable</th>
<th>Shipping if applicable</th>
<th>TOTAL BUDGET AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$183.39</td>
<td>$7.37</td>
<td>$11.99</td>
<td>$202.75</td>
</tr>
</tbody>
</table>

**“Measurement Olympics” Leslie Fernbaugh  
Lesson Plans Materials Budget**