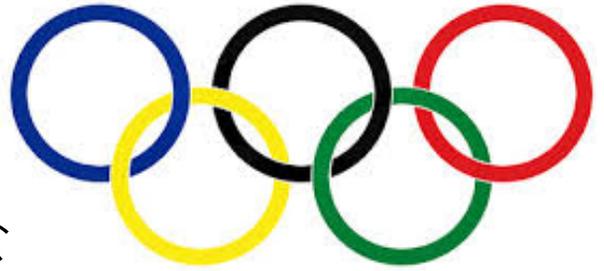
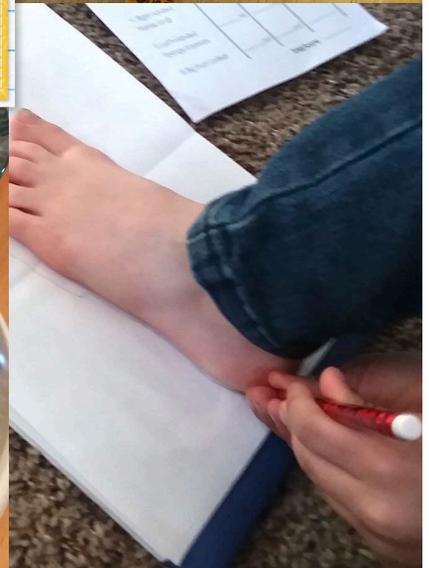


# METRIC OLYMPIC GAMES



Metric Measurement  
Team Tasks  
Grades 4 - 8



# Goals & Procedures

In the following activities students will become familiar with metric units by estimating and measuring in a series of fun and engaging “Metric Olympic” events! Students will practice estimating and measuring in metric units. **Their main goal should be paying attention to the difference between their estimates and exact measurements, and striving to improve them each time.** As the events progress students will see how accurate estimates are rewarded. These activities are recommended for Upper Elementary or Middle School students who can handle working in groups.

## **Materials: (For each class period you teach.)**

- 2-3 paper plates or pie pans
- paper or plastic drinking straws
- bags of marbles
- meter sticks and meter tapes cotton puff balls
- large sponge
- large mixing bowl or bucket liter measuring set centimeter graph paper balance scale with weights Student Worksheets

## **Management Suggestions:**

1. Establish fair ground rules ahead of time.
2. Be consistent in guiding rules that determine fairness in measurement. For Example: Do I get a practice turn?
3. Measure to the nearest whole unit.
4. Teacher needs to announce when teams will rotate

## **General Procedures:**

1. Work in small groups, 4-5 including a team captain.
2. There are a total of six stations with a different task at each station. Each station should have a task card with complete instructions and materials available. Each group is assigned to one station.
3. Each captain may read the instructions to his team. It is extremely important that *before* each activity begins, each student estimates and records his/her estimate on his/her student score sheet. Captains should check all members on the team before beginning any activity.
4. After each team member performs the activity, he/she measures and records his/her actual length, mass, volume or area.
5. After all the stations have been completed by all teams, each student should find the score, which is the difference between the estimates and the actual measurement for each event. This should be entered in the last column. Then each student totals the numbers in the score column. The winner is the one with the lowest score. You may wish to discuss how a low score shows accuracy.
6. Awards may be presented to the winners. There are forms in the student worksheet section which may be duplicated for this purpose.

# Fair Measurement Norms

Some of your students may find creative ways of getting an edge on the competition. It would be worth while to spend a few minutes discussing fair measuring practices when you introduce each event station.

Decide on questions such as practice shots, getting help from peers, using correct tools for measurement, time for each rotation, and how to round measurements correctly. The **Team captains** should be students who will hold the others accountable, and remind everyone of the norms.

**Example:** The Paper Straw Javelin and Paper Discuss task cards will simply tell students to estimate, then measure the distance between the line and their throw. They may do this two different ways which will give them different answers.

## Paper Plate Discus

1. Place feet on the start line. Throw the discus in one direction safely away from others.
2. Estimate the distance that you threw the discus. Record your estimate.
3. Measure the distance from the starting line to the position of the discus. Record the distance.



Who threw the furthest?

Which toss will  
**measure** furthest?

What is fair?

# Metric Olympics Record

Competitor: \_\_\_\_\_ Team: \_\_\_\_\_

Team Captain: \_\_\_\_\_

<u>EVENT</u>	<u>Estimate</u>	<u>Actual</u>	<u>Score</u> <u>(Difference)</u>
1. Paper Plate Discus	_____cm	_____cm	_____
2. Plastic Straw Javelin	_____cm	_____cm	_____
3. Cotton Ball Shot Put	_____cm	_____cm	_____
4. Right Handed Marble Grab	_____g	_____g	_____
5. Left-Handed Sponge Squeeze	_____ml	_____ml	_____
6. Big Foot Contest	_____cm <sup>2</sup>	_____cm <sup>2</sup>	_____
Total Score:			_____

# Plastic Straw Javelin



1. Place feet on the start line. Throw the javelin in one direction safely away from others.

2. Estimate the distance that you threw the javelin. Record your estimate in **cm**.

3. Measure the distance from the starting line to the position of the javelin. Record the actual distance in **cm**.

# Paper Plate Discus



1. Place feet on the start line. Throw the paper discus in one direction safely away from others.

2. Estimate the distance that you threw the paper discus. Record your estimate in **cm**.

3. Measure the distance from the starting line to the position of the discus. Record the actual distance in **cm**.

# Cotton Ball Shot Put



1. Place feet on the start line. Throw the cotton ball in one direction safely away from others.
2. Estimate the distance that you threw the cotton ball. Record your estimate in **cm**.
3. Measure the distance from the starting line to the position of the cotton ball. Record the actual distance in **cm**.

# Right-Handed Marble Grab



1. With your **right hand only**, grab a fistful of marbles from a container.
2. Estimate the weight of the marbles you were able to grab and hold. Record your estimate in **grams**.
3. Measure the weight of the marbles you were able to grab and hold. Record your actual measurement in **grams**.

# Left-Handed Sponge Squeeze

1. Place a sponge in a large sink or bucket of water.



2. Grab the sponge with your **left hand only**, and squeeze the water into an empty cup or bowl. Estimate the amount of water you squeezed out, in ml. Record your estimate in **ml**.

3. Grab the sponge with your **left hand only**, and squeeze the water into a measuring container (ml markings). Record the exact volume in **ml**.

# Big Foot Contest



1. Remove one shoe, of your choice, and trace your foot onto a piece of paper.

2. Estimate the area of your foot print in  $\text{cm}^2$ . Record your estimate in  **$\text{cm}^2$** .

3. Figure out the area of your foot print in  $\text{cm}^2$ . Record your calculation in  **$\text{cm}^2$** .



# Extensions Suggestions:

## Have Your Students Research the History and Symbolism of the Olympic Games...

1. What do the 5 interlocking rings mean?
2. How did the Olympic Games Begin?
3. What is the Olympic Motto?
4. What does the Olympic flame mean, and why is it important?
5. How are the original Olympic games different from the modern Olympic games?
6. Ask students to list their own questions and find answers to share.

## 7. Send your students on a Metric Scavenger Hunt. (see below).

Name \_\_\_\_\_ Metric Scavenger Hunt

Try to find objects that would estimate to the following lengths. Record the name, actual measurement, and difference (between your estimate and actual lengths.)

Estimated Length	Object Name	Actual Length	Difference
3 cm			
45 cm			
33 cm			
1 m			
1.5 m			
10 mm			
120 mm			

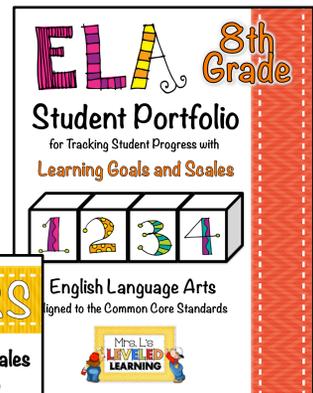
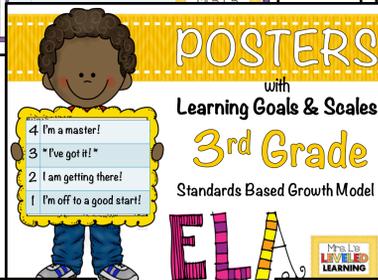
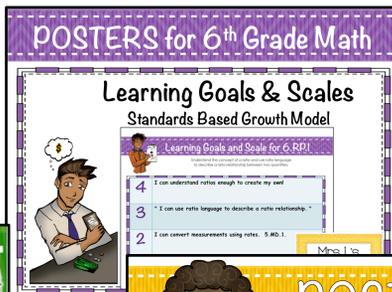
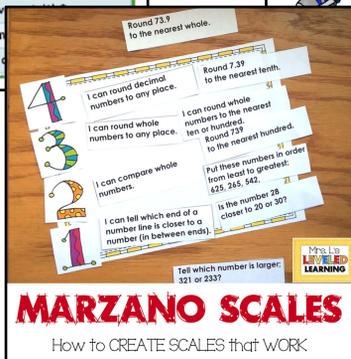
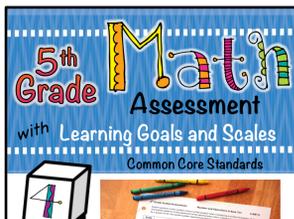
# Thank You

for trying this out!



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