Name: _____

Kicking and Energy Transfer

GRADES 3-5

Which kicking style has the most energy?

	Distance Traveled (height)	Distance Traveled (away from player)
Laces		
Inside of Foot		
Outside of Foot		
Drop-Kick		

Name: _____

Kicking and Energy Transfer

GRADES 3-5

Based on the data gathered in the chart, put the kicking styles in order from most energy in collision to least energy in collision.

_____

_____

_____

Explain how you used your data to rate the kicking styles.

_____

_____

_____

_____

_____

Show students the video titled "Juggling" by visiting www.STEMSports.com and clicking "Resources". After viewing, asks students to predict the energy of each juggling style. Will juggling have more or less energy than kicking. Explain how you used your data to make this prediction.

	Energy Rating
Header	
Knee	
Thigh	
Chest	

Module 2.1

Name: _____

Calculating Calories and Heart Rate

GRADES 3-5

Beats per minute (bpm)	Partner 1	Partner 2
Resting Heart Rate		
Maximum Heart Rate		
Heart Rate after 5 minute game (manual measurement)		

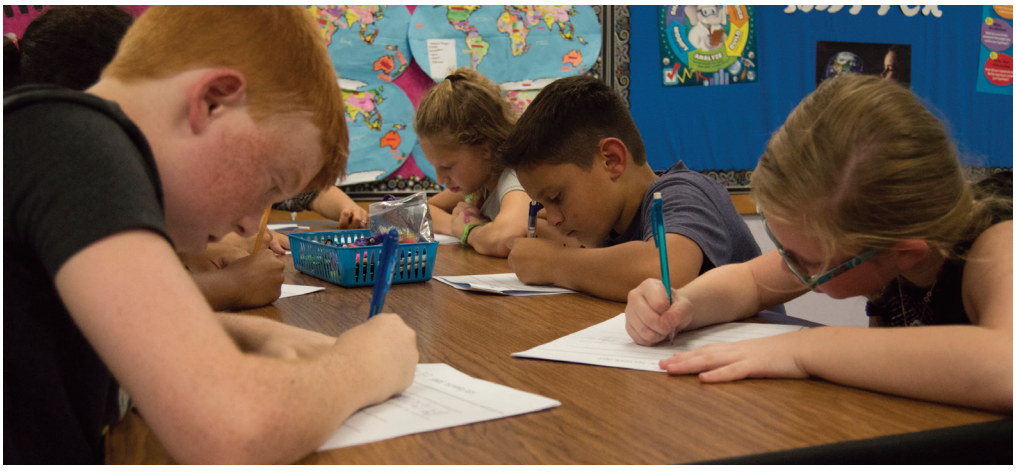
Calculating Calories:

STEP 1: Convert your weight in pounds to kilograms by dividing by 2. Round to the nearest whole number, if needed.

STEP 2: Multiply the MET value by your weight in kilograms. Use the MET value of 8.5.

STEP 3: Multiply the product by the time you performed the activity in hours to get the number of calories you burned. (May need to use a fraction if under 1 hour).

EQUATION: (Weight ÷ 2) x 8.5 x number of hours.



Name: _____

Calculating Calories and Heart Rate

GRADES 3-5

	10 minutes (1/6 of an hour)	30 minutes (½ hour)	60 minutes (1 hour)	90 minutes (1 and ½ hours)
Calories burned using MET 8.5 (Soccer)				
Calories burned using MET 1.5 (Sitting)				

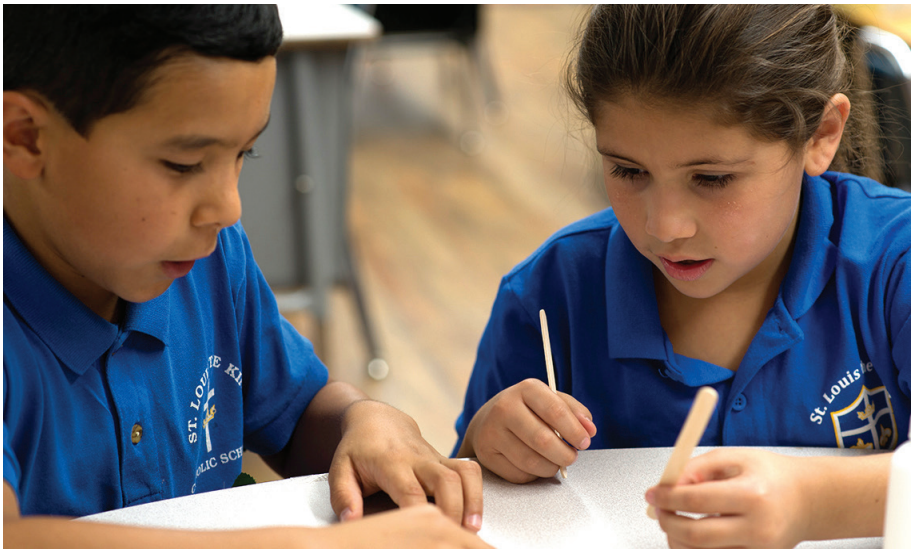
Explain how your heart rate and calories burned changes when you are playing compared to sitting.

_____

_____

_____

_____



Module 3.1

Name: _____

Measuring Throw-Ins

GRADES 3-5

Measure in Meters

Measurements	Throw 1	Throw 2	Throw 3	Throw 4	Throw 5
Standing					
Kneeling					
Step Into					

Convert your Measurements to Centimeters

Measurements	Throw 1	Throw 2	Throw 3	Throw 4	Throw 5
Standing					
Kneeling					
Step Into					

Name: _____

Measuring Throw-Ins

GRADES 3-5

Which throwing technique produced the greatest results? Why?

_____

_____

_____

_____

_____

What measurement is better to use on the soccer field, meters or centimeters? Why?

_____

_____

_____

_____

_____

Which is more accurate? Explain your answer.

_____

_____

_____

_____

_____

Name: _____

Soccer Ball vs Futsal Ball

GRADES 3-5

General Similarities and Differences

Soccer Ball	Futsal Ball

System Behavior Data

	Number of Bounces	Height of the First Bounce
Soccer Ball		
Futsal Ball		

Name: _____

Soccer Ball vs Futsal Ball

GRADES 3-5

System Observations and Diagram Notes

Soccer Ball	Futsal Ball

Using your data from the system behavior test (bounce test) and your observations and notes:

How is the futsal ball system different from the soccer ball system?

_____

_____

_____

_____

Which would you rather use and why?

_____

_____

_____

Name: _____

Goal-Line Technology

GRADES 3-5

Brainstorm Multiple Designs

Select a Single Design (draw in detail, label materials and provide measurements)

Name: _____

Goal-Line Technology

GRADES 3-5

Build, Design and Test It

For the test, roll the ball into or near the goal nine times: three times straight through the goal line; three times without crossing the goal line; and three times that only crosses the goal line half way. Put an X in the data table if the goal line technology works correctly.

	Test 1	Test 2	Test 3
Straight through the goal line			
Does not cross the goal line			
Half way through the goal line			

Tell a partner about your design:

Did it work? What evidence supports that it works? Would you make any changes?

Name: _____

Probability and Penalty Kicks

GRADES 3-5

X - Shot Made **O - Shot Missed**

	1	2	3	4	5	6	7	8	9	10	Total Made
Partner 1											
Partner 2											

Predict who would win a shootout: you or your partner? Justify it with evidence.

_____

_____

_____

_____

_____

Write a mathematical expression that shows who has a lower chance of winning the shootout.

_____

_____

_____

_____

_____

Name: _____

Probability and Penalty Kicks

GRADES 3-5

Shoot Out

X - Shot Made **O - Shot Missed**

	1	2	3	4	5	Total Made
Partner 1						
Partner 2						

Who won the shootout? How was your prediction different from the actual results?

Write a mathematical expression that shows who won the shootout.