

# PE Metrics: The Next Generation

Marybell Avery – Lincoln (NE) Public Schools  
Jennifer Walton-Fisette – Kent State University  
Kevin Lorson – Wright State University  
Stephen Mitchell – Kent State University



health. moves. minds.



# Our Task:

- 2011 PE Metrics: Assessments of National Physical Education Standards (NASPE, 2011)
- 2014 Revised National Physical Education Standards (SHAPE America, 2014)
- 2016 Revised PE Metrics: Assessments to align with 2014 National Physical Education Standards



# Timeline for Revisions

- September 30, 2014: Completion of assessment writing
- October 1 2014 – June 30 2015: Piloting of assessments by volunteer public school teachers
- March 2015 (SHAPE America convention): Presentation of draft assessments for feedback
- July 1 2015 – August 31 2015: Revision of assessments based on pilot and convention feedback
- September 30 2015: 1<sup>st</sup> draft of book
- October 1 – March 2016: Production and printing
- March/April 2016 (SHAPE America convention): Publication and launch of assessments

# PE Metrics Comparison

Original (2011)	Revision (2016)
<ul style="list-style-type: none"><li>Grade bands K, 2, 5, 8, HS</li></ul>	<ul style="list-style-type: none"><li>Grade when mature form or application expected</li></ul>
<ul style="list-style-type: none"><li>Std 1 = Skill performance</li><li>Stds 2-6 = Multiple choice</li></ul>	<ul style="list-style-type: none"><li>All standards = Observation and measurement of performance</li></ul>
<ul style="list-style-type: none"><li>Statistical evidence of validity and reliability</li></ul>	<ul style="list-style-type: none"><li>Face validity = Appear to measure intended outcomes</li><li>Content validity = Experts agree appropriate for outcomes</li></ul>
<ul style="list-style-type: none"><li>4 level rubrics</li></ul>	<ul style="list-style-type: none"><li>3 level rubrics</li></ul>

# National Standards & Grade Level Outcomes (2014)

**Standard 1:** The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

**Standard 2:** The physically literate individual applies knowledge of concepts, principles, strategies, and tactics related to movement and performance.

**Standard 3:** The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

**Standard 4:** The physically literate individual exhibits responsible personal and social behavior that respects self and others.

**Standard 5:** The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression, and/or social interaction.

# Standard 1: K-2, 3-5

K-2	3-5
Hopping (1 <sup>st</sup> )	Leaping (3 <sup>rd</sup> )
Sliding (1 <sup>st</sup> )	Jumping and landing (horizontal plane) (3 <sup>rd</sup> )
Galloping (1 <sup>st</sup> )	Jumping and landing (vertical plane) (3 <sup>rd</sup> )
Skipping (2 <sup>nd</sup> )	Balance (3 <sup>rd</sup> )
Running (2 <sup>nd</sup> )	Weight transfer (3 <sup>rd</sup> )
Jumping rope (2 <sup>nd</sup> )	Throwing overhand (4 <sup>th</sup> )
Throwing underhand (2 <sup>nd</sup> )	Catching (4 <sup>th</sup> )
	Dribbling/Ball control with hands (4 <sup>th</sup> )
	Kicking along the ground (4 <sup>th</sup> )
	Kicking in the air (4 <sup>th</sup> )
	Punting (4 <sup>th</sup> )
	Volleying underhand (4 <sup>th</sup> )
	Striking with short implement (4 <sup>th</sup> )
	Striking with long implement (side-arm) (5 <sup>th</sup> )

# Standard 1: 6-8, 9-12

6-8

Dance (Rhythm & pattern for a folk, social, creative, line or world dance)

Outdoor Pursuits or Individual Performance Activities Technique

Throwing & Catching in Invasion or Strike/field games

Invasion Game Skills: sending, receiving, dribbling, shooting, offensive & defensive skills.

Net/Wall Game Skills: strike & volley

Strike/Fielding Game Skills: Throwing, striking, & catching

9-12

Lifetime Activity Skills  
(outdoor pursuits, individual performance activities, aquatics, net/wall games, or target games)

2 or more activities

# Locomotor Example

## GALLOPING = Grade 1

**Assessment Task:** Gallop continuously with preferred foot leading.

1. Students gallop simultaneously around perimeter of space or back and forth, as appropriate for the space available
2. Gallop with preferred foot leading
3. Students gallop until teacher completes assessment
4. Watch for fatigue that affects performance.
5. Scanning strategy – Look for Level 1 performers, then look at remaining students to determine Level 2 or 3.



# Standard 1: Gallop

Level	Form
3	Gallops with all the critical elements of a mature pattern with fluid motion for entire task.
2	Gallops with the critical elements of a mature pattern for entire task: a) same foot leading. b) forward orientation. c) moment of non-support. d) back foot does not move in front of lead foot.
1	Gallops with less than 4 critical elements

# Standard 1 Example: 6-8 Invasion Game Skills

## Standard 1 Middle School Example

Level	Criteria
3	Sending, receiving, dribbling and shooting skills are performed with correct form during both practice and small-sided game situations; game-related outcomes are successfully achieved using the skills.
2	Sending, receiving, dribbling and shooting skills are performed with correct form in practice settings, though less frequent success is achieved in applying the skills to game situations.
1	Sending, receiving, dribbling and shooting skills are performed incorrectly OR only successful in practice settings and performers are unable to apply skills in game situations.

# Std. 1 High School Assessments

## Standard 1 High School

### Guidelines

Examples of isolated and applied settings are provided in the following table.

Lifetime Activity	Isolated Setting	Applied Setting
Outdoor Pursuits: Orienteering	Uses a compass to take a bearing on a map or an object.	Uses a compass to follow an orienteering course to various check points.
Net/wall games: Badminton	Executes badminton shots (e.g. clear, drop shot and service) in practice settings.	Executes badminton shots (e.g. clear, drop shot and service) in game settings.

# Standard 2

Standard 2	K-2	3-5	6-8	9-12	
Movement Concepts	Movement tasks involving space and speed	Pairs or group movement routine in gymnastics/dance or movement during game situations		Movement terminology, applying movement principles, and analysis of personal performance Portfolio	
	Movement sequence using varying shapes, levels and pathways				
Strategies & Tactics		Positioning and use of space in invasion or net games	Application of offensive and defensive strategies observation (M1-11.6-8)		
Creating Space (invasion)			Creating and closing space in invasion games (M1.8)		
Reducing Space (invasion)					
Transitions			Transition from offense/defense in invasion games		
Creating Space (net/wall)			Creating space in net/wall games		
Reducing Space (net/wall)			Reducing space in net/wall games		
Target Games					Decision making (shot/club selection) in target games
					Application of skill variation (speed, force, trajectory) in target games
Fielding/strike Games				Reducing space in fielding/striking games	

# Standard 2 Highlights

- PEM 2011: Assessment by multiple choice questions.
- PEM 2016: Assessment of outcomes requires observation of student performance.
- Requires inference (from observation) of ability to “apply knowledge of concepts, principles, strategies and tactics to movement and performance.
- Identification of observable performance behaviors.

# Standard 2 Example: 3-5

Level	Recognizing and moving to open space in an invasion game
3	Consistently* positions him/herself or moves to spaces where passes can be received when teammates have the ball
2	Usually** positions him/herself or moves to spaces where passes can be received when teammates have the ball
1	Does not sufficiently position him or herself or move to spaces where passes can be received when teammates have the ball

\* “Consistently” is defined as appropriate performance approximately 85% or more of the time.

\*\* “Usually” is defined as appropriate performance approximately 70-85% of the time.

# Standard 3

Standard 3	K-2	3-5	6-8	9-12
Engages in PA		Physical Activity Recall		Physical Activity Recall
		Teacher Observation of Students' Activity Engagement		
Fitness Knowledge		Written Quiz on skill & health-related fitness components and principles of warm-up	Written assignment on 5 health-related components of fitness & fitness relating to one's health	Calculating Target HR
				Energy Systems
				Adjusts intensity using technology
				Skeletal muscles & fiber types
Physical Activity Knowledge				Physical Activity Plan
Assessment & Program Planning		Analysis of fitness results and designing a fitness plan	Develop a Personal Fitness Plan Based on Health-Related Fitness & Nutrition Assessment Results	Goal Setting Create a Physical Activity & Fitness Plan
Nutrition			Develop a Personal Fitness Plan Based on Health-Related Fitness & Nutrition Assessment Results	Nutrition Plan and Reflection
Stress Management				Reflection Questions in Fitness Plan

# Standard 3 Highlights

- K-5
  - Tracking PA
  - Linking activities with components of fitness
  - Designing a fitness plan based on fitness assessment results.
- Grades 6-8
  - Personal Fitness & Nutrition Plan
- Grades 9-12 (examples provided)
  - Individualized Fitness Plan
  - Physical Activity Recall
  - Nutrition Plan
  - Application of fitness principles



# Assessment Task #1 – Written Assignment

Complete the two questions listed below. In question #2, be specific and detailed.

**Question #1:** List the five components of health-related fitness.

**Question #2:** In the space below, explain how fitness connects with a person's overall physical and mental health. Be as specific and detailed as possible.

# Scoring Guide

LEVEL	QUESTION #1	QUESTION #2
3	5 components	A specific and detailed response is provided that explains how fitness connects with a person's overall physical and mental health.
2	3 – 4 components	A general response is provided that explains how fitness connects with a person's overall physical and mental health.
1	0 – 2 components	No response is provided that explains how fitness connects with a person's overall physical and mental health.

# Assessment Task #2 – Develop a Personal Fitness Plan Based on Health-Related Fitness & Nutrition Assessment Results

## Guidelines

- Assessment Task #2 is a comprehensive task to develop a personal fitness plan, which includes 3 different assignments to meet the 3 outcomes.
- Teachers are recommended to complete a fitness assessment first, before developing the personal fitness plan.

# Three Assignments

- **Assignment 1: Complete a Health-Related Fitness Assessment (e.g., Fitnessgram)**
- **Assignment 2: Complete the MyPlate SuperTracker Program**
- **Assignment 3: Complete a Personal Fitness Plan**

# Scoring Guide

Level	Fitness Program Remediate/Maintain	Fitness Program Fitness/Nutrition	Balancing Strategies
3	Designs and implements a detailed program of remediation or maintenance for 3 areas based on the results of HRF assessment.	Designs and implements a detailed program to improve levels of health related fitness and nutrition.	Develops detailed and specific strategies to balance healthy food, snacks, and water intake along with daily physical activity.
2	Designs and implements a general program of remediation or maintenance for 3 areas based on the results of HRF assessment.	Designs and implements a general program to improve levels of health related fitness and nutrition.	Develops general strategies to balance healthy food, snacks, and water intake along with daily physical activity.
1	Designs and implements a weak program of remediation or maintenance for 2 or less areas based on the results of HRF assessment.	Does not design or implement a program to improve levels of health related fitness and nutrition.	Does not develop strategies to balance healthy food, snacks, and water intake along with daily physical activity.

# Standard 4

<b>Standard 4</b>	<b>K-2</b>	<b>3-5</b>	<b>6-8</b>	<b>9-12</b>
Personal Responsibility	Personal Responsibility Observation Rubric	Personal Responsibility Observation Rubric	Personal Responsibility Observation Rubric	Personal Responsibility Observation Rubric
Self-direction	Personal Responsibility (Self-direction) Observation Rubric	Personal Responsibility (Self-direction) Observation Rubric	Personal Responsibility (Self-direction) Observation Rubric	
Accepting Feedback	Accepting Feedback Observation Rubric	Accepting Feedback Observation Rubric	Accepting Feedback Observation Rubric	
Working with Others	Working with others Observation Rubric	Working with others (Respecting Others) Observation Rubric	Working with others (Respecting Others) Observation Rubric	Working with others (Respecting Others) Observation Rubric
		Working with others (Cooperation) Observation Rubric	Working with others (Cooperation) Observation Rubric	Working with others (Cooperation) Observation Rubric
Rules & Etiquette	Rules & Etiquette Observation Rubric	Rules & Etiquette Observation Rubric	Rules & Etiquette Observation Rubric	Rules & Etiquette Observation Rubric

# Standard 4 Highlights

- Observation
- Multiple observations over the course of a variety of activities.
- Become a Level 3 by consistently demonstrating Level 2.
- Choose an area (areas) that align with lesson content.
  - Probably cannot assess each area in every lesson.

# Standard 4

Level	Personal Responsibility	Personal Responsibility (Self-direction)	Rules & etiquette
3	<ul style="list-style-type: none"> <li>Consistently demonstrates responsibility for class rules, protocols &amp; responsibilities with behavior and actions without teacher prompt.</li> </ul>	<ul style="list-style-type: none"> <li>Tries his or her best without prompts or encouragements from others for all activities.</li> <li>Engages in an activity the learner perceives to be challenging or continues to engage if unsuccessful in a task.</li> </ul>	<ul style="list-style-type: none"> <li>Consistently follows all established rules, protocols, procedures and etiquette in teacher designed physical activities.</li> </ul>
2	<ul style="list-style-type: none"> <li>Follows rules &amp; parameters for appropriate behavior with minimal teacher prompting</li> </ul>	<ul style="list-style-type: none"> <li>Engages in activities and stays on task with few prompts or encouragement from others.</li> </ul>	<ul style="list-style-type: none"> <li>Follows the established rules, protocols, procedures and etiquette in activities.</li> </ul>
1	<ul style="list-style-type: none"> <li>Does not engage in appropriate behaviors or requires frequent redirection to demonstrate the rules &amp; parameters for appropriate behavior</li> </ul>	<ul style="list-style-type: none"> <li>Does not consistently engage in activities OR stays on-task with frequent prompts and encouragement from others.</li> <li>Disrupts the work or play of others.</li> </ul>	<ul style="list-style-type: none"> <li>Developing consistency with frequent teacher prompts or encouragement in demonstrating rules, protocols, procedures and etiquette in activities.</li> </ul>



# Standard 4

Level	Safety	Accepting feedback	Working with others
3	<ul style="list-style-type: none"><li>• Participates safely in all activities without reminders or redirection from teacher.</li><li>• Uses equipment safely and as directed.</li><li>• Encourages others to be safe or avoids unsafe situations and behaviors.</li></ul>	<ul style="list-style-type: none"><li>• Accepts specific corrective feedback from the teacher and attempts to make a change in the targeted behavior.</li></ul>	<ul style="list-style-type: none"><li>• Works independently within a group or partner activity without prompts or targeted feedback from others.</li><li>• Consistently engages in behaviors that are helpful to others (e.g., taking turns using equipment and interacting positively with others, helps retrieve a ball, waits for turn, performs role).</li></ul>
2	<ul style="list-style-type: none"><li>• Follows teacher directions for safe participation and proper use of equipment with minimal teacher prompt.</li></ul>	<ul style="list-style-type: none"><li>• Listens to the feedback from the teacher.</li><li>• Student accepts responsibility for his/her role in the outcome.</li></ul>	<ul style="list-style-type: none"><li>• Engages in behaviors that ensure others have the opportunity to learn and be successful (such as sharing equipment and space, waiting for turn or helping others).</li></ul>
1	<ul style="list-style-type: none"><li>• Demonstrates unsafe behavior that has the potential for a negative impact on self or others.</li></ul>	<ul style="list-style-type: none"><li>• Fails to address the teacher's comments OR Makes excuses or blames others.</li></ul>	<ul style="list-style-type: none"><li>• Engages in uncooperative or disruptive behaviors that interfere with other students' learning.</li></ul>

# Standard 5

Standard 5	K-2	3-5	6-8	9-12
Reasons to be physically active	Reasons to be physically active picture	What do I like to play & Why do I like to play?  Options:  1. Paragraph 2. Art 3. Dance	Physical activities that improve health worksheet	PA Advocacy Project <ul style="list-style-type: none"> <li>• Benefits</li> <li>• Reasons</li> <li>• Encourages others</li> </ul>
			Reasons (social, self-expression, challenge) to be physically active	
Advocacy			Physical Activity Advocacy  Letter to:  1. friend 2. community rec center 3. parent	

# Standard 5 Highlights

- Why be physically active?
  - K-2
    - Draw a picture
    - Show and/or tell the reasons to play it.
  - Grades 3-5
    - Paragraph
    - Visual Art
    - Dance
- Grades 6-8 & 9-12
  - Reasons to play & identify activities
  - Advocacy for favorite activity
    - Friends
    - Parents
    - Community recreation center
- Graphic organizers & learning supports
- Teacher Rubric v. Student Rubric

# Standard 5 Example: Teacher Rubric (9-12)

Level	Health (S5.E1) <i>[Favorite Activity Brainstorming]</i>	Challenge (S5.E2) <i>[Graphic Organizer &amp; Task 3]</i>	Self-expression/Enjoyment (S5.E3)	Social Interaction (S5.E4) <i>[Task 3]</i>
3	<ul style="list-style-type: none"> <li>Compares the health benefits of different activities by identifying appropriate health benefits for each activity in Task 1.</li> <li>Identifies multiple health (physical, mental or social) benefits specific to the identified activity in Task 3. Provided a clear closing that sells participation in physical activity.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies three or more specific enjoyable and/or challenging aspects of participation in their favorite physical activity.</li> </ul>	<ul style="list-style-type: none"> <li>Completes the table (Task 1) to identify different levels of enjoyment. Provides specific reasons for negative or positive feelings in all activities in Task 1.</li> <li>Expresses three specific reasons to enjoy the activity in Task 3.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies multiple or specific social benefits from participation in the activity in Task 3.</li> </ul>
2	<ul style="list-style-type: none"> <li>Identifies the health benefits of participation in physical activity in Task 1 for more than 75% of the activities.</li> <li>Provides at least one appropriate health benefit in Task 3.</li> </ul>	<ul style="list-style-type: none"> <li>Expresses the enjoyment and/or challenge of participation in their favorite physical activity</li> </ul>	<ul style="list-style-type: none"> <li>Identifies different levels of enjoyment for different physical activities in Task 1.</li> <li>Identify a reason to enjoy the activity in Task 3.</li> </ul>	<ul style="list-style-type: none"> <li>Identifies the social benefits of participation in the physical activity in Task 3</li> </ul>
1	<ul style="list-style-type: none"> <li>Does not identify the contribution of physical activity to good health in Table 1 (or identifies less than 75% of the activities).</li> <li>Did not identify health benefits in Task 3.</li> </ul>	<ul style="list-style-type: none"> <li>Does not express reasons an activity is enjoyable or challenging.</li> </ul>	<ul style="list-style-type: none"> <li>Does not identify the level of enjoyment for different physical activities.</li> </ul>	<ul style="list-style-type: none"> <li>Does not identify the positive or negative social aspects of the physical activity.</li> </ul>

# Standard 5 Example: Student Rubric (9-12)

Level	Health	Challenge	Social Interaction	Advocacy
3	<ul style="list-style-type: none"> <li>My presentation (or graphic organizer) identifies specific physical, mental <b>and</b> social health benefits.</li> </ul>	<ul style="list-style-type: none"> <li>I shared specific aspects of the activity or the level of challenge within the activity that leads to the feeling of success.</li> </ul>	<ul style="list-style-type: none"> <li>I shared specific aspects of the activity that provide social support or interaction.</li> </ul>	<ul style="list-style-type: none"> <li>My presentation encourages others to participate in the activity using a clear message, providing specific reasons and communicating the message clearly using media.</li> </ul>
2	<ul style="list-style-type: none"> <li>My presentation Identifies specific physical, mental or social health benefits of the activity</li> </ul>	<ul style="list-style-type: none"> <li>I shared at least two aspects of the activity that provide challenge and success.</li> </ul>	<ul style="list-style-type: none"> <li>I shared how the activity provides the opportunity for social support and interaction in the activity.</li> </ul>	<ul style="list-style-type: none"> <li>My presentation effectively encourages others with a clear message to participate in the activity.</li> </ul>
1	<p>My presentation does not identify healthy benefits of the activity.</p>	<ul style="list-style-type: none"> <li>Does not identify aspects of the activity that provide a sense of challenge.</li> </ul>	<p>Does not identify how the activity provides opportunities for social support and interaction.</p>	<ul style="list-style-type: none"> <li>Does not effectively share sell the activity to their intended audience to encourage participation</li> </ul>

# Piloting Revised PE Metrics

- Volunteers have been recruited nationwide via SHAPE America Exchange
- Must be SHAPE America member
- Pilot selected standards and provide feedback via survey
- Contact Michelle Ortiz at:

[mortiz@shapeamerica.org](mailto:mortiz@shapeamerica.org)