

Getting Kids Active with Classroom-based Brain Boosters

April 2019

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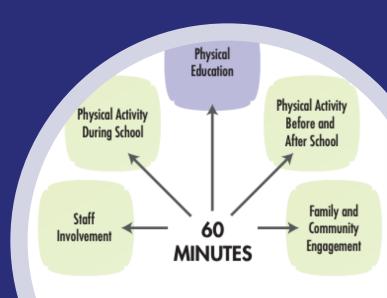


- The Case for School-Based Physical Activity
 - Oregon data
 - Classroom-based PA and Physical Education
 - Moving and learning (~5 minutes)
- What is BEPA 2.0
- Evaluating BEPA 2.0
- Disseminating BEPA 2.0

Comprehensive School Physical Activity Programs (CSPAP)

- Optimized Physical Education
 - Strong evidence of effectiveness
 - Characteristics of optimized PE?
- Classroom-Based Physical Activity Breaks
- Altering Recess or Recess Environments
- Before and After School Programming





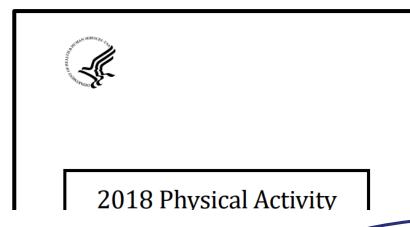


Classroom-Based Physical Activity

- Brief activity breaks (5-15 minutes)
 - Classroom-based physical activity breaks (CBPAs)
 - Leave or stay within the classroom
 - Data support effectiveness under certain conditions
 - Implementation (teacher training, personal value, self-efficacy, school support?)

Abi Nader et al., (2019). Association of teacher-level factors with implementation of classroom-based physical activity breaks. J Sch Health. DOI: 10.1111/josh.12754. Abi-Nader et al., (2018). Teacher-level factors, classroom physical activity opportunities, and children's physical activity levels. J Phys Act Health. 1;15(9):637-643. Bassett et al., (2013). Estimated energy expenditures for school-based policies and active living. American Journal of Preventive Medicine. 42(2): 108-13.

Physical Activity and Cognition

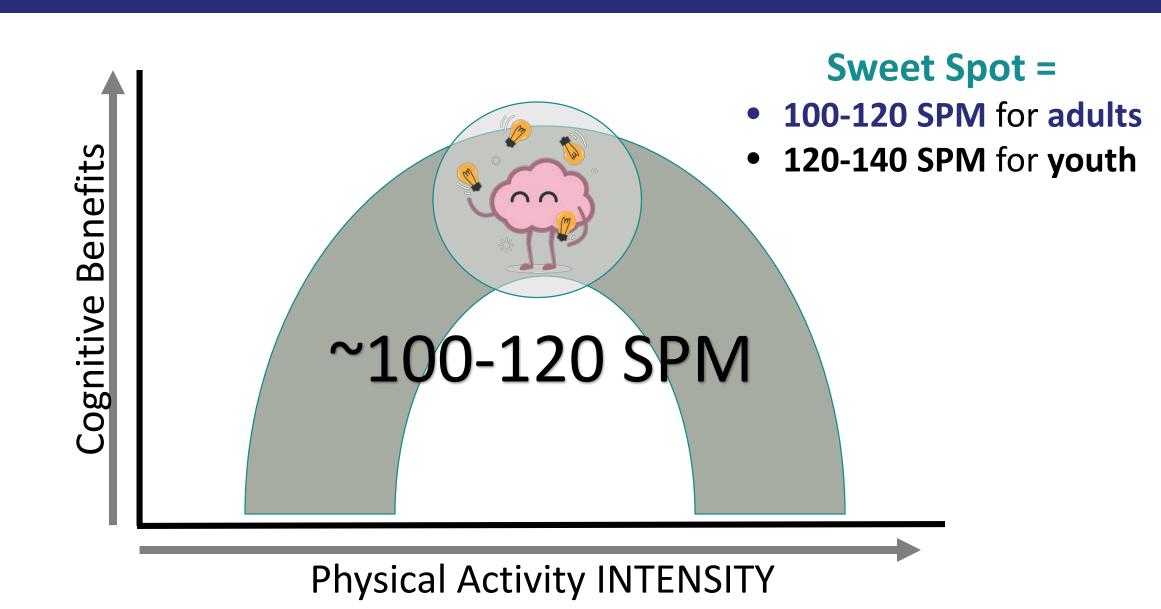


- What is the relationship between physical activity and cognition?
 - Acute houts of MIVPA

Strong evidence demonstrates that acute bouts of moderate-to-vigorous physical activity have a transient benefit for cognition, including attention, memory, crystalized intelligence, processing speed, and executive control during the post-recovery period following a bout of exercise. The findings indicate that the effects are larger in preadolescent children and older adults relative to other periods of the lifespan. **PAGAC Grade: Strong.**

How hard is it to sustain a few minutes of Moderate-to-Vigorous Physical Activity (MVPA)?

MVPA and CBPA: Achieving the "Sweet Spot"



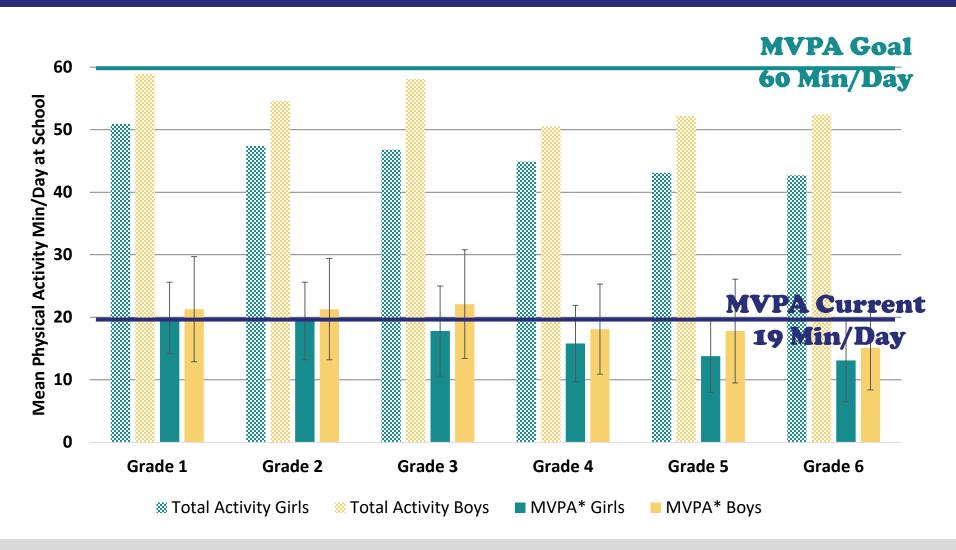


What Do You Think??

How much MODERATE intensity physical activity do you think children get at school over a 6.5 – 7-hour school day??

Oregon Children's PA at School

Measured over a 6.5 Hour School Day, Fall 2013 (N=1482)

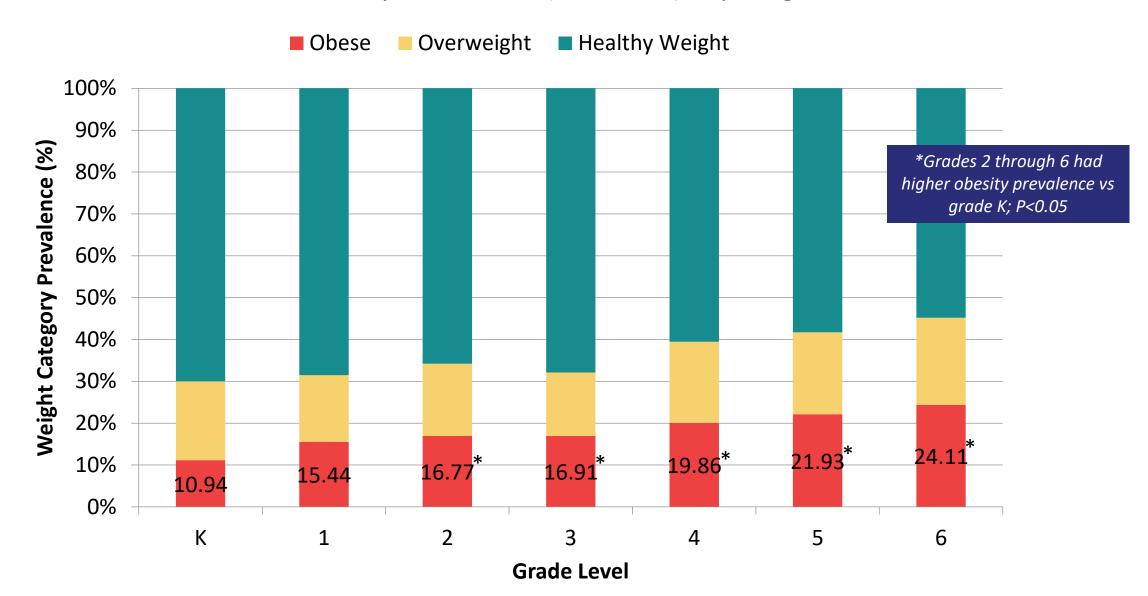


Total Activity = All measurable movement at school; **MVPA** = all PA of at least moderate intensity.

Gunter, et al. Physical Activity Levels and Obesity Status of Oregon Rural Elementary School Children. Prev. Med. Reports, 2015; 2: 478-82.

Obesity Prevalence Among Oregon Students

Rural Elementary Students (N=2006); Spring 2013

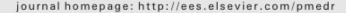


PA at School and Obesity



Contents lists available at ScienceDirect

Preventive Medicine Reports





Physical activity levels and obesity status of Oregon Rural Elementary School children

Katherine B. Gunter a,*, Patrick Abi Nader b, Deborah H. John b

"More MVPA was associated with lower BMI (p<0.001), independent of sex, device wear time or grade."

Results. Overweight (38.1%: BMI \ge 85th percentile for age and sex) and obesity (19.4%: BMI \ge 95th percentile) prevalence was similar for boys (n = 782) and girls (n = 700). More MVPA was associated with lower BMI (P < 0.001), independent of sex, wear time or grade. Mean MVPA was 18.9 +/- 8 min/d, versus 15.2 +/- 6.7 min/d for healthy-weight and obese children, respectively.

Conclusions. Children are not meeting minimum MVPA recommendations (60 min/d) during school hours. Efforts to promote PA for obesity prevention in rural elementary schools should focus on increasing opportunities for MVPA.

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b College of Public Health and Human Sciences, Oregon State University, Corvallis, OR 97331, United States

Physical Education in Oregon

Oregon House Bill 3141

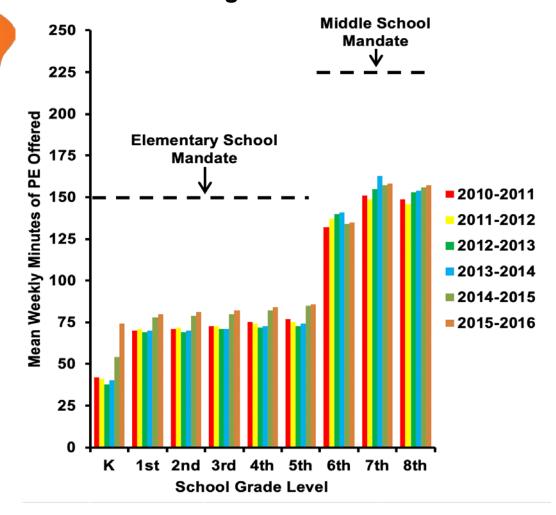
- Promoting PE Best Practice
 - Minute-per-week minimums (150; 225)
 - Minimum % time in MVPA (50%)
 - Promoting PE Inclusion

Oregon Senate Bill 4

- Prorates minutes under specific conditions
- Allows teachers to provide PE under specific conditions

HB 3141 Passed in July 2007 SB 4 Passed in July 2017

Mean Weekly Minutes of School-Based PE in Oregon Schools





The Perfect Storm – A Call to Action

- High obesity
- Low PA
- Short bouts confer benefits
- New PE Legislation
 - HB 3141 (2007)
- Insufficient funding
- Senate Bill 4



WHAT is BEPA 2.0?

- ✓ A Standard-Aligned CBPA Curriculum
 - Aligned to National HE and PE Standards (K-5)
- ✓ A Tool to Provide PA to Students
 - Classroom, recess, or other break-time physical activity
- ✓ A Strategy to Meet Oregon's New PE Requirements!

Classroom-Based BEPA 2.0 in Oregon

- The BEPA-Toolkit was developed to enhance PA programming in the school setting.
 - Adapted to help schools to provide additional PE time
 - Includes active games for the classroom, gym and outdoor school spaces.



Activity Cards

A set of classroom-based physical activity brain boosters aligned to physical education and health education standards.

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is







BEPA 2.0 Toolkit Materials

- An implementation manual and 58 unique activity cards (standard-aligned),
 - Includes active games for the classroom, gym and outdoor school spaces.
- Supporting videos (2-5 minutes in length), with more in development,
- Reporting & PA policy templates
- Implementation Training

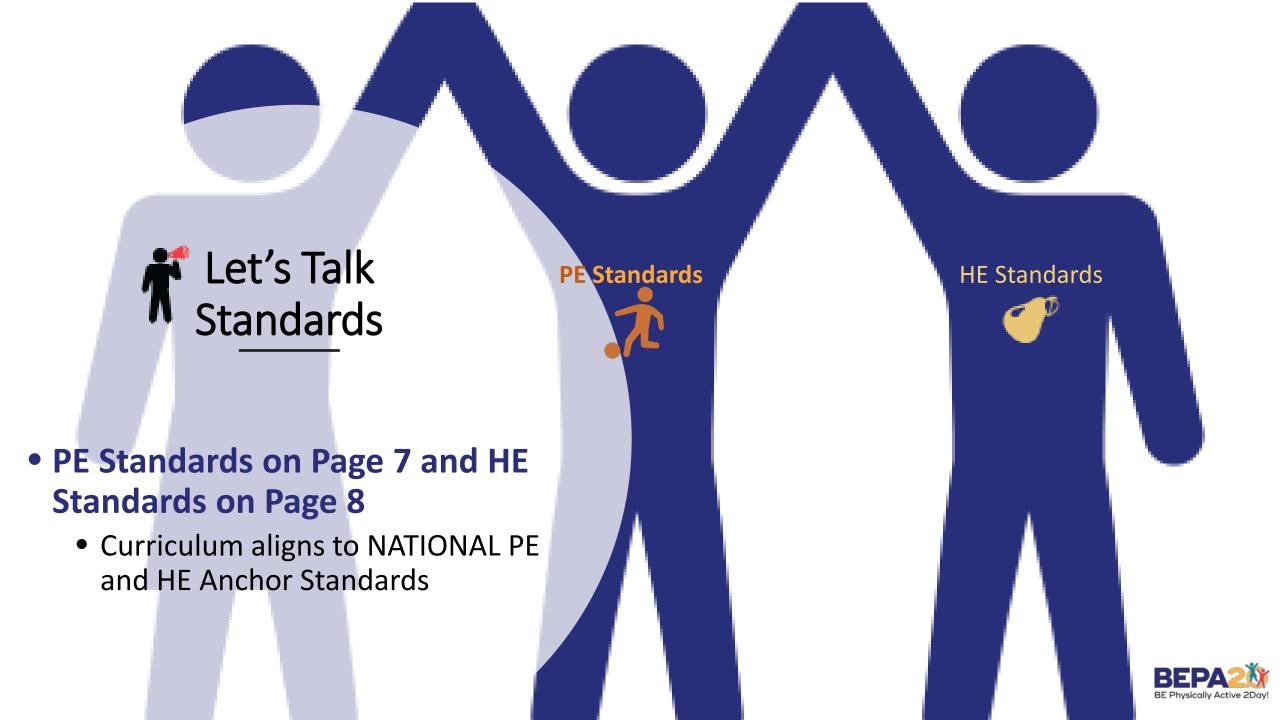


What Makes BEPA 2.0 Unique?

- Updated activities integrated into elementary curricula
- ALL activities are aligned to grade-level
 PE and Health Education Standards.
 - Includes 17 nutrition-themed activities
- Reviewed by PE pedagogy specialists, SNAP-Ed nutrition specialists, and Oregon Department of Education PE and HE experts.







HE Standards

BEPA 2.0 Guidance

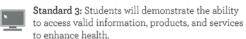
Health Education Standards

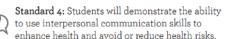
BEPA2.0



Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.









Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.



Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.

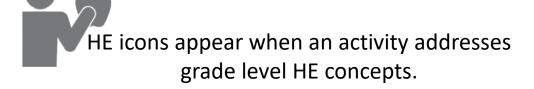


Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid



Standard 8: Students will demonstrate the ability to advocate for personal, family, and community

If a BEPA 2.0 activity reinforces a HE standard, an icon representing that standard will appear on the activity card. Details regarding the sub-standards addressed by each activity can be found in the BEPA 2.0 Toolkit manual.



PE Standards

Physical Education Standards



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



X Standard 2. The physically literate individual applies knowledge of concepts, principles, ox 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.

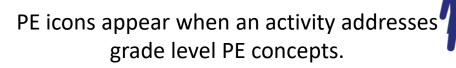


Standard 4. The physically literate individual exhibits responsible personal and social behavior that respects self and others.



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

If a BEPA 2.0 activity reinforces a PE standard, an icon representing that standard will appear on the activity card. Details regarding the sub-standards addressed by each activity can be found in the BEPA 2.0 Toolkit manual.



Physical and Health Education Standards met by BEPA 2.0 Toolkit Activities

Grade Level	Activity	Skills	Movement Concepts	Physical Education Standards	Health Education Standards
Kindergarten	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes	1.K.1, 1.K.2, 1.K.4, 1.K.5, 2.K.1, 2.k.2, 2.K.3, 3.K.1, 3.K.2, 4.K.1, 4.K.2, 4.K.3, 4.K.4, 4.K.5, 4.K.6, 5.K.1, 5.K.2	1.K.1, 1.K.2, 6.K.1, 6.K.2, 7.K.1
1st	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes	1 ' ' ' '	1.1.2, 6.1.1, 6.1.2, 7.1.1
2nd	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes	1.2.5, 1.2.7, 2.2.2, 3.2.2, 3.2.3, 4.2.1, 4.2.2, 4.2.3, 4.2.5, 4.2.6, 5.2.1, 5.2.2	1.2.2, 6.2.1, 6.2.2, 7.2.1
3rd	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes	3.3.2, 3.3.3, 3.3.4, 4.3.1,	1.3.1, 1.3.4, 5.3.3, 6.3.1 6.3.2, 7.3.1, 7.3.2
4th	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes	2.4.4, 3.4.1, 3.4.2, 3.4.3,	1.4.1, 1.4.4, 5.4.3, 6.4.1, 6.4.2, 7.4.1, 7.4.2
5th	Bean Bag Balance	Touch Toes, Arm Circles, Squat, Vertical Jump, One-Foot Balance	Levels, Space, Speed, Body Shapes		1.5.1, 1.5.4, 5.5.3, 6.5.1, 6.5.2, 7.5.1, 7.5.2

Bean Bag Balance



ocation	Rhythm	Nutrition	Equipment
n	No	No	One bean bag for each student

Get Ready:

• Provide one bean bag to each student.

Directions:

 In this activity you will practice balance by completing a series of movements that require you to balance your body.

Note: ask children what it means to balance their bodies. The answer is that balancing their body is to move in a way that keeps them from falling over.

 When the activity begins place the bean bag on your head and balance the bean bag there as you walk around the room.
 Try moving slowly at first and then more quickly.

Note: For younger children, explain this means they need to move in a way that keeps the bean bag from falling off their head.

 Once you have that down, I will give you new tasks to try while balancing the bean bag on your heads.

Tips:

- Have students try balancing while jumping up and down, touching their toes, spinning in circles, standing on one foot, squatting down and up, doing arm circles.
- Have students try balancing the bean bag on another part of their body (e.g., back, shoulder, top of foot, etc.)

Standard Connections

Did You Know?

 Today we practiced balancing. Balance is an important part of all physical activity and practicing balance exercises can help prevent falls!

Show and Tell!

- ✓ Grades K-2: Show me which movement was the hardest for you to balance during.
- ✓ Tell me why you think it was hard.
- ✓ Grades 3-5: Tell me how can you use these balancing skills in other areas of your life! Show me what those other ways are!

Try This at Home:

- Practice the hardest balancing exercise you tried today with a soft object at home. Challenge a family member to see who can walk the farthest with an object on their head!
- Find an activity to do at home that requires a lot of balance. For example riding a bike, skateboarding, surfing, walking across rocks, and yoga!



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Bean Bag Balance Location Rhythm Nutrition Ed In No No Y

Play the Game

- "Get Ready" lets you know what you need to do before starting
- "Directions" provides details about how to play
- "Tips" provides strategies to adapt or innovate

Find the Veggie

Nutrition Equipment

In/Out No

Yes

None

Get Ready:

- Choose one student to be the "Veggie Finder." Have them close their eyes.
- Choose another student to be the "Veggie" by tapping their head. Make sure everyone in the class (except the Veggie Finder) knows which student is the "Veggie."
- The Veggie Finder opens their eyes and begins walking around the class.

Directions:

- I will call out a specific movement (jumping jacks, jog in place, squats, etc.). When I call out the movement, everyone must do it.
- If the "Veggie Finder" gets close to the Veggie, do the movement faster. If the Veggies Finder moves away from the Veggie, slow your movement down. Show examples.
- The Veggie Finder must guess which one of you is the Veggie!

Tips:

 You can try out different movement concepts (e.g., BIG/SMALL; RIGHT/ LEFT).

BEPA2.0

 For example, big arm circles when close, small arm circles when far; hop on right when close, hop on left when far, and so on.

Source: Willenberg, Barbara. Physical Activity Cards. University of Missouri Extension. 2006. Promoting Lifetime Activity for Youth (P.L.A.Y.) program, Arizona Department of Health Services

Standard Connections

Did You Know?

- Today we did physical activity that was light, moderate and vigorous intensity.
- Did you know that the Physical Activity Guidelines for Americans recommend that kids get at least 60 minutes of moderate intensity physical activity EVERY DAY?!

Show and Tell!

- ✓ Show me which part of the activity we
 just did that you think was vigorous.
- √ Tell me why you chose that part of the activity.

Note: Vigorous activity involves movements that are bigger or faster. In this example, moving faster when they get close to the veggie is an example of vigorous activity if kids are really moving quickly.

Try This at Home

- Pick a favorite vigorous activity and encourage a friend or family member to do it with you.
- Find the Veggie recipe that sounds good to you on the Food Hero website! Ask an adult to help you make the recipe. You can look through the different veggie recipes on the Food Hero website at this link http://foodhero.org/ingredients to find your favorite!

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Implement Standard Component

- Reinforce the concepts using Did You Know?
- Assess the concepts using Show and Tell.
- Extend the concepts by encouraging them to share with family and friends using Try This at Home.

Addresses 5 of 8 HE standards

Addresses all 5 PE standards





Intensel

"How do I know if we are doing health promoting **Physical Activity**? Check out our intensity practice activity on page 5 of the BEPA 2.0 Activity Book!"

BEPA 2.0 Guidance

Activity Intensity Practice: K-5

The goal of BEPA 2.0 is to enable short bouts of moderate intensity physical activity at school. To meet this goal, students must learn the difference between light, moderate, and vigorous intensity activity.

Teachers, before you introduce BEPA activities to students:

- Download a metronome application that works for your circumstances.
- Practice using the metronome. You will need to vary the cadence from 100-140.
- Explain the concept of intensity using the metronome as described below:
 - Move your body to the cadence of the metronome (march in place or walk)
 - Sedentary/Inactive—the metronome is not on, everyone is sitting
 - Light Activity—the metronome is set at <100 steps per minute (spm)
 - Moderate—the metronome is set between 120 and 130 spm
 - Vigorous—the metronome is set at ≥ 140 spm

Step rate cut-points are based on the current evidence. Grades 3–5 can take heart rate measurements at each intensity and compare differences between intensity levels.

Implementing BEPA 2.0

- Classroom teachers implement BEPA 2.0 to provide classroombased physical activity breaks.
 - In Oregon, classroom teachers can also use BEPA 2.0 to provide standardaligned PE minutes in compliance with statewide laws.
- Extension professionals implement BEPA 2.0 to enhance physical activity opportunities for elementary-aged students via SNAP-Ed programming.

- Train-the-Trainer
 - Train-the-Teacher
- Preliminary data show no difference in teachers self-reported comprehension, confidence and self-efficacy to implement BEPA 2.0 (p>0.05).
 - Trained by Master Trainer | n=54
 - Trained by Trainers | n=78
- Perceived implementation factors include
 Time, Disruption, Space, Support



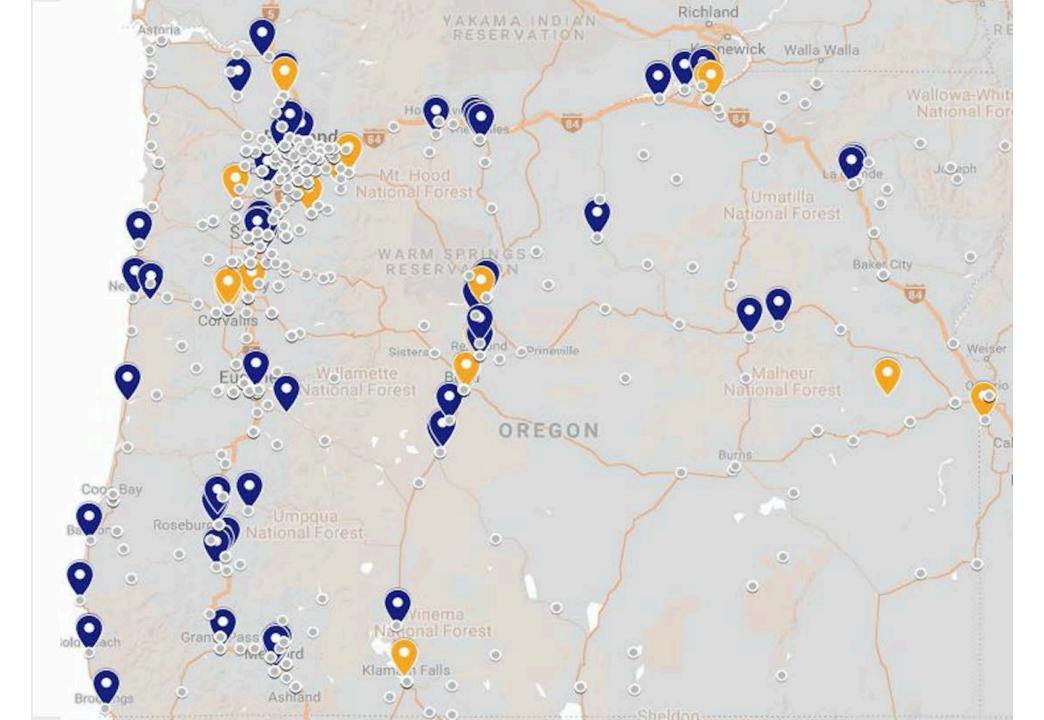
Evaluating BEPA 2.0

- We evaluated the effectiveness of the BEPA-Toolkit in 6 elementary schools located in under-resourced, rural communities.
- Using objective monitoring of children's PA at school we found that when teachers use the BEPA-Toolkit, children are more active.
- When children were more active at school, they were less likely to be obese.

- Factors associated with implementation:
 - BEPA training
 - Teacher self-efficacy
 - Support from school/SNAP-Ed management
 - Understanding the benefits of children being active at school
 - Easy access to activities and equipment
- Taylor, N. and Gunter, K. (2019). The role of Cooperative Extension in Translating Innovative Curriculum to Promote Physical Activity in the School Setting. Conference presentation; manuscript in development.
- Abi-Nader P., et al., (2019). Association of Teacher-Level Factors with Implementation of Classroom-Based Physical Activity Breaks. Journal of School Health, DOI: 10.1111/josh.12754.
- Abi-Nader P., et. Al., (2018). Teacher-level factors, classroom physical activity opportunities, and children's physical activity levels. *Journal of Physical Activity and Health*, 1;15(9):637-643.
- Gunter, K. B., et. al.,. (2017). Evaluation of an Extension-delivered resource to accelerate progress in childhood obesity prevention: The BEPA-Toolkit. Journal of Extension, 55(1), Article 2FEA5.



Where in the State is BEPA 2.0?



Disseminating BEPA 2.0

- Grant Support
 - For schools writing grants to support additional kits here are the costs that can be built into the grant.
 - We created a grant support document to help school apply for funding to obtain more BEPA 2.0 kits.
- We have a BEPA 2.0-specific email and website!
 - BEPA2.0@oregonstate.edu

General Background Importance of Physical Activity in School Setting

Schools can play a critical role in obesity prevention, as more than 95% of U.S. youths (ages 5-17) are enrolled in school¹. Youth spend, on average, 6.5-7 hours a day over 180 days at school each year, highlighting the importance of a health promoting school environment for enrolled students². In geographic regions where community resources for healthy eating and physical activity (PA) may be scarce (e.g. rural, remote, Jow-income), schools provide a critical venue for obesity prevention and health promotion³. [Add here if relevant: In Oregon, data show that rural children acture low levels of PA at school and that the amount of PA rural children attain at school is inversely associated with their body mass index (BMI)⁴.]

Specific Findings about Providing Classroom Activity Breaks

A recent study in Oregon examined how school physical activity environment and policy factors were associated with elementary students' physical activity levels at school's. A finding of particular interest to our grant application was that when school policies and practices encouraging classroom teachers to include 3- to 5-minute physical activity breaks were implemented, this was associated with 8.36 min/d more total activity and 3.81 min/d more health promoting moderate-to-vigorous (MVPA) among children than when these practices were not implemented. For elementary schools where funding for regular PE programming is limited, classroom teachers may be tasked with providing PE and/or other physical activity opportunities for children. Thus, the need exists to provide schools resources and training to implement these policies and practices.

Specific Information and Research Findings about BEPA 2.0

BEPA 2.0 includes over 50 unique activity cards aligned to PE and health education (HE) standards, implementation guidance cards, and a set of portable play items such as beach balls, beanbags, buckets, chalk, cones, floor tape, and scarves. Other resources include access to training, policy and reporting templates, and an implementation manual. All educators can implement BEPA 2.0 to provide classroom-based physical activity breaks. In Oregon, licensed teachers can use BEPA 2.0 to provide standard-aligned PE minutes in compliance with statewide policies. The effectiveness of the original BEPA-Toolkit was evaluated in six elementary schools located in under-resourced, rural communities. Results showed that when teachers use the BEPA-Toolkit, children are more active and the more active children are at school, the less likely they are to be obese. Study findings also showed that when teachers are trained, have the support of administration, and understand the value of physical activity for their students, they are more likely to implement short activity breaks and children are more likely to be active? The toolkit is included in the National Coalition for Childhood Obesity Research and SNAP-ef Toolkit (2016) of approved obesity prevention resources?

Request for Funding of BEPA 2.0 Toolkits and Training

Based on the evidence and the needs of our school community, we are proposing to purchase BEPA 2.0 kits for every classroom. We are also proposing to obtain a schoolwide training to implement the kits, as the data clearly show that when teachers are trained and feel confident delivering physical activity breaks, the outcomes for students are optimized.

BEPA 2.0 Budget [create a budget that fits your need]

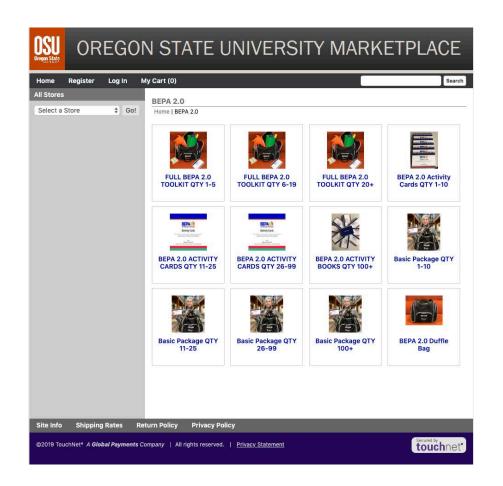
The table below shows the costs for BEPA 2.0 kits and training. We also show the cost if you were to purchase the activity book without the equipment.

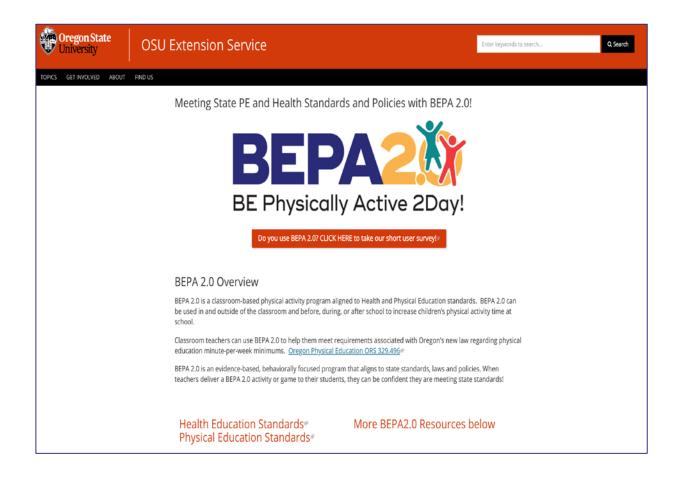
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BEPA 2.0 Items	Cost per Item
BEPA 2.0 Activity Book, Spiral Bound	\$40.00 per book
Full BEPA 2.0 Toolkit (includes duffle, all activity equipment, reporting tools, and spiral bound activity book)	Email BEPA2.0@oregonstate.edu for current pricing
Full BEPA 2.0 Toolkit and Training Package (includes 10 full kits + Training)	\$2000.00 per package
Training only (we have kits, just need training)	\$1000.00 per training

BEPA 2.0 Toolkit On-Site Training. We come to you! You receive a three-hour training for up to 30 participants (larger groups possible). We will share the research and provide hands on training and practice. You will be able to use BEPA 2.0 to provide activity breaks aligned to health and physical education standards!



Get More Information or Order BEPA 2.0





https://extension.oregonstate.edu/bepa





Check out our website!

https://extension.oregonstate.edu/bepa



Try out some activities!



Contact us via the website!

Questions???



Thank you!!!