# Interrupting Prolonged Sitting with ACTivity

**PROGRAM GUIDE** 







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Incorporating purposeful movement into the classroom to prepare the brain for learning

**The need**: Today's kids are dropping out of sport and physically active play at a young age. Evidence-based physical activity interventions implemented in school classrooms hold great potential for increasing physical activity opportunities for K-12 students.

**The partnership**: Saginaw Intermediate School District and researchers from the University of Michigan, Wayne State University, and Eastern Michigan University came together to develop and tailor a program for teachers to implement in their classrooms.

**The program:** Interrupting Prolonged sitting with ACTivity (InPACT) is a tailored classroom physical activity intervention delivered with a comprehensive set of strategies designed to provide teachers with the necessary resources to lead their classes in 5 x 4-minute activity breaks throughout the school day. Strategies include classroom curriculum and management resources, instructional exercise videos, floor plans, district-wide implementation guide and a teacher training program. Visit our program website at: **inpact.kines.umich.edu**.



Support for this program is provided in part by the Michigan Health Endowment Fund and the University of Michigan.

### About this Guide

Classroom-based strategies that foster movement and activity are critical for children's health, achievement, and social-emotional development. This guide offers a comprehensive overview of the Interrupting Prolonged Sitting with ACTivity (InPACT) program and coaching model. This guide provides background on the problem of youth physical inactivity and the role that schools can play in reducing inactivity by addressing the following questions:

- What is InPACT?
- How can classroom teachers effectively integrate InPACT in their curriculum?
- What resources (supports and services) are available to help teachers implement physical activity breaks in their classrooms?
- How does InPACT align with grade-level content expectations?

Our coaching model is simple. You will need to master three important skills to successfully implement InPACT: enhancing student motivation, promoting classroom management, and engaging in effective curriculum integration. You will also need support and services to address the daily challenges involved in mastering these skills.



In response to these issues, we present in this guide a series of principles and strategies that provide you with the necessary training, skills, and support to tailor InPACT and deliver it in your classroom. These strategies are based on research conducted in the Childhood Disparities Research Laboratory and in elementary schools across the state of Michigan. We have also included workbook activities to give you real-world examples of how to overcome obstacles related to implementation. This guide contains resources to enhance movement and learning in your classroom as well. Our intent is for this guide to promote lasting changes in your classroom so that all your students have opportunities to succeed socially, emotionally, and academically.

#### InPACT TEACHER TRAINING SCHEDULE

We have developed nine modules that you can complete over time to scaffold your learning and increase your confidence in implementing InPACT. Each module will take approximately 1 hour to finish. But don't worry – each module is broken down into segments for convenience. You will benefit most from the training if you complete all tasks in each module in order. Check out the training schedule on the next page.

WEEK	Monday	Tuesday	Wednesday	Thursday	Friday
MODULE 1: THE WHAT AND WHY OF ACTIVITY BREAKS	WATCH: Watch the <u>Science of</u> <u>Physical Activity</u> <u>Video</u>	READ: Read the Part 1 and Part 2 of the InPACT at School Teacher Training Manual	<b>READ: Read the</b> <b>Part 3</b> of the InPACT at School Teacher Training Manual	DO: Complete the Module 1 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 2: CORE ELEMENTS	WATCH: Watch the <u>Big</u> <u>Ten Network</u> <u>Commercial</u>	Mindful Movement: Engage in a physical activity of your choosing!	READ: Read the Part 4a of theDO: Complete the Module 2 Activity inInPACT at School Teacher Training ManualSection 10 of the InPACT at School Teacher Training Manual		<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 3: FLOORPLANS	WATCH: Watch the <u>Classroom</u> Redesign Video	Mindful Movement: Engage in a physical activity of your choosing!	READ: Read the Part 4b and Appendix 1 of the InPACT at School Teacher Training Manual	DO: Complete the Module 3 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 4: CLASSROOM MANAGEMENT	WATCH: Watch the <u>Classroom</u> <u>Management</u> <u>Video</u>	<b>READ: Read Part</b> <b>4C</b> of the InPACT at School Teacher Training Manual	<b>Mindful Movement:</b> Engage in a physical activity of your choosing!	DO: Complete the Module 4 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 5: CURRICULUM INTEGRATION	WATCH: Watch this video for an example of a Physical Activity Math Game	Mindful Movement: Engage in a physical activity of your choosing!	<b>READ: Read the</b> <b>Part 4d</b> of the InPACT at School Teacher Training Manual	DO: Complete the Module 5 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN:</b> Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 6: FINDING THE RIGHT EXERCISE VIDEOS AND EXERCISING AT THE RIGHT INTENSITY	WATCH: Watch segments from the <u>InPACT at</u> <u>School Teacher</u> <u>Training 1</u>	<b>READ: Read Part</b> <b>5a</b> of the InPACT at School Teacher Training Manual	<b>READ: Read the</b> <b>Part 5b</b> of the InPACT at School Teacher Training Manual	<b>DO:</b> Complete the <b>Module 6 Activity</b> in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 7: STUDENT MOTIVATION AND GAMIFICATION	WATCH: Watch this <u>Gamification</u> <u>Promo Video</u>	WATCH: Watch segments from the InPACT at School Teacher Training 2	<b>READ: Read the</b> <b>Part 5c</b> of the InPACT at School Teacher Training Manual	DO: Complete the Module 7 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN:</b> Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 8: EQUITY AND ADAPTATION	WATCH: Watch this video focused on the <u>Universal Design</u> for Learning	<b>READ: Read Part</b> <b>5e</b> of the InPACT at School Teacher Training Manual	<b>READ: Read the</b> <b>Part 5c and 5d</b> of the InPACT at School Teacher Training Manual	DO: Complete the Module 8 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN</b> : Contact any wellness champions, fellow educators, or InPACT staff to answer any questions
MODULE 9: SAFETY CONSIDERATIONS	WATCH: Watch the <u>PRICE Method</u> video for injury treatment	Mindful Movement: Engage in a physical activity of your choosing!	<b>READ: Read the</b> <b>Part 6a-c</b> of the InPACT at School Teacher Training Manual	DO: Complete the Module 9 Activity in Section 10 of the InPACT at School Teacher Training Manual	<b>CHECK IN:</b> Contact any wellness champions, fellow educators, or InPACT staff to answer any guestions

#### Module 1

#### The What and Why of Activity Breaks

This module offers a great introduction to what activity breaks are and why you should use them in your classroom!

WATCH: Watch the Science of Physical Activity video

**READ:** Read the following sections of the InPACT Program Guide:

Part 1: About this Guide (pg. 3)

Part 2: Background (pg. 11)

Part 3: Teacher Change Framework (pg. 15)

**DO:** Perform the Module 1 activity in Section 10a of the InPACT Program Guide (pg. 55)

**CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions

#### Module 2

#### **Core Elements**

This module introduces you to the key elements of the InPACT program.

WATCH: Watch the Big Ten Network commercial

- **READ:** Read the following section of the InPACT Program Guide: Part 4a: Activity Breaks (pg. 17)
- **DO:** Complete the Module 2 activity in Section 10b of the InPACT Program Guide (pg. 57)
- **CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions



#### Module 3 Floor Plans

This module focuses on redesigning your classroom to make activity breaks easy to include.

WATCH: Watch the Classroom Redesign video

- **READ:** Read the following sections of the InPACT Program Guide: **Part 4b:** Floor Plans (pg. 74) Appendix 1
- **DO:** Complete the Module 3 activity in Section 10c of the InPACT Program Guide (pg. 57)

**CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions

#### Module 4

#### **Classroom Management**

This module focuses on the importance of classroom management for adding activity breaks to your day. It also outlines key activity-related strategies.

WATCH: Watch the Classroom Management Video

- **READ:** Read the following sections of the InPACT Program Guide: **Part 4c:** Classroom Management (pg. 19)
- **DO:** Complete the Module 4 activity in Section 10d of the InPACT Program Guide (pg 58.)

**CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions



#### Module 5

#### **Curriculum Integration**

This module focuses on how to incorporate activity into your present curriculum and how to use activity to fulfill certain curricular requirements.

WATCH: Watch this video for an example of a Physical Activity Math Game

- **READ:** Read the following sections of the InPACT at School Program Guide: **Part 4d:** Curriculum Integration (pg. 19)
- **DO:** Complete the Module 5 activity in Section 10e of the InPACT Program Guide (pg. 59)
- **CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions

#### Module 6

### Finding the Right Exercise Videos and Exercising at the Right Intensity

This module focuses on how to select exercise videos to use during activity breaks and how to determine whether students are exercising at the correct intensity during these breaks.

WATCH: Watch the following segments from InPACT at School Teacher Training Unit 1: 4:09–24:31

**READ:** Read the following sections of the InPACT Program Guide: **Part 5a:** How to Find Exercise Videos (pg. 21)

**Part 5b:** Making Sure Your Students are Moving at the Right Intensity (pg. 26)

- **DO:** Complete the Module 6 activity in Section 10f of the InPACT Program Guide (pg. 68)
- **CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions



#### Module 7

#### **Student Motivation and Gamification**

This module focuses on how to keep your students motivated before, during, and after activity breaks. It also introduces the idea of gamification, which we have found to be key for student motivation!

WATCH: Watch the <u>Gamification Promo Video</u> and the following segments from <u>InPACT at School Teacher Training Unit 2</u>

- 4:40-8:54
- 9:01–16:22
- 21:53–27:46
- 27:50–33:24,
- 38:10-45:45

**READ:** Read the following sections of the InPACT Program Guide:

**Part 5c:** Student Motivation (pg. 28) **Part 5d:** Gamification (pg. 30)

**DO:** Complete the Module 7 activity in Section 10g of the InPACT Program Guide (pg. 69)

**CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions

#### Module 8

#### **Equity and Adaptation**

This module focuses on how to make activity breaks equitable for all students and how to adapt these breaks.

WATCH: Watch this video on the Universal Design for Learning

- **READ:** Read the following sections of the InPACT Program Guide: **Part 5e:** Equity and Adaptation (pg. 31)
- **DO:** Complete the Module 8 activity in Section 10h of the InPACT Program Guide (pg. 70)

**CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions

#### Module 9 Safety Considerations

This module focuses on additional safety considerations to bear in mind when implementing activity breaks.

- **WATCH:** Watch this video from the Mayo Clinic on the <u>P.R.I.C.E. method for</u> <u>injury treatment</u>
- **READ:** Read the following section of the InPACT Program Guide: **Part 6:** InPACT Classroom Safety and Special Considerations (pg. 35)
- **DO:** Complete the Module 9 Activity in Section 10i of the InPACT Program Guide (pg. 73)
- **CHECK-IN:** Contact any wellness champions, fellow educators, or InPACT staff to answer any questions



2 Background

#### The growing epidemic of youth physical inactivity

Today's kids are dropping out of sport and physically active play at a young age. Studies indicate that children ages 9–15 show a 75% decline in physical activity by age 15.<sup>1</sup> In Michigan, more than half of high school students are insufficiently active with another 20% reporting no activity engagement.<sup>2</sup> This trend is alarming, as the negative effects of physical inactivity emerge at an early age and have drastic consequences over a person's lifetime. Research suggests that physical inactivity during childhood is associated with higher obesity risk, more missed school days, and lower test scores.<sup>3</sup> Additionally, physically inactive girls are 51% more likely to be held back a year in school; inactive boys are more likely to see themselves as poor students.<sup>4</sup> This generation of children is the first expected to have a shorter lifespan than their parents!<sup>5</sup>

#### The crucial role of schools in promoting youth physical activity

School environments have historically provided many opportunities for children to be physically active through comprehensive programs, including recess, intramural physical activity clubs, interscholastic sports, and physical education.<sup>6</sup> As showcased in the Comprehensive School Physical Activity Program model, active students are better learners. Over the last 20 years, however, a growing emphasis on standardized test scores has reduced the time allocated to structured physical activity in favor of additional academic instruction.<sup>7</sup> Cuts to public school funding have also contributed to economic disparities in school physical activity policies and practices: socioeconomically disadvantaged schools are less likely to offer structured recess, have a certified physical education teacher, or provide after-school sports programming compared with more affluent schools.<sup>8-12</sup> An unintended consequence of these policies and practices



#### **RECOMMENDATIONS FOR CHILDREN**

Children and adolescents ages 6–17 years should do 60 minutes or more of moderate-to-vigorous physical activity each day!

Children should include muscle-strengthening, (i.e., playing tug-ofwar) and bone-strengthening, (i.e., jumping rope, running) physical activity at least 3 days per week.



Physical activity Any bodily movement produced by the contraction of skeletal muscles that increases energy expenditure above resting.

### Important legislative achievements

- 2004: The Child Nutrition and WIC Reauthorization Act
- 2010: Healthy, Hungry Kids Act of 2010
- 2015: Every Student Succeeds Act

is increased classroom sitting, particularly in lower socioeconomic schools. This pattern is troubling; too much time spent sitting is associated with disruptive student behavior, lower academic achievement, and increased obesity risk in children.<sup>13</sup>

In recognition of the critical role that schools play in promoting student health, preventing childhood obesity, and combating problems associated with poor nutrition and physical inactivity, the U.S. Congress passed "The Child Nutrition and WIC Reauthorization Act" in 2004 and the "Healthy, Hunger Free Kids Act of 2010" mandating that school districts across the country establish a local school wellness policy.<sup>14,15</sup> The "Let's Move Campaign," launched in 2010, was a call to action for more comprehensive physical activity programming, which included physical activity in the classroom.<sup>16</sup> The reauthorization of the Elementary and Secondary Education Act, known as the "Every Student Succeeds Act (ESSA)," signed into law by Congress on December 10, 2015, offers increased funding to states and school districts for health education and physical education programs.<sup>17</sup> In response, school administrators are searching for low-cost or free opportunities to provide health-enhancing physical activity in their districts. Targeting classrooms, where children spend most of their school day in seated instruction, is a promising minimal-cost approach that can increase youth's physical activity.



www.cdc.gov/healthyschools/PEandPA



### Targeting classroom sitting to promote student learning and health

Classroom-based interventions implemented in elementary schools have great potential to establish lifelong physical activity habits at an early age by providing up to 20 minutes of classroom activity per day.<sup>18</sup> These widely implemented programs are built around teacher-facilitated academic lessons designed to integrate physical activity as a complement to daily lessons.<sup>19,20</sup> Several programs have been established that combine moderate-to-vigorous physical activity (MVPA) with teaching and academic content; others have used activity as a brief break from seated academic instruction to re-energize students.<sup>21-26</sup> These programs have demonstrated success in increasing in-school physical activity; improving fitness, weight status, on-task behavior, and academic achievement in children; and helping schools adhere to local wellness policies.<sup>19-26</sup>

#### Making a difference with InPACT

To help you accomplish your goal of developing healthy and active learners, the Childhood Disparities Research Laboratory at the University of Michigan School of Kinesiology has developed and evaluated the InPACT program. InPACT is a teacher training program intended to meet the needs of teachers like you working in a range of schools by providing support and services that help you integrate health-enhancing physical activity in your classroom daily. Some of these supports include classroom curriculum and management resources, instructional exercise videos, and floor plans that have collectively demonstrated significant improvements in children's classroom behavior.

**Daily physical activity** Children accumulate 20 minutes of classroom activity per day, which is one-third of the school-based recommendations.<sup>27</sup>

#### **On-task behavior**

Ninety-nine percent of children are back on task within 30 seconds of completing an activity break.<sup>28</sup>

Activity enjoyment Children report high enjoyment (4.2/5) during activity breaks.<sup>28</sup>

#### **Goal achievement**

Children demonstrate success in achieving their weekly activity participation goals (78%) throughout the program.<sup>29</sup> Through simple adjustments to your teaching curriculum and classroom design, our program provides no-cost coaching and implementation strategies to increase structured physical activity opportunities in your classroom. By creating "active" classrooms that encourage movement and learning, the InPACT program can help you significantly improve the health, wellness, and academic achievement of your students and all students across the state of Michigan.

Now that you have a better understanding of the importance of classroom activity and the evidence supporting the use of the InPACT program in your class, Part 3 describes the theories that inform the InPACT coaching model.



### **3** Teacher Change Framework



Providing high-quality professional development is vital to increasing the consistency and continuity of classroom activity implementation and is the most popular method of improving educational outcomes. Professional development programs represent systematic efforts to bring about change in your classroom practices, attitudes, and beliefs as well as in students' learning outcomes.<sup>30</sup> In terms of InPACT, the aim is to improve students' learning by integrating physical activity in the classroom curriculum and culture.

Although many of you are required through certification or contractual agreements to participate in professional development, most of you report engaging in these activities because you want to become better teachers! You see professional development programs as some of the most promising and readily available routes to boosting your knowledge, skills, effectiveness with students, job performance, and ultimately job satisfaction.<sup>30</sup> But to do so, you also need specific, concrete, practical ideas that directly relate to your day-to-day classroom operations.<sup>31</sup> The InPACT team has therefore crafted a professional development program that provides both content and skills training.

We also designed our InPACT professional development program to align closely with the process of teacher change. Professional development activities are commonly designed to lead to shifts in your attitudes, beliefs, and perceptions about certain aspects of your teaching.<sup>30</sup> This strategy presumes that such changes in your attitudes and beliefs will produce specific changes in your classroom practices, which will in turn improve your students' learning.<sup>30</sup> We take a different approach to teacher change. As originally articulated by Thomas Guskey, we believe that by designing the InPACT professional

PROFESSIONAL DEVELOPMENT CHANGE IN TEACHERS' CLASSROOM PRACTICES CHANGE IN STUDENT LEARNING OUTCOMES

CHANGE IN TEACHERS' BELIEFS AND ATTITUDES development program to change your classroom practices, you will then observe changes in students' learning outcomes and subsequent shifts in your beliefs and attitudes.<sup>30</sup> This alternative model is backed by research and stresses the importance of changing students' learning outcomes to influence teachers' beliefs and attitudes regarding the feasibility, acceptability, and appropriateness of the InPACT program.

Our program is designed to promote student learning through movement. This professional development program highlights (1) evidence supporting the use of physical activity breaks and (2) the skills needed to implement activity breaks effectively and consistently in your classroom. Check out the four key elements of the InPACT program in the next section!



#### Teaching Social and Personal Responsibility Through Physical Activity

The InPACT coaching model is also informed by the Teaching Personal and Social Responsibility (TPSR) model, a curriculum and instructional model developed by Don Hellison. It is a value-based model that aligns with best practices for developing social and emotional learning (SEL) competencies. This methodology has been deemed effective in an array of contexts, including school-based physical activity and community-based programs. It provides a supportive, principles-based framework that empowers young people while creating an empowering environment for movement.

You probably already have established practices for creating positive relationships with your students, managing a variety of personalities and communication styles, and ensuring success for your learners. Our TPSR-informed coaching model can build upon these skills through structured self-reflection and peer observation. Our in-person and virtual training provide opportunities to practice skill building across all five TPSR levels:

**Level 1:** Respecting the rights and feelings of others

Level 2: Participation and effort

Level 3: Self-direction

**Level 4:** Helping others and displaying leadership

**Level 5:** Demonstrating responsibility

Now that you have a better understanding of the theories that inform the InPACT coaching model, Part 4 describes the core elements of the InPACT program.

### 4 InPACT Core Elements



4.a. InPACT Activity Breaks The InPACT program is intended to help you incorporate 20 minutes of health-enhancing physical activity into your daily classroom routine to optimize classroom learning conditions and your students' bodies. The four core program elements, pictured below, will help you achieve this goal. Physical activity is an amazing boost for the brain! During physical activity of moderate intensity, blood flow increases to areas of the brain responsible for movement and learning. Greater blood flow brings more oxygen to the brain, and physical activity increases electrical activity in brain areas such as the hippocampus. Physical activity also raises levels of brain-derived neurotrophic factor (BDNF), a brain protein/chemical that improves students' learning. BDNF helps to enhance connections in the brain that lead to increased signaling and protect the hippocampus and brain cortex from damage. Thus, BDNF is the main driver of greater cognition. For more information about how classroom activity can prime the brain for learning, check out our <u>Science of Activity</u> <u>Breaks Teacher Training video.</u>

Now that you know the benefits of activity breaks, you're probably asking, "How much physical activity should I incorporate into my classroom?"

The goal of the InPACT program is to provide you with the training and skills necessary to implement **five 4-minute MVPA breaks** into your classroom each school day. This dose of exercise is associated with improvements in learning,

health, and well-being.<sup>18,32</sup> But don't worry – you won't be asked to reach this goal on the first day of class. We are going to start slow. During the first week of the program, you will only be asked to implement one activity break per day. This graduated approach will give you adequate time to establish InPACT class-room procedures. Each week, the number of activity breaks incorporated into the school day will increase by one until you can successfully integrate five activity breaks into your curriculum. If this pace is too fast, that's OK! You can take 2–3 weeks implementing one activity break per day and then add an additional activity break when you and your students are ready.

#### 4.b. Floor Plans

The layout of your classroom seems like a small detail to focus on. But rearranging your room to facilitate movement can make activity breaks safer and easier to perform; it also cuts down on transition times. We'll go through several arrangements that have been shown to work well with activity breaks and that even have benefits beyond making activity possible! In general, classroom setups can vary based on whether desks are arranged in groups or in rows, how large the groups are, and where the desks are placed in the room. Check out our <u>Classroom Redesign Teacher Training video</u> for a brief overview of how to redesign your classroom for movement and learning.



4.c. Classroom Management As you probably already know, effective classroom management helps keep students on task, focused, and engaged during the school day.<sup>33</sup> While class-room management is always important, it becomes even more so when adding activity breaks into the school day. Effective classroom management also helps you connect with students and prevents chaos. We don't have to tell you that a chaotic classroom, with stuff all over the floor and kids running everywhere, is not ideal for movement or learning (do scenes from *Kindergarten Cop* come to mind?). This type of classroom leads to unnecessary stress for you and your students. It is a common misconception that adding physical activity will result in a chaotic classroom. Activity will be beneficial, not disruptive, if you have the correct classroom management techniques. For an overview of the importance of classroom management, check out our <u>Classroom Management Strategies video.</u>

### 4.d. Curriculum Integration

Did you know that you can use different physical activities to complement teaching and/or reinforce ideas within your lessons? It's true. Did you know that you can use different physical activities to complement your teaching and/or reinforce ideas within your lessons? It's true! Physical activity can be used in a few important ways to help you teach. You can take activities as opportunities to practice vocabulary and skills from lessons (e.g., having students calculate the total and average number of different exercises). You can use activities to reinforce concepts and ideas more directly from instruction (e.g., having students alter their speed of movement to mimic particles in different states of matter). You can also use activities more directly as parts of lessons to teach concepts, such as having students learn how to collect and graph data based on data they generate during physical activity.

But why should you do this? Some people will take a "learning styles" approach and argue that physical activity helps "kinesthetic learners" perform better; however, using visual, auditory, and kinesthetic learning styles to guide instruction has no basis in reputable education research. See the links below for a few takes on the "learning styles" myth:

- <u>"Letting Go of Learning Styles"</u> by Amber & Andy Ankowski
- <u>"Can neuroscientists dispel the myth that children have different learning</u> <u>styles?</u>" by Pete Etchells

So... if you're not trying to reach kids who are kinesthetic learners, then why should you include more physical activity in your classroom? The reality is that kinesthetic learning is probably good for all students, not just those who prefer hands-on lessons. The ideas presented in this guide can inform your efforts to increase activity by engaging kids with content in multiple ways. Check out the workbook activities that can help you identify which type of active learning breaks might work best in your classroom.

Now that you have a better understanding of the core elements of the InPACT program, Part 5 describes specific strategies to help you master the skills needed to consistently integrate 20 minutes of physical activity in the school day.



### 5 InPACT Classroom Strategies

We recognize that you will face many barriers to successfully implementing 20 minutes of classroom activity in your curriculum each day. We have proactively developed a series of classroom strategies to help you overcome these obstacles! These strategies have been developed with the help of elementary classroom teachers across the state of Michigan, all of whom have already completed the professional development program and implemented InPACT in their classrooms. In this section, you will find strategies that address the following questions:

- How do I find high-quality exercise videos to use?
- How can I make sure my students are exercising at the right intensity?
- How do I motivate my students to participate in classroom activity?
- What is gamification, and how can I use it to enhance student motivation and promote classroom activity?
- How can I ensure that I am creating an equitable and inclusive classroom environment where all students feel safe to participate in activity breaks?

As you begin to implement InPACT in your classroom, we'd love to hear your thoughts on additional strategies that can help you and your students meet classroom activity goals! In the meantime, consider some strategies that have demonstrated success in Michigan classrooms.

#### 5.a How do I find high-quality exercise videos to use?

When choosing an exercise video for you and your students to do in the classroom, there are a few key elements to keep in mind to provide an engaging and health-enhancing experience. Below are components from three domains (i.e., technical, content, and instruction) based on a rubric created by Wendy Tackett and the iEval team. Visit our program website at <u>inpact.kines.umich.edu</u> to download a copy of the video evaluation rubric.

These components are based on cognitive load theory, which states that during any learning experience, you – the instructor – needs to work toward reducing the following three areas:

- The difficulty of the activity (intrinsic load)
- The mental energy needed to do the activity (germane load)
- Outside distractions during the activity (extraneous load)

We'd love to hear your thoughts on additional strategies that can help you and your students meet classroom activity goals.

#### **Cognitive load**

The amount of information that working memory can hold at one time

		COMPONENT				
			ABSENT (0)	DEVELOPING (1)	PROFICIENT (2)	
		Visual Quality	Video is blurry; subject(s) isn't framed well; unsteady camera work; etc.	The video only needs minor improvements to be high quality.	The visual aspects of the video are clear, framed well and steady, and appealing.	
	LN	Audio Quality	The music is too loud and overpowers the narration; the trainer cannot be heard; the audio is spotty; etc.	The audio only needs minor improvements to be high quality.	The audio is well-balanced and clearly heard.	
	CONTE	Matching modality	The audio is out of sync with mouth movements; the audio is inapprorpiate for visual aspects, etc.	The audio-visual com- ponents only need minor improvements to be high quality.	The audio and visual infor- mation are well coordinated to convey new information.	
		Signaling	There are no text or sym- bols reinforcing information; the text or symbols are unclear; the text or symbols are inappropriate, etc.	The text or symbols only need minor improvements to be high quality.	Text or symbols are appropriately and clearly used to highlight important information.	
		Instructional objective	There is no instructional objective.	The instructional objective is present but not explicit.	The instructional objective is explicit and clear.	
22	INSTRUCTION	Met objective	The video did not address the instructional objective at all.	The video somewhat addressed the instructional objective.	The video fully met the instructional objective.	
		Call to action	There are no recommended next steps for the learnerto take after watching the video.	There is an implicit call to continued action for the learner.	There is an explicit call to continue to action for the learner.	
		Bias	There are intentionally bi- ased statements or actions within the video.	There are unintentional- ly biased statements or actions within the video.	The content is presented without bias (e.g. gender, racial).	
		Learner engagement	The information is present- ed in a vacuum without the learner's engagement at the forefront.	The instructional techniques occasionally focus on learn- er engagement	The instructional tech- niques fully focus on learner engagement.	
	TECHNICAL	Content organization	The content is presented in a disjointed way with no logical organization.	The organization of the content only needs minor improvements to be high quality.	The content is presented in an organized way.	
		Segmenting	The information is not broken down into chunks of information for easier learning.	There's some chunking but the video could benefit from more.	Short sequences of infor- mation are used to allow learners to engage.	
		Weeding	There is an overabundance of personal or extraneous information that does not help build relationships or contribute to the learning goal.	There is some extraneous information that does not help build relationships or contribute to the learning goal.	All extraneous information that doesn't contribute to the learning goal or help build relationships is eliminated.	

By choosing exercise videos that minimize intrinsic, germane, and extraneous load, your students will be able to focus on participating in the activity break. These components are important to keep in mind when deciding which physical activity videos to show your students! For a brief overview on how to use the rubric, check out the InPACT Video Rubric section of the first Teacher Training\_video (4:07–13:16).

Now, let's look at each component of the video evaluation rubric.

#### TECHNICAL

#### **Component 1: Visual quality**

- Make sure that the visual aspects of the video (e.g., the instructor and instructions) are clear, framed well, steady, and appealing. If a video is blurry or pixelated when shown on screen in the classroom, your students might have difficulty following along with the movements.
- Using videos that are recorded in landscape mode instead of portrait mode is one way to ensure that the picture fills the entire screen.

#### **Component 2: Audio quality**

Make sure that the audio throughout the video is well balanced and clear.
Look out for videos where the audio cuts in and out or where there are drastic variations (e.g., loud in some parts and then quiet in others).
Being able to hear and understand what is happening during the video will help you communicate expectations to your students.

#### **Component 3: Matching modality**

- "Matching modality" means that when the instructor in the video is talking, you can hear what they are saying at the same time; that is, you're not seeing lips moving without sound. Out-of-sync video and audio will create confusion among your students.

#### **Component 4: Signaling**

- Signaling is when text or symbols are appropriately and clearly used to highlight important information. For example, the InPACT classroom training videos feature a heart rate monitor on the left-hand side of the screen, signaling the intensity at which students should be exercising during each part of the video. Signaling can even be as simple as showing the name of the exercise students are doing on the screen. So, if they are going to do a jumping jack next, this will be displayed on the screen with the number of repetitions as a bonus!



#### CONTENT

#### **Component 5: Instructional objective**

- It is important to ensure that the instructional objectives are clear and communicated well to your students. An objective will not necessarily be explicit in all videos you show in the classroom. Therefore, it is up to you, as the teacher, to describe the purpose of the next activity break. This explanation will also be important when using written activity breaks like the ones found in the INPACT Compendium of Physical Activities.

#### **Component 6: Met objective**

- Along with ensuring that the video has an explicit objective, you will want to make sure the video meets that objective throughout.

#### **Component 7: Call to action**

- Choose videos that encourage kids to continue being active throughout the whole day! Yes, they may be getting activity in your classroom and at other times during the school day but, it's important to encourage them to move while at home and in their communities as well. All activity throughout the day adds up to meet the daily recommendations of 60 minutes!

#### **Component 8: Bias**

- Select videos that are diverse, both in who is participating in the video and in the types of activities you choose. For instance, you want to make sure you're not exclusively using *Just Dance* videos because some students might not enjoy dancing. You also want to ensure that videos include instructors and participants from various backgrounds so that all students can imagine themselves participating in the video.



#### INSTRUCTIONAL

#### **Component 9: Learner engagement**

 Make sure that each video you choose is fully focused on engaging the student and keeping them engaged throughout. Ways to engage learners include talking while doing the activity, giving tips on how to best perform the movements, and encouraging students to "keep it up" throughout the video. Also, remember not every video is appropriate for all ages– just think about how different a student in kindergarten is from a student in 5th grade! It is important to keep your students' developmental age in mind. If an activity is too easy, they will become bored and likely lose interest; if it is too challenging, they will likely become unmotivated and stop participating.



- Presenting the video content in a structured way will help keep learners engaged throughout the video. For example, the content could be organized into a warm-up, main workout, and cool-down.

#### **Component 11: Segmenting**

 Segmenting involves making sure the video is presented in brief sequences so students can focus on 1–2 tasks at a time. We know that students' attention spans have declined in recent years, especially with technology and so many other things demanding their attention. Presenting shorter chunks of information within a longer video will help students stay engaged.

#### **Component 12: Weeding**

- Weeding involves making sure that a video doesn't include too much extraneous information. For instance, the ads that sometimes pop up before a YouTube video should be played before your students start an activity break; watching an ad prior to moving could be distracting. Everything in the video should be focused on the students exercising instead of providing miscellaneous information that might distract them from the objective of the activity.





### **5.b** How can I make sure my students are exercising at the right intensity?

The intensity of activity breaks (i.e., how hard your students are exercising) plays a key role in the health and cognitive benefits that these breaks provide. When your students are moving at a high intensity (e.g., out of breath, sweating, panting), they may experience excessive fatigue and have difficulty concentrating on class material after completing the activity break. Your students might also begin to dread the activity instead of enjoying it, as they may perceive the activity as hard to complete. Conversely, if the activity intensity is too light (e.g., students are simply standing or just moving their arms or legs), the movement may be insufficient to increase blood flow, oxygen, BDNF, and electrical activity in the brain. All these factors enhance your students' focus and attention during seated instruction. So, making sure that students are moving at the right intensity is key! Three strategies can help your students monitor their movement to ensure they are exercising at the right intensity: (1) heart rate monitoring, (2) ratings of perceived exertion, and (3) the talk test.

#### What exactly is heart rate?

Heart rate refers to the number of times your heart completes a full cardiac cycle each minute. More simply, heart rate is the number of times your heart pumps blood to the rest of your body per minute. The heart is a muscle; when we exercise, we are building our cardiovascular strength.

#### Why should we measure student heart rate?

Heart rate monitoring is a tool that your students can use to check if their heart rate at the end of an activity break is within the desired moderate-to-vigorous intensity level. Remember, MVPA is the intensity at which your students will gain the most benefits from moving throughout the day in the classroom.

#### How do we measure student heart rate?

There is a simple way to calculate heart rate, but first, you'll need to find your pulse. Your radial pulse is on the inside of your wrist. Try using your index and middle finger to find your pulse. One tip is to use light pressure, and make sure you are only using your index and middle finger.

You can also find your pulse on your carotid artery, which is right in between your neck and your chin (see picture to the right). If you press lightly in that area, you should feel your pulse beating. It's possible that you won't be able to feel it right now if you are resting, as your heart rate will be low. But if you get up and do a quick activity break, you'll be able to find your pulse more easily. Try doing 15 jumping jacks. Ready, go!

If your students are struggling with finding their pulse and taking their heart rate, have them watch <u>this video</u>!

After an activity break, you can ask your students to find their pulse. Time them for 10 seconds and have them count the number of beats they feel during that period. Then have them take the number they get and multiply it by six – that's

their heart rate after the activity break. Your students can compare their heart rate with the grade-level heart rate on the <u>Target Heart Rate Zone poster</u> to determine if they're exercising at a high enough intensity.

#### Ratings of perceived exertion

Another way to assess physical activity intensity is with a perceived exertion scale. This scale can be used <u>during</u> an activity break to monitor if your students are moving at a moderate-to-vigorous intensity. The scale ranges from 1 to 10: a score of 1 means that the activity is very easy, while 10 means that the activity is "so hard I'm going to stop." While your students are exercising, you can say, "OK, class, how hard do you feel you're exercising? Hold up your number but keep moving." You will want students to be holding up a number somewhere between 5 and 7, maybe 8. But a score of 8 is getting into the vigorous-intensity zone and could lead to students becoming fatigued and unable to finish the activity break. If you have really fit students, they might be hitting 8, but the target range for students will be able to sustain the activity for the whole 4 minutes and gain the most benefit. You can download a copy of the Ratings of Perceived Exertion poster from the InPACT website.



#### Talk test

If you want to quickly check whether your students are moving at the right intensity, just ask them a question! This method is called the "talk test." The general rule is that during moderate-intensity activity, you can talk but you can't sing. If a student is moving at a vigorous intensity, then they will not be able to say more than a few words without pausing for breath. Based on how students respond to the question you ask (e.g., with a full sentence or a few words), you can offer guidance on whether students should pick up the pace or slow down.

### **5.c** How do I motivate my students to participate in classroom activity?

As the teacher, you will play a big role in the success of activity breaks in your classroom. Your effort during these breaks will influence your students' attitudes about participating, so it's important that you help keep everyone motivated and excited! Student motivation is extremely important for the InPACT program because your students' motivation to participate will influence the amount of physical activity they do. Remember, the goal of this program is for students to engage in **20 minutes of MVPA** every day. If a student is unmotivated to participate, they will likely not give their full effort, which can result in low levels of physical activity. Thus, we highly encourage you to be excited about each activity break, which will help create a positive environment!

#### Role modeling

Role modeling has been found effective for promoting physical activity in children<sup>34</sup>. When you engage in activity breaks, your students will too! Then they will be more likely to view these breaks as fun. Take a moment to read what students from Detroit have to say about the InPACT program. Students will genuinely enjoy and look forward to activity breaks when conducted in a high-energy, inclusive manner. We want activity breaks to be something students want to do, rather than something they are forced to do, so they can hopefully build a lifelong passion for moving. If you can't participate with your students, that's OK! Encouraging them during each activity break, such as by saying "Good job!" and "Keep it up!", has been shown to increase participation as well.

#### Encouragement before an activity break

In terms of pre-activity encouragement, make sure that your students have a chance to ask questions before starting an activity break. If any students have concerns about a chronic condition (e.g., asthma), simply allowing them to ask questions and discuss their concerns is important. Additionally, you want to make sure that you encourage students to share their ideas – provide them the space and the autonomy to do that. Then, if they have inaccurate impressions, you can always correct students later gently and in a positive manner.

Next, make sure that you encourage your students through positive facial expressions. Smile big. When you're smiling, you're changing the atmosphere of your classroom – and when that atmosphere changes, students will know that the activity they're about to do is fun. Then they'll be excited to engage in it.



#### Role modeling

Take a moment to think about what your definition of a role model is.

What qualities make someone a good role model?



Encouraging your students

Take a moment to think about what your definition of a role model is.

What qualities make someone a good role model?



Finally, before an activity starts, you want to make sure that you encourage your students to self-monitor – including those who have a chronic condition. Empowering your students to self-monitor will remind them to slow down or catch their breath if needed during an activity.

#### Encouragement during an activity break

We know it's important to move, right? Movement is the foundation of the InPACT program. So try to move around the room with energy and purpose during activity breaks. When you notice students who seem tired or bored during the activity, while you're moving around with energy and purpose, your energy can be infectious. It will make students want to be energetic as well. Enthusiasm is one strategy that past teachers have found helpful.

You can foster motivation by adding excitement to your speech. You'll want to vary your enthusiasm and tone to reduce boredom. If some students are feeling tired, you can boost their energy just with your voice. Your enthusiasm will show students exactly what you want to see when they engage in the activity. That enthusiasm should then get your students even more excited.

Lastly, you should encourage your students during activity breaks by modeling your expectations. Basically, if you want your students to be energetic and excited, then you need to model that for them, too.

"You did a really good job today, and I really like that you're doing that."

"See what John is doing? He's moving like we want him to – at the right, at the right pace, and with excitement." Praise your students in front of the class and reprimand them in private.



#### Game design elements

Think of a time where you used game design elements in your classroom.

Did it help to motivate your students? Why or why not?

#### Encouragement after an activity break

After an activity break, you'll want to make sure that you're inspiring your students by recognizing and rewarding appropriate behavior. Let's say that you see John participating at a moderate to high intensity during an activity break. Go up to him and let him know, "John, you did a really good job today, and I really like that you're doing that." Maybe give him a sticker. Offer positive affirmation so he knows what he's doing well. In addition, praise your students in front of the class and reprimand them in private. Maybe tell the class, "See what John is doing? He's moving just like we want him to – at the right intensity, at the right pace, and with excitement." You can even model that same sort of excitement. And remember, praise should not solely be given to the students who are moving fastest but to everyone. Find something unique about each student that you can positively affirm.

Finally, empower your students by allowing them to help plan activity breaks. Your students are creative when it comes to moving their bodies, and they'll likely have great ideas for new activity breaks. One way to ensure they keep enjoying these breaks is to give them a chance to share ideas and even lead some activity breaks.

### **5.d** What is gamification, and how can I use it to enhance student motivation and promote classroom activity?

Gamification is "the application of game-design elements (e.g., point scoring and competition) and game principles in non-game contexts (e.g., the classroom)".<sup>35</sup> Gamification has been applied in educational settings to enhance student learning. For example, teachers can award students points for knowing the definition of a vocabulary word, and students can earn rewards upon accumulating a certain number of points. We have also seen teachers using <u>ClassDojo</u> to track positive student behavior. Gamification has been shown to strengthen students' motivation to learn by encouraging active learning, increasing their attention span, and even reducing stress.<sup>36,37</sup>

Outside of education, gamification has been used to promote physical activity. For instance, you may be familiar with the <u>Pokémon Go app</u>. Pokémon Go uses game-design elements to promote physical activity by having the user search for Pokémon characters that are nearby. Sometimes the user needs to walk around their neighborhood, a park, or even a downtown area to find characters. The more characters the player finds, the more prizes and opportunities are unlocked in the app. Pokémon Go has been shown to increase people's physical activity, specifically their number of steps. One study found that participants who used this app increased the amount they walked by nearly a full mile in one day of playing the game.<sup>38</sup> Gamifying routine activities, setting goals, and challenging people to search for these characters – even just on their phone – can boost physical activity.

#### Applying gamification to InPACT

During the InPACT program, we used gamification to improve students' participation in activity breaks. Each week, we provided students a challenging yet attainable goal related to the number of students moving at the desired moderate-to-vigorous intensity level. Each week that the class met their goal, students received a sticker as a prize. The class goal then increased the following week. At the end of 7 weeks, if the class had met their weekly goal at least 6 times, they were eligible to participate in an outdoor field day. These goals led to a 27% increase in the number of students participating at the health-enhancing moderate-to-vigorous intensity level during activity breaks. Using game-design elements can really motivate students to move in the classroom. Watch this awesome video to get an idea of how we gamified the InPACT program to promote movement in the classroom at Munger Elementary School! While you are watching, try to notice all the game-design elements we used.

### **5.e** How can I ensure that I am creating an equitable and inclusive classroom environment where all students feel safe to participate in activity breaks?

Before we dive into creating an equitable and inclusive classroom, let's talk about the difference between equity and equality. The top portion of the following image shows an example of equality. When we talk about equality, we're referring to everyone being given the same resource (i.e., a bike) regardless of where they come from, who they are, and their unique circumstances. But some individuals will still be unable to use the bike. The bottom portion of the image illustrates equity. When we discuss equity, we're looking at how we can meet students' needs and give everyone the resources required to succeed, even if their movements look a little different. For example, it's important that the bikes in this image fit individuals' needs so everyone can ride. Simply giving everyone the same bike could result in some people not being able to use it at all. For more information about health equity, check out the <u>Robert Wood Johnson</u> <u>Foundation issue brief</u>.

## Equality Equity

#### Equality

Providing the same resources to all students regardless of unique needs or circumstances

#### Equity

Providing resources that match the unique needs or circumstance of each student Now that we've clarified the difference between equity and equality, let's do a quick exercise to get us thinking more about equity. Start by visualizing your classroom. What do you see? Are you seeing a diverse student body in terms of race and ethnicity, gender, religious affiliation, body size, body shape, ability, and fitness level? In creating a culture of health within the classroom, it's important to keep the diversity of your students in mind. It's also important to remember the long-term fundamental goal of InPACT, which is to provide opportunities for **all students** to be active.

#### Creating a culture of equity and inclusion in the classroom

Everyone holds stereotypes and biases, whether we want to or not, and it's important to be intentional about changing them. Here are some strategies that we've developed to initiate that change:

- **Start small.** It is a big task to create an environment where everybody feels included; doing so can seem overwhelming. To promote inclusion and equity, use small changes to progressively move towards a larger change.
- Grant students the autonomy to move at their own pace and selfregulate. We can all move at our own pace and enjoy the activity while seeing the positive benefits of being physically active.
- **Give specific and equitable praise.** Praise should not only be given to the children who are moving fastest but instead to all students (e.g., praising students for participating or for showing improvement from previous activity breaks). Encouragement provides students with the motivation to continue participating and trying their best during activity breaks!
- Set ground rules for student conduct. We know that things can get a little uncomfortable when students are treating each other unkindly, so it's important to set expectations or class charters at the start.

#### Creating a class charter agreement

A charter refers to a promise between teachers and students – which they create together – about how they want to feel in the classroom, what actions can be taken to promote these feelings, and how to prevent and manage conflict. Class charters can be spoken, hung on the wall in poster form, and more. These agreements offer a way to make sure that students and teachers are on the same page about classroom expectations.

Here is a great example of what a class charter could look like. The students who made this charter are in 1st grade. All students have signed their names on the poster, allowing for some intentionality and autonomy. This class charter has three sections. In the first section, students describe wanting to feel certain ways, like



<u>Credit</u>

respected and included. In the second section, students describe how they could promote those feelings through actions like being an active listener. In the third section, students describe how they could prevent and manage conflict by, for instance, acknowledging each other's feelings. Everything on this poster can apply to anything in the classroom. Think about how you could make a poster like this for activity breaks in your class!

#### Adapting to change

It goes without saying that the school environment is constantly changing. One big change we've all experienced, especially as educators, is the COVID-19 pandemic. Before the pandemic, students could exercise at a high intensity close together without masks. However, during the pandemic, students were required to wear masks as shown below. The pictured students were participating in an activity break while sitting down to lower their exercise intensity, breathing rate, and heart rate. The students also had their masks on and were spread out. You can see the adaptations that teachers and students had to make in the classroom. As the school environment continually evolves, we know schedule changes often come up at the last minute. Exam schedules can throw off the usual flow of the school day as well. Therefore, it is important to be able to adapt to change in the moment.



Think of a time when you used adaptations to your curriculum in the last year.

What worked well?

What could be improved upon?

Why or why not?


# 6 InPACT Classroom Safety and Special Considerations

Emotionally safe learning environments allow students to do the activity breaks with low risk for emotional triggers, like shame or embarrassment.

### Physically safe learning environments allow students to do the activity breaks with low risk for physical injury or illness, like sprains or strains.

Any type of exercise poses a certain degree of health risk; however, these risks are slight in healthy children. Small risks include the potential for students to become tired during exercise or to develop sore muscles, but these effects will be temporary. There is also a small risk of a student being injured during an activity break. If this occurs, you should send the student to the school nurse's office for immediate treatment.

Emotionally safe learning environments can be accomplished by integrating social and emotional learning (SEL) in education. SEL is "the process through which children and adults acquire the knowledge, attitudes, and skills they need to recognize and manage their emotions, feel and show empathy to others, establish positive relationships, and make responsible decisions." Classroom-based physical activities can promote competence in SEL skills. These activities give children a chance to sense values and be engaged in learning in a safe and supportive environment with few emotional triggers. Please refer to available resources through the National Center on Safe Supportive Learning Environments for more information.

### 6.a How to prevent injuries during classroom activity

Classroom-based physical activity programs are a fun way to engage your students in movement, learning, and play. But these activities can become hazardous if students are unsupervised, activities are not age-appropriate, or if the classroom is not arranged properly for activity. Accidents happen for many reasons, but you, as the teacher, can prevent them! The following tips can help you keep your students safe.

### Tip 1: Conduct a quick survey.

Before allowing children to play, make sure that:

- Your classroom is arranged in a way that enables you and other adults to always supervise the students.
- The floor is hazard-free; for example, make sure the ground is free of trash, books, pencils, and other items.
- There is adequate space to exercise. Look out for sharp corners on desks or bookshelves where children can injure themselves. Consult the "Classroom Design" section of this manual for additional suggestions.

### Tip 2: Use age-appropriate activities.

Physical activities are often designed for multiple age groups. Help your students stay safe by using activities from the Compendium of Physical Activities or online videos that are age-appropriate. See the "How to find the right exercise video" section for guidance on choosing activity videos, including making sure that the videos are developmentally appropriate.

### Tip 3: Be alert.

Experts estimate that nearly half of all school-based injuries are related to inadequate supervision.

- Always watch your students. Position yourself in the classroom where you can see all students exercising and offer instruction or correction when necessary.
- If there is more than one adult in the classroom during the activity break (e.g., a student teacher or classroom volunteer), split up so you can each watch the students from a different perspective.



**P is for protection.** Protect small injuries by applying bandages, elastic reps or simple splints.



**R is for rest injured tissues need time to heal.** Your students should avoid vigorous activity but they can still walk or jog.



**I is for ice.** Ice is an excellent anti inflammatory agent that helps reduce swelling in pain.



**C** is for compression. Pressure will help reduce swelling and inflammation. In most cases a simple elastic bandage will suffice.



**E is for elevation.** Elevating an injured leg or arm drains fluid away from injured tissue and reduces swelling, inflammation and pain.

### Tip 4: Discuss classroom safety.

Engage your students in a conversation about the importance of classroom safety.

- Work with students to reinforce your pre-established InPACT classroom guidelines.
- Post the guidelines on the classroom wall and discuss them periodically.
- Appoint safety officers to scan the room before each activity break to make sure that the space is ready for activity! These safety officers can be tasked with pushing in chairs, moving desks, and making sure that nothing is on the ground that might get in the way.

### 6.b Treat injuries resulting from classroom activity

Injuries are much more common with intense exercise and competitive sports than with moderate-intensity exercises usually done in the classroom. Many exercise-related injuries are preventable, most are mild, and the majority will respond to treatment at home. Although many injuries feel the same, there are important differences among them. Below is a glossary of terms provided by Harvard Medical School.<sup>39</sup>

- **Sprains** are injuries to ligaments. A ligament is a fibrous connective tissue that attaches bone to bone. In first-degree sprains, the ligament is stretched; in second-degree sprains, some fibers are torn; and in third-degree sprains, most or all fibers are torn.
- **Strains** are injuries to muscles or tendons. A tendon is a flexible but inelastic cord of strong fibrous collagen tissue attaching a muscle to a bone. A strain is also commonly known as a "pulled muscle".
- **Tendinitis** is the inflammation of a tendon, often caused by overuse or poor body mechanics. Pain is the major symptom, but warmth, swelling, and redness may also occur.
- **Muscle cramps and spasms** are strong and sustained muscle contractions. Gentle stretching will help relieve cramps; hydration and good conditioning can help prevent them.

Though unlikely, if one of the above-mentioned injuries occurs as the result of classroom activity, the injured student should be sent to the school nurse's office for immediate treatment. If a school nurse is not available and you have to treat the injury yourself, we recommend using the P.R.I.C.E. method to handle your student's injuries. This method includes several steps.<sup>39</sup>





# Are BMI and asthma related?

Yes, there is a clear relationship between obesity and asthma, and it is widely accepted that obesity is a risk factor for asthma. There is also evidence that asthma is a risk factor for developing obesity. Exercise can be used to manage both conditions.

## 6.c Health conditions that affect activity

Your classroom likely features a diverse group of children, including students with asthma, joint pain, or excess weight. It is important to recognize that these groups of children are still more than able to participate in activity breaks; however, there may be some additional considerations for you to keep in mind. For example, children with asthma or excess weight may easily feel out of breath when exercising. In addition, children with conditions such as juvenile arthritis, Osgood-Schlatter disease (painful knees), or excess weight may experience joint pain with exercise. Below are some tips on how to identify and encourage children who may experience increased discomfort during exercise.

### How do I know if one of my students has a health condition?

Doctors, school nurses, and other healthcare professionals can look to see whether your student has any of the above-mentioned conditions. *Excess weight* is determined by calculating a person's body mass index (BMI). BMI is a measurement of a person's weight in relation to their height, calculated by dividing the person's weight in kg by their height in meters squared [weight (kg)/ height m2]. Importantly, a child's BMI is not interpreted in the same way as an adult's; rather, a child's BMI is charted on special growth charts. These charts can show how a child's BMI compares with the normal range for children of a similar age and sex.

To diagnose asthma, a doctor will perform a physical exam and lung function test. Asthma is a chronic lung condition involving ongoing airway inflammation that results in recurrent acute episodes (attacks) of breathing problems such as coughing, wheezing, chest tightness, and shortness of breath. These symptoms occur because inflammation causes the airways to overreact to a variety of stimuli including physical activity, upper respiratory infections, allergens, and irritants. Exposure to these stimuli – often called triggers – creates more swelling and blocking of the airways. Asthma episodes can be mild, moderate, or even life-threatening. Vigorous exercise will cause symptoms for most students with asthma if their asthma is not well-controlled. Some students experience symptoms only when they exercise. However, today's treatments can successfully control asthma so that students can fully participate in physical activities most of the time. Asthma varies from student to student and often from season to season. Therefore, you need to understand what asthma is and what your students' individual needs are. At times, physical activity programs for students with asthma may require modification, such as varying the type, length, and/ or frequency of activity. At all times, students with asthma should be included in activities as much as possible. Remaining seated while the rest of the class is participating in an activity break can set the stage for teasing, loss of self-esteem, unnecessary activity restriction, and low levels of physical fitness.

*Juvenile arthritis* can cause persistent joint pain, swelling, and stiffness and is the most common type of arthritis in children under age 16. Some children may experience symptoms for only a few months, while others can have symptoms for many years. Some of the most common symptoms are pain, swelling, stiffness, fever, swollen lymph nodes, and rash. Diagnosis of juvenile arthritis can be difficult because joint pain can be caused by many different problems. No single test can confirm a diagnosis, but blood tests can help rule out some other conditions that produce similar signs and symptoms.



Finally, **Osgood-Schlatter disease** is a common cause of knee pain in young children and adolescents who are still growing. Most children will develop Osgood-Schlatter disease in one knee only, but some will develop it in both. Athletic young people are most affected by this disease – particularly boys between the ages of 10 and 15 who play games or sports that include frequent running and jumping. A doctor will perform a physical exam and check a child's knee for swelling, pain, and redness, which usually provides them with enough information to make an Osgood-Schlatter disease diagnosis. In most cases, simple measures like rest, ice, over-the-counter medication, and stretching and strengthening exercises will relieve pain and allow a return to daily activities.

### Special considerations for children with health conditions:

A child with a health condition is at increased risk of one or more of the following:

- Joint problems weight-bearing joints (ankles, knees, hips, feet, pelvis, lower back, and spine) can become damaged or diseased, potentially making exercise painful and challenging.
- **Breathing problems** worsening asthma, difficulties with breathing while asleep, and feeling out of breath easily when exercising
- Lower fitness levels feeling too out of shape to keep up with other kids their age
- Lower self-esteem and a lack of confidence being the subject of bullying because of weight could lead to the child becoming withdrawn and avoiding social contact or exercise.

### Specific considerations for children with asthma:40

Controlling asthma means recognizing asthma triggers (i.e., factors that worsen asthma or lead to an asthma episode). You should aim to avoid or control these triggers, follow an asthma management plan, and have convenient access to asthma medications. You may also need to modify physical activities to suit your students' current asthma status. Check out the list of common asthma triggers below:

- Exercise (running or playing hard), especially in cold weather
- Upper respiratory infections (cold or flu)
- Laughing or crying hard

- Allergens
  - Pollen (from trees, plants, and grasses, including freshly cut grass)
  - Animal dander from pets with fur or feathers
  - Dust and dust mites (in carpeting, pillows, and upholstery)
  - Mold
- Irritants
  - Cold air
  - Strong smells and chemical sprays (perfumes, paint and cleaning solutions, chalk dust, lawn and turf treatments)
  - Weather changes
  - Cigarette and other tobacco smoke

Should asthma triggers be avoided or controlled? Some asthma triggers, such as pets with fur or feathers, can be avoided. Others, like physical exercise, are important for good health and should be controlled rather than avoided. Here are some additional actions that can help students control their asthma:

- Identify students' known asthma triggers and eliminate as many as possible. For example, keep animals with fur out of the classroom.
- Use wood, tile, or vinyl floor coverings instead of carpeting.
- Schedule maintenance or pest control involving strong irritants and odors when students are not in the area and when the area can be well ventilated.
- Adjust schedules for students whose asthma is worsened by pollen or cold air. Indoor activities may allow more active participation.
- Help students follow their asthma management plans.

### Findings from the Childhood Disparities Research Laboratory

Start small! Experts say kids should get about an hour of exercise every day – but that doesn't mean they have to get it all in one session. If exercising for 30 minutes at a time feels like too much to kids, they're not going to do it. InPACT is designed to get kids to commit to a tiny amount of exercise – only 4 minutes! Data from our laboratory demonstrated that children with excess weight and obesity felt worse during initial activity breaks compared to normal-weight children, but their enjoyment improved over time after completing additional breaks.<sup>41</sup> When children commit to even a small amount of exercise, they'll likely feel better about themselves and reflect and say, "I did it." Small successes will inspire them to do more and more over time.

### Findings from InPACT classrooms

We have found InPACT to be safe for children with asthma. In fact, our results indicated that more children with asthma participated in MVPA during activity breaks compared to children without asthma.<sup>42</sup> Coughing was the only asthmatic symptom observed; it occurred infrequently and students with asthma were able to self-resolve their symptoms without medication. These findings are important: they show that classroom-based physical activity such as that in the



InPACT program, which features short, intermittent bouts of physical activity, offers a safe way for children with asthma to be active during the school day.

### Emotionally safe learning environments

The section above outlined support and resources related to physical safety considerations. At the same time, it is essential to understand students' emotional safety needs. Emotionally safe learning environments can be accomplished by integrating social skill building opportunities into the activity breaks. Social skill building is "the process through which children and adults acquire the knowledge, attitudes, and skills they need to recognize and manage their emotions, feel and show empathy to others, establish positive relationships, and make responsible decisions." Classroom-based physical activities can promote competence in social skills. These activities give children a chance to be engaged in learning in a safe and supportive environment with few emotional triggers. Please refer to available resources through the <u>National Center on Safe</u> <u>Supportive Learning Environments</u> for more information.



# Wellness Champions in your School/District/Intermediate School District

School Wellness Champions can assist a school in the promotion and protection of child health and wellness. Involving parents/guardians and other community members in school-based wellness initiatives enables the school to use valuable community resources. Tapping into established wellness personnel also increases the likelihood of sustained school wellness activities.

Schools are no longer a place where children simply check in and check out. Engagement in the Whole School, Whole Community, Whole Child (WSCC) model means connecting with experts in their respective domains to ensure that student wellness is at the center of all programming. InPACT offers an opportunity to build upon existing physical activity programming in the school. Moreover, you are not alone in the journey to implement InPACT; there are many people in your building, district, and intermediate school district who want to help you be successful. Using the WSCC model can also create program buy-in among diverse stakeholders. Though physical education and physical activity occupy their own sector within the framework, all the constructs work together – as do educational professionals – to enhance whole-child wellness. Check out the list of Wellness Champions below who have the knowledge, skills, and expertise to assist you!

### Whole School, Whole Community, Whole Child (WSCC) Model





# Recommended School and Community Representatives to Act as Wellness Champions

### 1. School Health Professionals

School health professionals include school nurses, athletic trainers, and school health educators. These personnel serve as resources for injury prevention or injury care. School health educators can also act as connectors between you and your students' families by providing resources on health education, available health service offerings, and community involvement.

### 2. Physical Education Teachers

Physical education instructors are experts in physical health and motor development, health behavior, and adapting physical activity for all ability levels. Connect with your school's physical education instructor for modifications and support as you implement classroom activity breaks.

### 3. School Administrators

Support from school administrators is the golden ticket. Administrators can provide necessary support for sustainable classroom physical activity by implementing wellness policies and cultivating a school climate around wellness. Engaging with your school administration could include asking for additional active minutes throughout the school day, physical activity equipment, or more professional development programming that focuses on the whole child and social-emotional health.

### 4. Representatives of Interested Community Organizations

Organizations such as the American Heart Association offer a variety of resources and challenges to get students moving. Though these organizations might not be in the classroom to support physical activity, the American Heart Association's Kids Heart Challenge is an ideal complement to InPACT programming.

### 5. Social Workers

Social workers can help connect social-emotional learning with physical activity. Social workers equip students with valuable life skills which influence non-cognitive skills. These factors include, but are not limited to, self-regulation techniques, academic mindsets, responsible decision making, and relationship skills. Using the expertise of your school's social worker can improve your understanding of when a student needs a movement break versus when they need quiet reflection time.

### 6. Other Support Networks

Other wellness champions could include your school's Parent Teacher Organization, paraprofessionals, and special education leaders. Parents are in a unique position to increase support around physical activity if they are included in the conversation with educational leaders. Paraprofessionals assist lead teachers with classroom management and can provide oneon-one assistance for students who need extra support for success. Special education teachers are a wonderful resource for planning when, and how, to implement physical activity breaks with special populations. Connecting with these support networks will give you the needed support to promote movement and learning in your classroom.



8

# Resources



#### Action for Healthy Kids

This one-pager dives into ways to improve and promote active recess within your school. SHAPE America and the Centers for Disease Control and Prevention recommend that schools provide at least 20 minutes of recess each day for elementary students and offer a period of daily physical activity for secondary students. Scaling back recess comes at a cost to learning.

### Active Schools

Active Schools is a national movement led by health, education, and private sector organizations committed to raising active, healthy, and happy kids. They are dedicated to bringing the benefits of physical education and physical activity to every child because they know that *Active Kids Do Better*!

### Alliance for a Healthier Generation

Alliance for a Healthier Generation has worked with schools, youth-serving organizations, businesses, and communities to empower kids to develop lifelong healthy habits by ensuring the environments that surround them maintain and promote good health. They know that a child's physical, social, and emotional health is critical to their learning and development. That's why this organization is committed to making sure that every mind, every body, and every young person is healthy and ready to succeed.

### American Academy of Pediatrics

The American Academy of Pediatrics published a policy statement on the importance of offering daily recess in schools. This statement outlines the key components of healthy child development and the role that recess plays.

### Behavioral Health Learning Collaborative of Michigan

This collaborative is a group of education and mental health professionals committed to helping every student live an emotionally healthy life. Supporting school-based mental health programs is an integral part of nurturing the whole child – it is the guiding principle behind everything this group does. With new resources provided through 31N and the Caring for Students program, they see an opportunity to make a long-lasting impact on the way mental health is supported in schools. They are committed to sharing best practices as well as technology, training, and other resources that can help your district advance its own mental health program.

### Centers for Disease Control and Prevention

This document, *Strategies for Recess in Schools*, describes strategies for planning and providing recess in schools to help increase participation in physical activity and promote academic achievement (e.g., performance, behavior, attention). The audiences for this document include the following: state and school district leaders who provide technical assistance and professional development on recess; physical education teachers; classroom teachers; recess and playground supervisors; support staff; school administrators; parent-teacher organizations; school health coordinators and school health advisory councils; parents; and anyone interested in supporting recess in schools.

### Centers for Disease Control and Prevention

Recess is a crucial element of healthy child development and is supported by the CDC. Resources such as *Planning in Schools: A Guide to Putting Strategies for Recess into Practice*, the "Keep Recess in Schools" policy brief, and *Recess for All Students* can be found on this website.

### Coalition for Michigan Schoolchildren's Right to Play

The mission of the Coalition for Michigan Schoolchildren's Right to Play is to raise awareness around the lack of recess and play in schools and advocate for increases in physical activity, play and recess. Be on the lookout for their best practices guide for promoting play in your school.

### <u>Edutopia</u>

Edutopia is a trusted source shining a spotlight on what works in education. They show people how they can adopt or adapt best practices and tell stories of innovation and continuous learning in the real world. The website contains resources to help you implement six transformational strategies: project-based learning, social and emotional learning, comprehensive assessment, teacher development, integrated studies, and technology integration.

### InPACT at Home

InPACT at Home is an evidence-informed, home-based physical activity program that enables K–12 students to engage in health-enhancing physical activity and physical education in the comforts of their own home. This program includes a family engagement toolkit and physical activity play cards, which can be accessed on our interactive program website. Exercise videos are broadcast across the state on the Michigan Learning Channel.

### Michigan Fitness Foundation

The Michigan Fitness Foundation advocates for the health of Michigan's residents. Their programs and services are focused on food, nutrition, and physical activity as well as the places that allow Michiganders to eat well and be active. Their programs and services support making healthier choices easier for residents of all ages. The Foundation always adopts a health equity lens.



### Michigan Learning Channel

Michigan's public television stations, in partnership with leading educators and community leaders, have launched the Michigan Learning Channel. This channel provides curriculum-aligned instructional resources for students and teachers, beginning with Pre-K to 3rd-grade programming Monday through Friday. Content focuses on literacy, math, and social-emotional learning and is quickly expanding to include Grades 4–12.

### Michigan School Health Coordinators' Association

The Michigan School Health Coordinators' Association is a network of experts advocating for any or all components of the WSCC model. Among these experts are regional school health coordinators representing 24 coordinating sites in Michigan, which serve as hubs for delivering evidence-based programs driven by current state and local data, research, and educational requirements. They provide leadership and training on increasing student well-being so students can achieve academically in Michigan schools and communities.

### Playworks Michigan

Playworks Michigan helps kids to stay active and build valuable life skills through play. The organization serves low-income schools through year-round, on-site support services and reaches thousands of more students across Michigan via professional development workshops for schools and youth organizations.

### Playworks Game Guide

The Playworks staff has found, created, and sorted hundreds of games that will get kids off the sidelines and having fun. Whether you are looking for games that will keep kids active for a full recess period or just want to do a short icebreaker before an activity, there's a game here for your needs. Share your information via the link to receive a free PDF of the full Playworks Game Guide.

### Playworks SEL Game Guide

This game guide will teach kids social and emotional skills to practice in the classroom, gym, or outside. The chosen skills were developed based on well-known SEL frameworks and the on-the-ground impact seen across schools around the country.

### Springboard to Active Schools

Springboard to Active Schools supports CDC-funded state departments of health and/or education to promote active school environments in school districts and schools across the country. The services that Springboard to Active Schools provides include professional development (e.g., in-person and virtual training opportunities); technical assistance (e.g., phone, e-mail, and in-person meetings); development of new tools/resources; and the dissemination and curation of new and existing tools/resources.





### Strategies for Classroom Activity in Schools

This coordinated effort can help all students meet the national recommendation for physical activity and ensure that all students gain the knowledge, skills, and confidence they need to make regular physical activity a lifelong habit. This CDC document describes 10 evidence-based strategies for promoting and planning classroom physical activity. Some of the InPACT strategies mentioned above are included in this document!

# 9 InPACT Program Reminders ("Remind me again?")

Purpose of workbook activities

To give real-world examples of how to overcome obstacles related to implementation

# 1. How long should the activity breaks be? How many activity breaks per day? Per week?

Activity breaks should be 4 minutes long. The number of activity breaks per day/week changes; there is a ramp-up procedure, starting with one 4-minute activity break per day during the first few weeks of implementation and ending with five 4-minute activity breaks per day during full-scale program implementation. The long-term goal is to continue achieving 20 minutes of physical activity in the classroom per day, regardless of how you choose to break it up.

### 2. What are the benefits of activity breaks?

Research has consistently demonstrated that students who engage in regular physical activity in and out of the classroom tend to show better academic performance along with better emotional, mental, and physical health outcomes. For more information, please watch the <u>Science of Physical Activity Teacher Training video</u>.

# 3. Will the activity breaks have planned/established times or will they be flexible?

Activity breaks do not have planned/established times. It will be up to you, the teacher, to determine the right time to implement activity breaks in your classroom. However, we have included suggestions as to the best times to transition into activity breaks so that it may be easier to integrate these activities into your day; see the "Teaching Curriculum" section of this manual.

# 4. How can I accommodate and include students with disabilities and/or special needs?

It is important that all students have an opportunity to participate in activity breaks because "the more you burn, the more you learn"! If your students can participate in activities at a lower intensity, they should do so. Students can also engage in activity breaks while seated, only doing the upper-body activities. Watch the instructional videos on the InPACT website for examples of seated activities and how to adapt activity breaks.



### 5. What if a student gets hurt during an activity break?

Safety comes first, and you should take proper precautions prior to beginning all physical activity breaks. However, in the unfortunate event that a student gets hurt during an activity break, make sure to follow your school's guidelines for dealing with the injury. You can also refer to the tips for treating injuries in this manual.

### 6. Can activity breaks be personalized?

Yes, activity breaks can certainly be personalized at your discretion. We have included a list of suggested activities, but you are not limited to these. However, please remember to choose activities that are ageappropriate and can be performed at the correct intensity. Review the "Criteria of a Good Video" section for more guidance!

#### 7. What student ages are activity breaks designed for?

The activity breaks listed in the Compendium of Activities are designed for students in Grades 3–6.

### 8. What if I run out of time and cannot fit in all 5 activity breaks?

Try to incorporate as many prescribed activity breaks as you can and document the reasons you were unable to achieve the recommended goal. This way, you'll be able to adjust your schedule to achieve the full amount of activity on future days.

# 9. Why do I need to incorporate these activity breaks when there is already a physical education teacher/program at my school?

Activity breaks are important regardless of whether physical education teachers or a physical education program exist in your school. Activity breaks not only increase physical activity but also reduce time in prolonged sitting, both of which are important for cognitive function. Students should ideally get 60 minutes of physical activity per day, so the 20 minutes of physical activity from classroom activity breaks and the physical activity from physical education class and recess can contribute to reaching this daily recommendation.

### 10. What if I (the teacher) don't exercise myself?

The activity breaks are meant for everyone, regardless of fitness or skill level. You don't have to be an expert – just get up and move! Activity breaks are fun ways to integrate everyone in the class. By participating in the activity breaks, you will improve your own health by meeting the physical activity guidelines for adults. If you choose not to participate some days, still be vocal in the classroom and encourage your students as they take part in activity breaks. We have seen higher activity levels in classrooms where the teacher consistently encourages students to move at the right intensity during activity breaks.

# **10** WORKBOOK ACTIVITIES: Watch, Read, Do

# 10.a. InPACT best practices

Through our collaborative work with teachers and principals across the state, we have developed a list of evidence-based best practices to help you successfully implement InPACT in your classroom. By following these practices, you will find InPACT easy to implement, and your students will find it enjoyable to participate in.

- To the best of your ability, you should participate in all activity breaks to model the active behavior for your students. Research has shown that children who have people modeling physical activity in their lives are more active themselves.<sup>43</sup>
- 2. You should encourage all your students to participate in each activity break. If for some reason a student cannot participate due to one or more physical, mental, or emotional limitations, you should aim to modify the activity for your students as best as possible to ensure equitable participation.
- 3. You should slowly incorporate InPACT into your curriculum using the ramp-up protocol (add one activity break per week) to give you and your students time to develop classroom procedures and get used to exercising in the classroom.
- 4. To accumulate the health-enhancing benefits of classroom activity, <u>20</u> <u>minutes</u> of activity should be provided every day (not including the time it takes to set up or cool down after an activity). This period can be broken up into five 4-minute activity breaks, two 10-minute activity breaks, or even one full 20-minute break. Do what's best for your students and your curriculum.
- 5. To gain health benefits from classroom activity, each exercise must be performed at a moderate-to-vigorous intensity. As a reminder, when students are moving at this intensity, it will be difficult for them to hold a conversation. The Active Learning activities presented in the "Academic" section of the Compendium of Physical Activities are at a lower intensity and should only be used to <u>supplement</u> the prescribed number of activity breaks.

### Add a few of your own best practices below!

1.			
2.			
3.			

### Additional considerations

- 1. You and your students can create your own activity breaks! We encourage you to involve your students in creating fun activity breaks and in picking out activity videos to complete. The InPACT Compendium of Physical Activities is a <u>suggested</u> list of 200 MVPA activity breaks; online exercise videos are only one option for activity breaks. Be creative and have fun!
- 2. Classroom setup (rearranging tables, seats, and blackboards/whiteboards along with any other teaching resources or equipment) is at your discretion! The floor plans provided in this manual offer <u>suggestions</u> for how you can redesign your classroom to promote learning and movement. Choose whatever classroom setup works best for your teaching style, your students, and your space!
- 3. Activity breaks and active curricular lessons can be completed in areas outside the classroom (e.g., hallways, cafeteria, playground). An occasional change of scenery will add a little spontaneity to your regular classroom routine.

Add a few of your own considerations below!

1. 2. 3.

### 10.b. Science of activity breaks

We just learned how doing activity breaks can improve academic outcomes in the classroom. Now, let's put it to the test! Participate in <u>this InPACT activity break</u>. But wait! Before you start, do a quick check-in with yourself and see how your brain is feeling. Do you feel alert or a little groggy? Then, after the activity break, check in again to see if there are any changes. This is only one break – so imagine how your brain might function after completing five per day. Happy moving!

### 10.c. Floor plans

You have learned about the importance of classroom layout and have seen examples of different types of floor plans for your room. For this activity, think about what your classroom looks like right now (or in past years of teaching). Think about the number of desks there are, the other furniture in the room, and so on. Then, answer the following questions. If you need a reminder about what some different floor plans look like, refer to Section 10b of the Teacher Training manual.

- 1. Which floor plan have you typically used in the past? What has worked well in terms of this floor plan? What hasn't worked well?
- 2. Which floor plan would be best for activity breaks in your classroom? Which floor plan would be best for instruction? Are they different or the same?
- 3. If the floor plans listed in Question 2 were different, which floor plan could you use as a compromise?

Finally, draw out the floor plan that you intend to use to accommodate activity and instruction, including the number of desks, other furniture, location of blackboards/ whiteboards, and so on.

### 10.d. Classroom management



### Nine Classroom Management Strategies

- 1. Define expectations
- 2. Be firm with your expectations
- 3. Prepare the room
- 4. Use basic cues
- 5. Use partners effectively
- 6. Provide time limits
- 7. Adopt a step-by-step approach
- 8. Start small
- 9. Move continuously

For this activity, think about your students this past year (if this is your first year of teaching, then think back to student teaching or your experience in school). Then, answer the following questions. The nine classroom strategies covered in the <u>Classroom Management video</u> (16:52) are listed above for reference.

- 1. Of the nine classroom strategies we talked about, which ones are you currently using? Would they work well for implementing movement/transitioning into activity breaks?
- 2. Of the nine classroom strategies, which one would you most like to implement in the future?
- 3. What is a classroom strategy that you currently use that isn't listed but works well for your students?

### **10.e.** Curriculum integration

Some of these activities might work for your activity breaks as well – as long as they meet the study criteria for activity breaks (4 minutes of MVPA or constant movement that boosts each student's heart rate). If you are interested in trying some of these out, pick one and give it a go! Feel free to reach out to the InPACT team for more ideas or information.

### EXAMPLES OF REINFORCEMENT ACTIVITY:

### 4th-grade States of Matter Reinforcement

Particles in a:

- Gas: vibrate and move freely at high speeds.
- Liquid: vibrate, move about, and slide past each other.
- Solid: vibrate (jiggle) but generally do not move from place to place. At different intervals, have students do a particular movement (e.g., running or jumping in place, high knees) at different intensities to mimic particles in different states of matter. Students would move more freely (but you might choose to set some space limits) and with more energy when acting like particles in a gas. They would slow down to mimic liquids and stay in one place while shaking or jiggling to be a solid.

### **Geometry Jumps**

Students do Pogo hops or small jumps in different ways to match the shapes the teacher calls out (e.g., square, rectangle, triangle)

### **Quantifying and Averaging Reps**

Students use different data collection methods and math operations to record the number of reps they engage in, calculate a total for the class, and figure out the average. There are ways to make data collection relatively anonymous and to focus attention on classroom totals and averages rather than on individual output.

### 5th grade: Conversions, general math

- Calculating and converting different data connected to an activity (or to activity planning, such as by figuring out the amount of space availabl and needed for each student for an activity and then converting the result into different units)
- Other math operations (e.g., rounding, going from fractions to decimals; can be learned and carried out with different data collected from an activity)

### **ELA: Story elements**

- The introduction, rising action, climax, and resolution can be compared to the activity flow of instruction and warm-up, main activity, and cool-down. What is the storyline of an activity? How can students act this out?
- Persuasive writing: convince others that activity breaks are a good idea; include informal writing by jotting down ideas right before and after an activity.

Examples of InPACT active learning lessons are available on the Resources page of our program website: <u>www.inpact.kines.umich.edu</u>

So, if you shift your room so that students are sitting in groups, how can you capitalize on this new formation to engage students in cooperative group learning? There are many ways to do this, as you know. Most elementary teachers already use a variety of groups and grouping strategies, but we thought it might be helpful to provide links to online resources to generate new ideas or to reframe strategies you've already explored.

### Overviews of cooperative group work:

- "20 collaborative learning tips and strategies for teachers" by Miriam Clifford
- "What is cooperative learning?" by David Johnson & Roger Johnson
- "What are cooperative and collaborative learning?" by Educational Broadcasting Corporation

### **General Discussion Strategies:**

- "The big list of class discussion strategies" by Jennifer Gonzalez
- "Social emotional learning reflection prompts" by CASEL

### Specific strategies that can be integrated with group seating:

- The Jigsaw Classroom
- Learning Stations
- "Differentiated instruction strategies: Learning stations" by Janelle Cox
- "5 types of learning stations" by David Reeves
- Chalk Talk
- Shared Writing

### Data Collection and Progress Monitoring:

Consider turning the overall experience of activity break integration into a science experiment and an opportunity to collect and analyze data. Possible activities include the following:

- Have students develop hypotheses using "If\_\_\_\_, then\_\_\_\_" statements, such as "If we all do these activity breaks every day, all year, then we should be able to do more activity and be less tired by the end of the year."
- Ask students to think about how they would measure the different components of their hypothesis. How would they measure how many activity breaks they do, how many people do them, for how long, and at what intensity? Then, how would they measure their ability to do more activity and be less tired? Encourage dialogue and collaboration and have students work to create actual experimental designs with a limited set of procedures and variables. Then, build into each day a procedure for collecting and recording data, assigning students responsibilities for these tasks either in groups or across the classroom.
- Imagine having one set of students monitor and record attendance along with the number, duration, and intensity of activity breaks in a day. Meanwhile, all students would use a simple system to record their perceived comfort or energy level (e.g., a basic 5-point scale) for the day and record their responses somewhere. Different configurations of students could then

organize the data, calculate weekly totals and averages, and look for patterns. If the above hypothesis is true, then you would expect students to have higher comfort or energy levels (on average) at similar levels of activity over an extended period. This type of exercise could be done individually, in small groups, or using data from the whole class.

Math presents various opportunities to engage students in reinforcing physical activity. Review the 4th-grade math overview with suggested activities below and think about how similar approaches might work in 5th and 6th grade.

	POSSIBLE ACTIVITY CONNECTIONS	
<ul> <li>Overview Operations and Algebraic Thinking</li> <li>Use the four operations with whole numbers to solve problems.</li> <li>Gain familiarity with factors and multiples.</li> <li>Generate and analyze patterns.</li> </ul>	<ul> <li>Use math problems to help determine the number of repetitions of different exercises that students should do.</li> <li>Use addition and then division to calculate class totals and averages for different exercises (e.g., number of jumping jacks).</li> <li>Patterns: students can explore data collection and activity, as well as patterns, by learning how to measure their own pulse. Students can do low-level activity, chart their pulse; do moderate activity, chart their pulse; and then more strenuous activity and chart their pulse. They can then analyze patterns and make connections between their exercise level and pulse. They can also graph data in this mini investigation.</li> </ul>	
<ul> <li>Number and Operations in Base Ten</li> <li>Generalize place value understanding for multi-digit whole numbers.</li> <li>Use place value understanding and properties of operations to perform multi-digit arithmetic.</li> </ul>	With number lines on the floor and spaces repre- senting the different place values, students can hop or jump to the right place value when the teacher calls out a decimal (e.g., call out "0.06" and students should hop from 0 to the 100ths space).	

# Michigan Math Grade Level Content Expectations 4th-grade Math Overview

<ul> <li>Measurement and Data</li> <li>Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.</li> <li>Represent and interpret data.</li> <li>Geometric measurement: understand concepts of angle and measure angles.</li> </ul>	<ul> <li>Have students measure spaces for activity and use conversions. Have students measure different activity results (e.g., distance of hops, height of jumps), discuss what unit is best for measuring different activities, and then have them collect data over time.</li> <li>Have students perform exercises like jumps and hops at different angle vectors. For example, students can be asked to complete a series of three small jumps, first at 90 degrees, then at 45 degrees, and then at 180 degrees.</li> </ul>		
<ul> <li>Geometry</li> <li>Draw and identify lines and angles and classify shapes by properties of their lines and angles.</li> </ul>	See idea for Geometry Jumps on page 59.		



# CURRICULUM INTEGRATION ACTIVITY:

Using the ideas above as models, jot down your own ideas for activities that connect to math content you might teach for 3rd, 4th, 5th, or 6th grade. Then review the tables below and record some activity connections for the grade level closest to what you teach.

# **3rd-grade Math Overview**

	ACTIVITY CONNECTIONS
Develop understanding of multiplication and divi- sion and strategies for multiplication and division within 100.	
Develop understanding of the structure of rectan- gular arrays and of area (area and perimeter and determining the areas and perimeters of two-di- mensional shapes).	
Describe properties of two-dimensional shapes and classify three-dimensional shapes.	
Develop an understanding of fractions.	
<ul> <li>Geometry</li> <li>Graph points on the coordinate plane to solve real-world and mathematical problems.</li> <li>Classify two-dimensional figures into categories based on their properties.</li> </ul>	

# 5th-grade Math Overview

	ACTIVITY CONNECTIONS
<ul> <li>Operations and Algebraic Thinking</li> <li>Write and interpret numerical expressions.</li> <li>Analyze patterns and relationships.</li> </ul>	
<ul> <li>The Number System</li> <li>Apply and extend previous understanding of multiplication and division to divide fractions by fractions.</li> <li>Compute fluently with multi-digit numbers and find common factors and multiples.</li> <li>Apply and extend previous understanding of numbers to the system of rational numbers.</li> </ul>	
<ul> <li>Expressions and Equations</li> <li>Apply and extend previous understandings of arithmetic to algebraic expressions.</li> <li>Reason about and solve one-variable equations and inequalities.</li> <li>Represent and analyze quantitative relationships between dependent and independent variables.</li> </ul>	
<ul> <li>Geometry</li> <li>Solve real-world and mathematical problems involving area, surface area, and volume.</li> </ul>	
<ul> <li>Statistics and Probability</li> <li>Develop understanding of statistical variability.</li> <li>Summarize and describe distributions.</li> </ul>	

# 6th-grade Math Overview

	ACTIVITY CONNECTIONS
<ul> <li>Ratios and Proportional Relationships</li> <li>Understand ratio concepts and use ratio reasoning to solve problems.</li> </ul>	
<ul> <li>Number and Operations in Base Ten</li> <li>Understand the place value system.</li> <li>Perform operations with multi-digit whole numbers and with decimals to hundredths.</li> </ul>	
<ul> <li>Number and Operations—Fractions</li> <li>Use equivalent fractions as a strategy to add and subtract fractions.</li> <li>Apply and extend previous understanding of multiplication and division to multiply and divide fractions.</li> </ul>	
<ul> <li>Measurement and Data</li> <li>Convert like measurement units within a given measurement system.</li> <li>Represent and interpret data.</li> <li>Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</li> </ul>	
<ul> <li>Geometry</li> <li>Graph points on the coordinate plane to solve real-world and mathematical problems.</li> <li>Classify two-dimensional figures into categories based on their properties.</li> </ul>	

### **Social Studies**

- 3rd and 4th grade: Michigan geography
- 4th and 5th grade: United States geography
- 6th grade: World geography

Think about the following questions and write down your thoughts in the space below:

1. What connections can you make?

2. How can you use movement to reinforce different concepts from geography?

### Science

- States of matter
- Structure and properties of matter
- Chemical reactions
- Solar system
- Lunar cycle
- Ecosystems, food webs
- Weather and climate
- Forces and motion
- Energy, energy transfer
- Waves

Think about the following questions and write down your thoughts in the space below:

- 1. What connections can you make?
- 2. How can you use movement to reinforce concepts related to science content?

# **English Language Arts**

- Figurative language
  - Metaphors
  - Analogies
  - Onomatopoeia
  - Hyperbole
  - Narrative elements
  - Story line: introduction, rising action, climax, resolution
- Structure (sentence, paragraph, essay)

Think about the following questions and write down your thoughts in the space below:

1. What connections can you make?

2. How can you use movement to reinforce concepts related to English language arts content?



### Activity 1: Finding Exercise Videos

Now it's your turn to become the exercise video evaluator! Watch the InPACT at Home video below and use the video evaluation rubric to rate it. The evaluation rubric can be found in Part 5: InPACT Classroom Strategies. Remember, for each of the 12 categories, you can assign a score of 0–2. A score of 0 means the category is missing from the video, a score of 1 means the category is there but could be improved, and a score of 2 means the category is covered well in the video. After you are done watching and rating the video, compare your answers with our team's evaluation. The answer sheet can be found in the Appendix of this manual.

Evaluate this video!

### Activity 2: Moving at the Right Intensity

For this activity, we are going to practice bringing our awareness to the intensity of an activity break. We talked about different ways to measure the intensity of physical activity. One is by tracking our heart rate, but if you or your students do not have heart rate monitors, there are other ways to measure it. For this activity, please participate in the activity break videos below and track your intensity using the talk test. If you don't remember what the talk test is, you can read about it in Section 5.b of this manual. One of the videos below is at the moderate-to-vigorous level while the other is at a low-intensity level. Try out both and see if you can guess which one is the higher-intensity video and which one is the lower-intensity video. Once you have the hang of it, make sure to keep using these techniques to find the right exercise video for your students!

<u>Video 1</u> <u>Video 2</u>

### 10.g. Gamification and student motivation

Think of your best student motivation strategy and write it below! Then think about how you can apply this strategy to motivate your students during activity breaks.

Best Strategy: Apply to Activity:

If the activity break your students are doing is an activity video, what are three ways you could gamify this break?

1.			
2.			
3.			

Now think of three ways that you could best gamify the implementation of activity breaks in your classroom overall. For example, would putting stickers on a chart to track activity work well for you? Offering a prize at the end of the month? Write your ideas below!

<u>1.</u>	 	 	 
2.			
3.			

Finally, come up with your own activity break and think of how to add elements of gamification. For a bonus, try it out with your class!

Activity:

Gamification:



Inclusion means that "all children, regardless of ability or disability, have the right to be respected and appreciated as valuable members of the school community, fully participate in all school activities, and interact with peers of all ability levels."<sup>44</sup>

The universal design for learning (UDL) supports learning for all students. The UDL Guidelines focus on addressing systemic barriers which hinder the achievement of student learning outcomes. Physical activity through InPACT is no exception: it primes the brain for learning, no matter a student's cognitive or developmental abilities. The three constructs of UDL are shown below:

# **Universal Design for Learning**

AFFECTIVE NETWORKS The WHY of learning



How learners get engaged and stay motivated. How they are challenged, excited or interested. These are affective dimensions.



RECOGNITION NETWORKS The WHAT of learning



How we gather facts and categorize what we see, hear or read. Identifying letters, words or an author's style are recognition tasks.



STRATEGIC NETWORKS The HOW of learning



Planning and performing tasks. How we organize and express our ideas. Writing an essay or solving a math problem are strategic tasks.

DIFFERENTIATE THE WAYS THAT STUDENTS CAN EXPRESS WHAT THEY KNOW


InPACT supports equity through

- Videos where students can see themselves represented in terms of gender, race, ability level, age, and more.
- Developmentally appropriate content for all, meaning that your students will understand what is expected of them in the video and be physically able to perform the skills.
- Interactive modeling, a technique that can be used to help students understand the activity.
- InPACT gamification is a great way to motivate students based on their needs. Gamification can be used in a high- or low-structure format. In a high-structure format, stickers can be used to track each student's activity; in a low-structure format, you might offer an incentive on the spot, such as allowing the group that responds to FOCUS the fastest to line up first for recess.
- The principle of *action and expression* is addressed by empowering students through involving them in planning physical activity breaks. It's a great way to get students involved they can pick which activities they want to do by giving the class opportunities to establish team goals, planning which activity break to partake in, and working as a united front to earn points and connect with their peers.
- Review the video <u>Physical Education & Universal Design for Learning</u> and answer the following free-response questions.

What does inclusive physical activity/an inclusive active environment look like?

1.			
2.	 	 	
3.			

What are a few strategies that you could use as an educator to ensure <u>equitable</u> <u>access</u> to physical activity for all learners?

# 10.i. Safety considerations

Case Study: Every school operates differently. However, if an injury or emergency were to occur, what is the proper course of action to take as the educator?

Who is my key contact person if an emergency occurs?

Where is the school's injury action plan and who has it?

Are there necessary school-based trainings I may need?

Are there any students with ailments, varying ability statuses, or health conditions that I should be made aware of?

Who are the key stakeholders with whom I can engage to ensure I have everything needed for student safety?

### **Resources for Student Safety:**

#### Safe Supportive Learning Environments

School safety is linked to improved student and school outcomes. In particular, emotional and physical safety in school are correlated with academic performance.

#### Safety Considerations for School Physical Education

The purpose of this chapter is to examine issues related to safe and inclusive physical education. Although the term "inclusion" in education typically refers to children with special needs, in this chapter, the concept is expanded to include children who may face barriers due to their gender; body composition; linguistic differences; cultural experiences; and cognitive, physical, or psychological disabilities.

# **APPENDIX 1: FLOOR PLANS**

## **Grid Schemes**

### **Grid Scheme Guidelines**

- Maintain a minimum clearance of 32 inches between the backs of chairs at each desk and other objects; provide additional buffering from desk to wall or other fixed items when possible.
- Maintain a minimum clearance of 12 inches between the desk and Activity Zone denoted by Zone# in the diagram.
- During activities for this configuration, students can engage in linear movement and activities where they maintain a fixed location.
- Linear movement activities are possible along the left or right side in this type of floor plan. Maintain a 12-inch buffer zone adjacent to desks.
- The number of desks per classroom is optional and based on attendance.

Grid Scheme 1 (left) and 2 (right)





- B Buffer zone
- D Location of desk on axis
- Z Zone
- # Number of desks per this configuration (24 to 30 total)

## **Intersecting Scheme**

### Intersecting Scheme Guidelines

- Maintain a minimum clearance of 32 inches between the backs of chairs at each desk and other objects; provide additional buffering from desk to wall or other fixed items when possible.
- Maintain a minimum clearance of 12–24 inches as shown between the desk and the Activity Zone denoted by Zone# in the diagram.
- During activities for this configuration, students can engage in linear movement and activities where they maintain a fixed location.
- Linear movement activities are possible along the bottom in this type of plan.
- Maintain a 24-inch buffer zone adjacent to inside desks.
- The number of desks per classroom is optional and based on attendance.

### Intersecting Scheme



- B Buffer zone
- D Location of desk on axis
- Z Zone
- # Number of desks per this configuration (40 total)

### **Isolated Schemes**

### **Isolated Scheme Guidelines**

- Maintain a minimum clearance of 32 inches between the backs of chairs at each desk and other objects; provide additional buffering from desk to wall or other fixed items when possible.
- Maintain a minimum clearance of 12 inches between the desk and the Activity Zone denoted by Zone# in the diagram.
- During activities for this configuration, students are expected to maintain their location to a fixed spot.
- Linear movement activities are possible along the left and right side in this type of plan but are discouraged based on inadequate buffer zones adjacent to desks.
- The number of desks per classroom is optional and based on attendance.





### Isolated Scheme 1 (left) and 2 (right)

- B Buffer zone
- D Location of desk on axis
- Z Zone
- # Number of desks per this configuration (40 total)

# **Linear Schemes**

### **Linear Scheme Guidelines**

- Maintain a minimum clearance of 32 inches between the backs of chairs at each desk and other objects; provide additional buffering from desk to wall or other fixed items when possible.
- Maintain a minimum clearance of 12 inches between the desk and the Activity Zone denoted by Zone# in the diagram.
- During activities for this configuration, students can engage in linear movement and activities where they maintain a fixed location.
- Linear movement activities are possible along the left (Linear Scheme 1) or right (Linear Scheme 2) in this type of floor plan. Maintain a 12-inch buffer zone adjacent to desks.
- The number of desks per classroom is optional and based on attendance.



### Linear Scheme 1(left) and 2 (right)



- B Buffer zone
- D Location of Desk on Axis
- Z Zone
- # Number of desks per this configuration (36 total)

# **Turning Schemes**

### **Turning Scheme Guidelines**

- Maintain a minimum clearance of 32 inches between the backs of chairs at each desk and other objects; provide additional buffering from desk to wall or other fixed items when possible.
- Maintain a minimum clearance of 12 inches between the desk and the Activity Zone denoted by Zone# in the diagram.
- During activities for this configuration, students can engage in linear movement and activities where they maintain a fixed location.
- Linear movement activities are possible along the left (Turning Scheme 1) or right (Turning Scheme 2) in this type of plan. Maintain a 12-inch buffer zone adjacent to each desk.
- The number of desks per classroom is optional and based on attendance.

### Turning Scheme 1 (left) and 2 (right)



- B Buffer zone
- D location of desk on axis
- Z Zone
- # Number of desks per this configuration (36 total)

# APPENDIX 2: InPACT ALIGNMENT WITH GRADE-LEVEL CONTENT EXPECTATIONS

The Michigan Grade Level Content Expectations for health education provide clear connections to building physical and social-emotional health through physical activity. Review excerpts from the expectations below:

# Health Education Expectations Grade 3 (excerpts)

## STRAND 1: Nutrition and Physical Activity

### Standard 1: Core Concepts

- Explain the benefits of healthy eating and being physically active.
- Describe the importance of choosing a variety of ways to be physically active.

### Standard 5: Goal Setting

- 1.5 Describe the elements of a physical activity plan.
- 1.6 Develop a personal plan to be physically active.

### STRAND 4: Social and Emotional Health

### Standard 1: Core Concepts

- 4.1 Explain the benefits of positive friendships.
- 4.2 Describe the characteristics of positive role models.
- 4.3 Recognize that each person has unique talents and skills.

### Standard 3: Health Behaviors

- 4.4 Describe ways people help each other.
- 4.5 Describe a unique talent or skill of oneself and one other person.
- 4.6 Explain ways to show acceptance of differences.

### Standard 4: Influences

• 4.7 Analyze how friends influence others' behavior and well-being.

### Standard 7: Social Skills

- 4.8 Demonstrate ways to express appreciation.
- 4.9 Demonstrate strategies for keeping positive friends.
- 4.10 Demonstrate how to confront annoying behavior.

### Standard 8: Advocacy

• 4.11 Demonstrate the ability to support and respect people with differences.

# Health Education Expectations Grade 4

### **Standard 3: Health Behaviors**

• 1.6 Assess one's ability to include physical activity, rest, and sleep in one's daily routine.

### STRAND 4: Social and Emotional Health

(Note: Teaching these standards is central to the implementation of an effective Positive Behavior Support system.)

### Standard 1: Core Concepts

• 4.1 Describe the effects of teasing and bullying on others.

### Standard 2: Access Information

• 4.2 Describe the characteristics of people who can help make decisions and solve problems.

### Standard 3: Health Behaviors

- 4.3 Apply the use of positive self-talk to manage feelings.
- 4.4 Describe strategies to manage strong feelings, including anger.

### Standard 6: Decision Making

- 4.5 Explain the decision-making and problem-solving steps.
- 4.6 Apply the steps to make a decision or solve a problem, using criteria to evaluate solutions.

### Standard 7: Social Skills

- 4.7 Describe characteristics and steps of conflict resolution.
- 4.8 Apply the steps of conflict resolution.
- 4.9 Demonstrate non-violent conflict resolution strategies.
- 4.10 Explain what to do if you or someone else is being teased or bullied.
- 4.11 Express intentions to stop bullying as a bystander, perpetrator, or victim.
- 4.12 Demonstrate the ability to confront bullying and teasing.

# Health Education Expectations Grade 5

### Standard 5: Goal Setting

• 4.7 Set a personal goal and plan the steps necessary to achieve the goal.

### **Standard 6: Decision Making**

- 4.8 Describe the characteristics of people who can help make decisions and solve problems.
- 4.9 Explain the decision-making and problem-solving steps.
- 4.10 Demonstrate making a decision or solving a problem, using criteria to evaluate solutions.

### Standard 7: Social Skills

- 4.11 Demonstrate effective listening strategies.
- 4.12 Demonstrate how to communicate assertively.
- 4.13 Apply the steps of conflict resolution to a real or hypothetical situation.

### Standard 8: Advocacy

• 4.14 Advocate for a caring school environment.

# Health Education Expectations Grade 6

### STRAND 1: Nutrition and Physical Activity

### Standard 1: Core Concepts

- 1.1 Analyze the benefits of healthy eating and being physically active.
- 1.2 Identify the causes of foodborne illness.
- 1.3 Explain how weight management is influenced by healthy eating and being physically active.

### Standard 3: Health Behaviors

- 1.4 Describe the federal dietary guidelines and the amount of physical activity recommended for one's age to achieve health benefits.
- 1.5 Describe strategies for dealing with personal preferences, restrictions, and barriers related to healthy eating, adequate sleep, and physical activity.
- 1.6 Describe environmental influences that encourage or discourage physical activity.
- 1.7 Develop a dietary and physical activity plan for a week that is consistent with the dietary guidelines.
- 1.8 Demonstrate the ability to support others to choose healthy foods and be physically active.

### **Standard 6: Decision Making**

- 4.6 Describe the decision-making and problem-solving steps.
- 4.7 Demonstrate the ability to make a decision or solve a problem, using criteria to evaluate solutions.

### Standard 7: Social Skills

- 4.8 Describe the characteristics of conflicts that can be resolved and the steps of effective conflict resolution.
- 4.9 Demonstrate the ability to use the steps of conflict resolution.
- 4.10 Demonstrate effective listening strategies.
- 4.11 Demonstrate the ability to use assertive communication skills appropriately.

# APPENDIX 3: WORKBOOK ACTIVITIES ANSWER KEY

### Answer Key:

### Activity 1

- Video 1 was the lower intensity video.
- Video 2 was the higher intensity video.

### Activity 2

- Finding exercise videos
- Coach D Video #55 evaluation answers

### Finding exercise videos

Coach D Video #55 evaluation answers:

Audio quality	1
Matching modality	2
Signaling	0
Instructional objective	2
Met objective	2
Call to action	1
Bias	2
Learner engagement	2
Content organization	2
Segmenting	2
Weeding	2
Total	19

# REFERENCES

- Nader PR, Bradley RH, Houts RM, McRitchie SL, O'Brien M. Moderateto-vigorous physical activity from ages 9 to 15 years. JAMA. 2008;300(3):295-305.
- 2. Centers for Disease Control and Prevention. 1991-2017 High School Youth Risk Behavior Survey. 2018.
- 3. Nike, Inc. Designed to Move: A physical activity action agenda. 2012.
- Falkner NH, Neumark-Sztainer D, Story M, Jeffery RW, Beuhring T, Resnick MD. Social, educational, and psychological correlates of weight status in adolescents. *Obes Res.* 2001;9(1):32-42.
- Olshansky SJ, Passaro DJ, Hershow RC, et al. A potential decline in life expectancy in the United States in the 21st century. N Engl J Med. 2005;352(11):1138-1145.
- 6. Institute of Medicine. *Educating the student body: taking physical activity and physical education to school.* Institute of Medicine;2013.
- 7. United States Department of Education. A guide to education and no child left behind. Washington DC: United States Department of Education;2004.
- 8. Beighle A. *Increasing physical activity through recess*. San Diego, CA: Robert Wood Johnson Foundation;2012.
- 9. Carlson JA, Mignano AM, Norman GJ, et al. Socioeconomic disparities in elementary school practices and children's physical activity during school. *Am J Health Promot.* 2014;28(3 Suppl):S47-53.
- Fernandes M, Sturm R. Facility provision in elementary schools: correlates with physical education, recess, and obesity. *Prev Med.* 2010;50 Suppl 1:S30-35.
- Turner L, Chaloupka F, Chriqui JF, Sandoval A. School policies and practices to improve health and prevent obesity: national elementary school survey results: school years 2006-7 and 2007-2008 Vol.1. Chicago, IL: Institute for Health Research and Policy; 2010.
- 12. Young DR, Felton GM, Grieser M, et al. Policies and opportunities for physical activity in middle school environments. *J Sch Health*. 2007;77(1):41-47.
- 13. Rideout V, Foehr UG, Roberts DF. *Generation M2: Media in the lives of 8-to-18 year olds.* Washington, DC: Kaiser Family Foundation;2010.
- United States Congress. Healthy Hunger-Free Kids Act of 2010, Public Law 111-296, 124 STAT 3183, codified as amended at 42 USC 1751 S.3307. In: United States Congress, ed2010.
- 15. United States Congress. Child Nutrition and WIC Reauthorization Act. In: United States Congress, ed2004.
- 16. Obama M. Let's Move! Raising a healthier generation of kids. *Child Obes.* 2012;8(1):1.
- 17. United States Congress. Every Student Succeeds Act of 2015 Pub. L. No. 114-95 114 Stat. 1177. In:2015.

- Bassett DR, Fitzhugh EC, Heath GW, et al. Estimated energy expenditures for school-based policies and active living. *Am J Prev Med.* 2013;44(2):108-113.
- 19. Bartholomew JB, Jowers EM. Physically active academic lessons in elementary children. *Prev Med.* 2011;52 Suppl 1:S51-54.
- Donnelly JE, Greene JL, Gibson CA, et al. Physical Activity Across the Curriculum (PAAC): a randomized controlled trial to promote physical activity and diminish overweight and obesity in elementary school children. *Prev Med.* 2009;49(4):336-341.
- 21. De Meij JS, Chinapaw MJ, Kremers SP, Van der Wal MF, Jurg ME, Van Mechelen W. Promoting physical activity in children: The stepwise development of the primary school-based JUMP-in intervention applying the RE-AIM evaluation framework. *Br J Sports Med.* 2010;44(12):879-887.
- 22. Katz DL, Cushman D, Reynolds J, et al. Putting physical activity where it fits in the school day: preliminary results of the ABC (Activity Bursts in the Classroom) for fitness program. *Prev Chronic Dis.* 2010;7(4):A82.
- 23. Kibbe DL, Hackett J, Hurley M, et al. Ten Years of TAKE 10!((R)): Integrating physical activity with academic concepts in elementary school classrooms. *Prev Med.* 2011;52 Suppl 1:S43-50.
- 24. Kriemler S, Zahner L, Schindler C, et al. Effect of school based physical activity programme (KISS) on fitness and adiposity in primary schoolchildren: cluster randomised controlled trial. *BMJ*. 2010;340:c785.
- 25. Liu A, Hu X, Ma G, et al. Evaluation of a classroom-based physical activity promoting programme. *Obes Rev.* 2008;9 Suppl 1:130-134.
- Whitt-Glover MC, Ham SA, Yancey AK. Instant Recess(R): a practical tool for increasing physical activity during the school day. *Prog Community Health Partnersh.* 2011;5(3):289-297.
- Hasson RE, Beemer LR, Ajibewa TA, Eisman AB. Adapting the InPACT Intervention to Enhance Implementation Fidelity and Flexibility. *Prev Sci.* 2021.
- 28. Beemer LR, Ajibewa TA, O'Sullivan MP, et al. Feasibility of the InPACT intervention to enhance movement and learning in the classroom. *Translational Journal of the ACSM.* 2018;3(18):136-151.
- 29. Beemer LR, Ajibewa TA, DellaVecchia G, Hasson RE. A Pilot Intervention Using Gamification to Enhance Student Participation in Classroom Activity Breaks. *Int J Environ Res Public Health*. 2019;16(21).
- 30. Guskey TR. Professional development and teacher change. *Teachers and Teaching: Theory and Practice.* 2002;8:381-391.
- 31. Fullan MG, Miles MB. Getting reform right: what works and what doesn't *Phi Delta Kappan.* 1992;73(10):745-752.
- Davis CL, Pollock NK, Waller JL, et al. Exercise dose and diabetes risk in overweight and obese children: a randomized controlled trial. JAMA. 2012;308(11):1103-1112.
- Mulvahill E. What is classroom management? <u>https://www.weareteachers.</u> <u>com/what-is-classroom-management/</u>. Published 2018. Accessed August 10, 2021.

- Heitzler CD, Lytle LA, Erickson DJ, Barr-Anderson D, Sirard JR, Story M. Evaluating a model of youth physical activity. *Am J Health Behav.* 2010;34(5):593-606.
- 35. Deterding S, Dixon D, Khaled R, Nacke L. From game design elements to gamefulness: defining gamification. Paper presented at: 15th International Academic Mind Trek Conference: Envisioning Future Media Environments; September 28-30, 2011, 2011; New York, NY.
- 36. Landers RN, Landers AK. An empirical test of the theory of gamified learning: the effect of leaderboards on time-on-task and academic performance. *Simul Gaming.* 2014;45:769-785.
- 37. Nicolaidou I, Tozzi F, Kindynis P, Panayiotou M, Antoniades A. Development and usability of a gamified app to help children manage stress: an evaluation study. *Italian Journal of Educational Technology*. 2019;27(2):105-120.
- 38. Althoff T, White RW, Horvitz E. Influence of Pokemon Go on Physical Activity: Study and Implications. *J Med Internet Res.* 2016;18(12):e315.
- 39. Harvard Medical School. Treating sports injuries. Harvard Health Publishing. https://www.health.harvard.edu/newsletter\_article/treating-sports-injuries. Published 2010. Accessed August 10, 2021, 2010.
- 40. United States Health and Human Services, Health NIo. Asthma & physical activity in the school: making a difference. National Heart Lung and Blood Institute;2012.
- 41. Nagy MR, O'Sullivan MP, Block SS, et al. Affective Responses to Intermittent Physical Activity in Healthy Weight and Overweight/Obese Elementary School-Age Children. J Phys Act Health. 2017;14(11):845-851.
- 42. Ajibewa TA, Lewis T, Beemer LR, et al. Classroom-based strategies to reduce disparities in physical activity among children with asthma. American College of Sports Medicine 66th Annual Meeting 2019; Orlando, FL.
- 43. Yancey AK, Grant D, Kurosky S, Kravitz-Wirtz N, Mistry R. Role modeling, risk, and resilience in California adolescents. *J Adolesc Health*. 2011;48(1):36-43.
- 44. National Center on Health, Physical Activity and Disability. Discover Inclusive School Wellness. Birmingham, AL: National Center on Health, Physical Activity and Disability; 2016. <u>https://www.nchpad.org/fppics/ NCHPAD\_Discover%20Inclusive%20School%20Wellness(1).pdf</u> Accessed November 21, 2021.

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NOTES



Improving the health and well-being of Michigan children and their families

**The need**: School closures during the COVID-19 pandemic eliminated many opportunities for youth to engage in structured exercise as many children lacked spaces to exercise or play sports in their neighborhoods.

## The partnership: School district

consultants, state and local legislators, regional school health coordinators, community outreach specialists, professional sports teams, behavioral interventionists, and implementation scientists across the state of Michigan came together to develop and disseminate a program to get kids moving at home.

**The program**: Interrupting Prolonged sitting with ACTivity (InPACT) at Home is an evidence-informed, home-based physical activity program that enables K-12 students to engage in health-enhancing physical activity during COVID-19 and beyond. The program includes a family engagement toolkit, physical activity play cards, which can be accessed in our interactive program website. Visit our program website at: **inpactathome.umich.edu**.





