



# Why are Wearable Sensors Important?

- True gauge of student exertion
- Students may be assessed objectively
- Accommodates individual differences among students
- Engages and motivates students using technology
- Leads students to assess their own performance
- Develops healthy decision-making
- Assesses cardiovascular fitness levels across class time
- **Quantifies moderate to vigorous physical activity (MVPA)**



Stillwater School District, MN

# Strategies to Improve the Quality of Physical Education

## The Current State of Physical Education

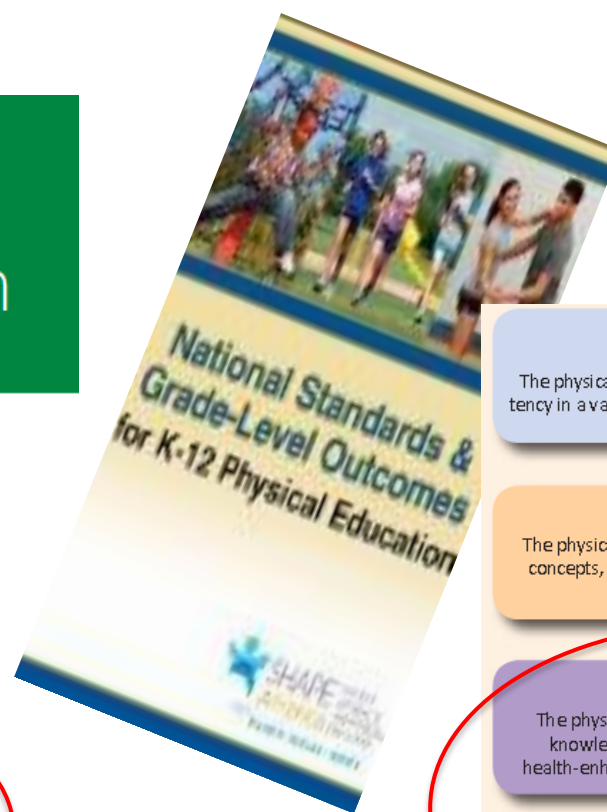
Physical education (PE) is an effective strategy to increase physical activity among young people. HHS recommends that students engage in MVPA for at least 50% of the time they spend in PE class—one of the most critical outcome measures in determining the quality of a PE program.



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention  
Division of Adolescent and School Health  
[www.cdc.gov/HealthyYouth](http://www.cdc.gov/HealthyYouth)



July 2010



### STANDARD 1

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

### STANDARD 2

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

### STANDARD 3

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

### STANDARD 4

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

### STANDARD 5

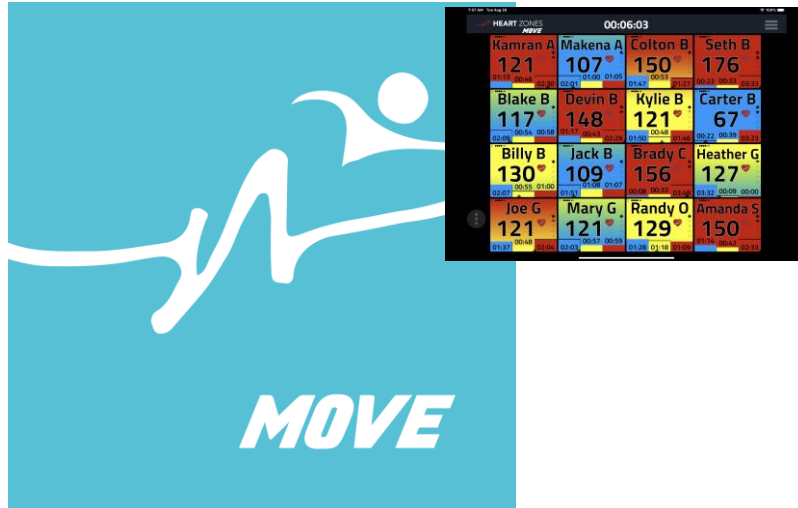
The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.



HEART ZONES

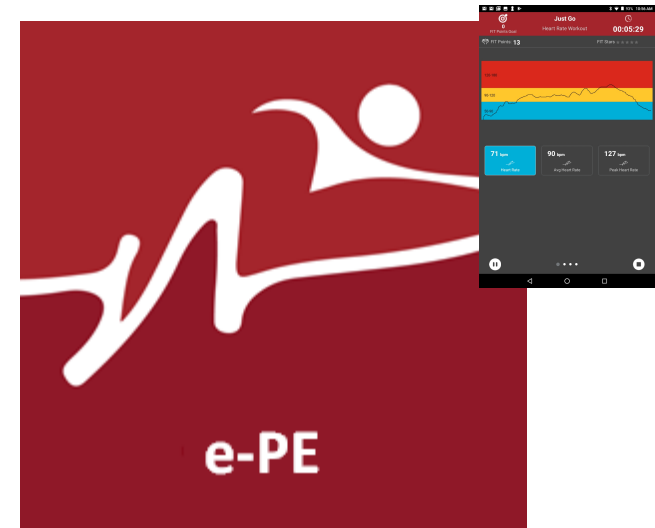
# Two Great Solutions

## In-Person PE



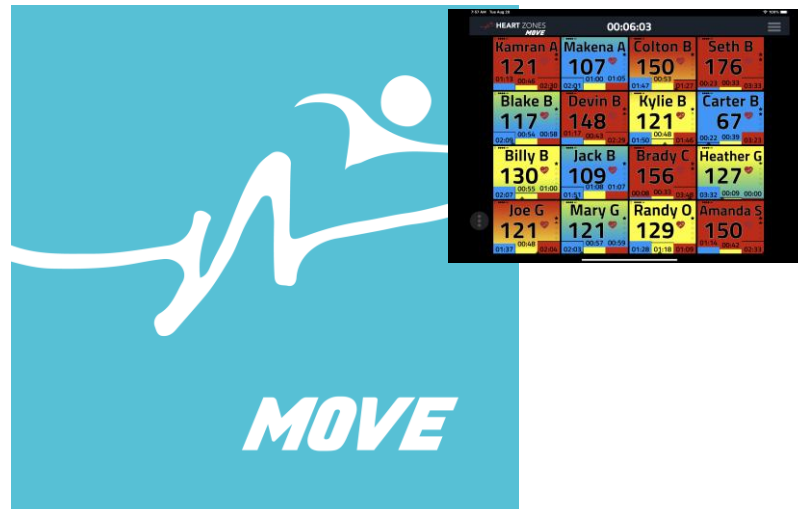
Heart Zones Move-  
Group Solution

## Online PE



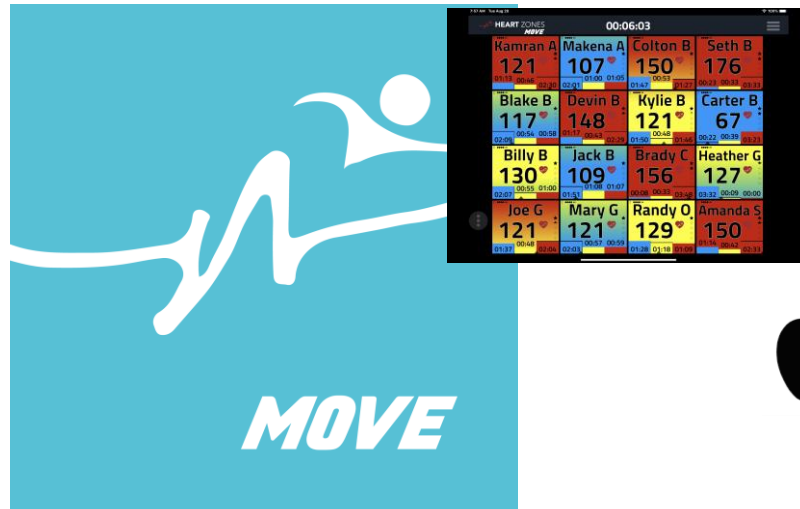
Heart Zones e-Physical Education  
(ePE) – On-line or Hybrid Solution

# Heart Zones Move - Group Solution



- On-site group solution
- Provides live group bio-feedback
- Live visual display for encouragement and motivation- Heart Zones Big Board
- Set class goals and view class summary data
- All data captured on your iPad and the Heart Zones Connect Portal
- %MVPA display to measure “moderate to vigorous physical activity”
- Provides activity FIT Points and activity FIT Stars for goal setting
- Automatically sets individualize heart rate zones
- No standing in line to pair sensors or off-load data

# Software Applications



## Heart Zones Move- Group solution

- iPad Mini
- iPad Standard
- iPad Air
- iPad Pro

## Software License

- License is to the iPad and to the location
- No annual fee's
- One-time purchase fee
- Lifetime free software updates



<https://tinyurl.com/TritonPublic>



# HOW IT WORKS



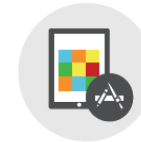
## 1. WEARABLE SENSORS

We recommend three specific Heart Zones sensors (see reverse side), but our system can connect to a wide range of devices. Blink Armband sensors contain a memory feature, no data loss during session.



## 2. DATA TRANSMISSION

Our unique bridge device connects the sensors to the iOS application. It is able to transmit and broadcast both BLE and ANT+ signals.



## 3. HEART ZONES PE APP

This application marries the technology with our federally patented heart rate zone training methodology. Compatible with iPad only.



## 4. DATA DISPLAYS

Our Heart Zones System "Big Board" shows real-time data in a clean and concise manner. It is viewable on iPad, Apple TV or via a projector screen.



## 5. THE CLOUD

The Heart Zones cloud storage system provides simple and scalable data storage, user management and report creation.



## 6. REPORTS

Automated and custom web based reporting features for both individual and aggregated data reports that are easily accessible to all stakeholders.



# Blink Armband and Blink 24

Heart Zones Blink 3.0 Plus



Heart Zones Blink 24

- Comfortably fits on the forearm
- Saves time: connects quickly with one button push
- Students don't have to lift shirt to put on
- 30-40 yard radius range
- On-board data storage when out of range, no data loss

# Blink Armband



- **Accurate**
- **Programmable: 3 individualized zones flashing colored lights that match**
- **Contains a 3-axis accelerometer to accurately capture steps**
- **24 hour lithium battery**

# Blink Armband



- Water resistant and works in water for swimming and water aerobics
- Rechargeable - no batteries to replace
- All class packs come with 4 sets of bands per sensor

# Boltt Step Tracker Sensors



- Measures “Movement”:
- Walk or run speed and pace
- Step Intensity: Easy blue, Moderate Yellow, Vigorous Red
- Calories Expended
- Distance
- Elapsed Time
- Comfortable on the ankle where it is the most accurate
- Half the price of a Blink Armband sensor
- Use for both the group display Big Board and the individual participant
- Can’t “game” it by shaking - must take a legitimate step
- Digital 3-axis accelerometer and not a mechanical pedometer



# The Heart Zones Bridge

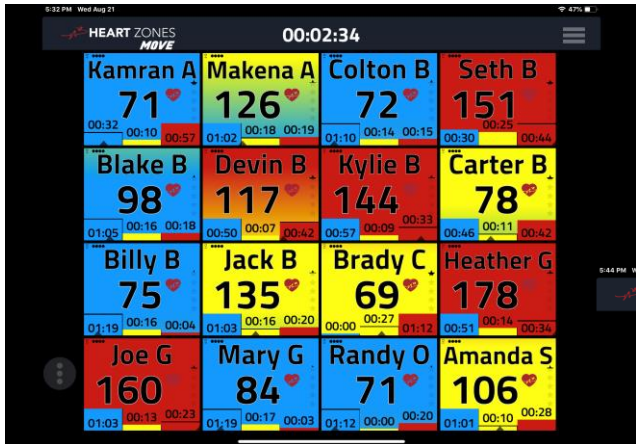


- Connects sensors to the iPad via ANT+ technology
- No standing in line to pair sensors or off-load data
- Greater coverage than ordinary BLU technology (30-40 yard range)
- Multiple Bridges can be connected to increase coverage
- Rechargeable - no batteries to replace
- 100 participants at one time



# The Big Board - 5 Displays

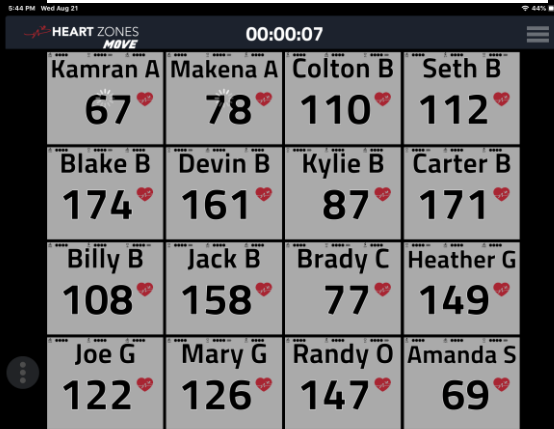
You Choose



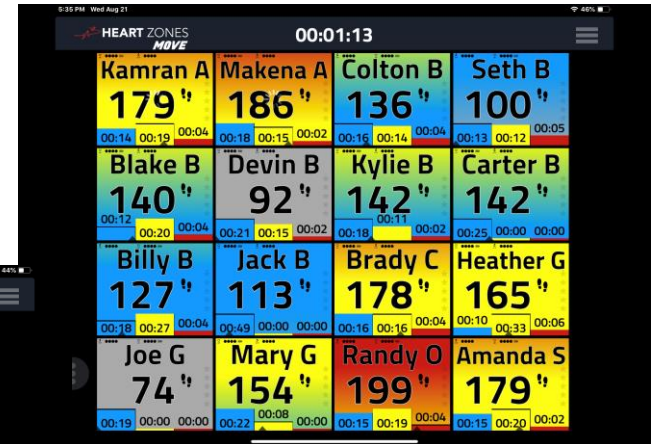
Heart Rate



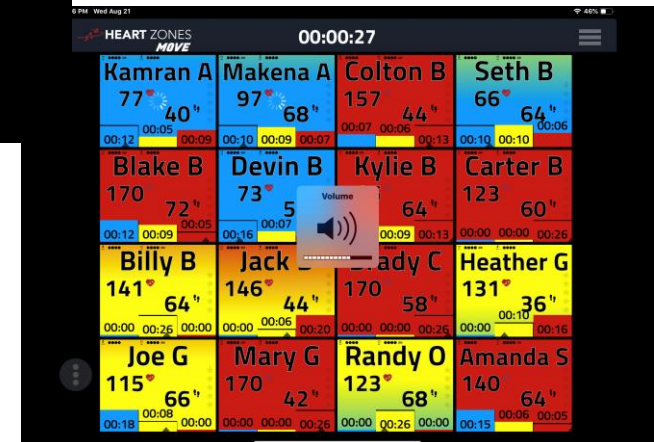
Indoor Cycling



Assessment

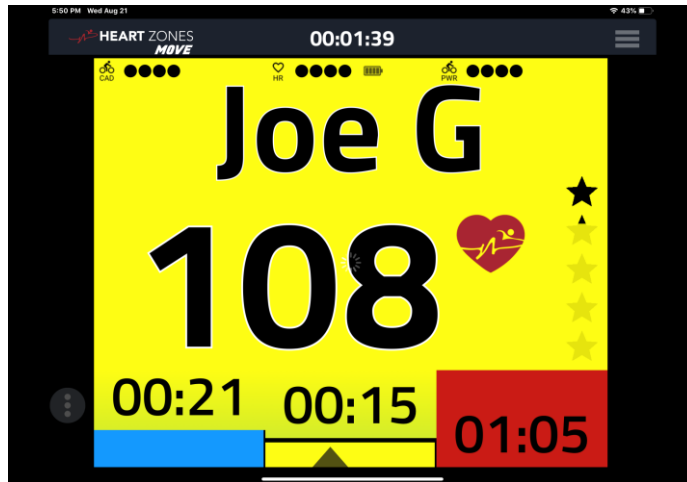


Activity Tracker

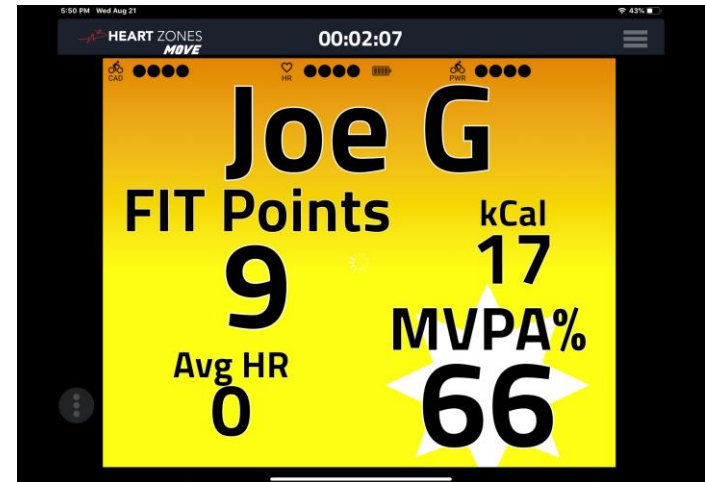


Heart Rate & Activity Tracking

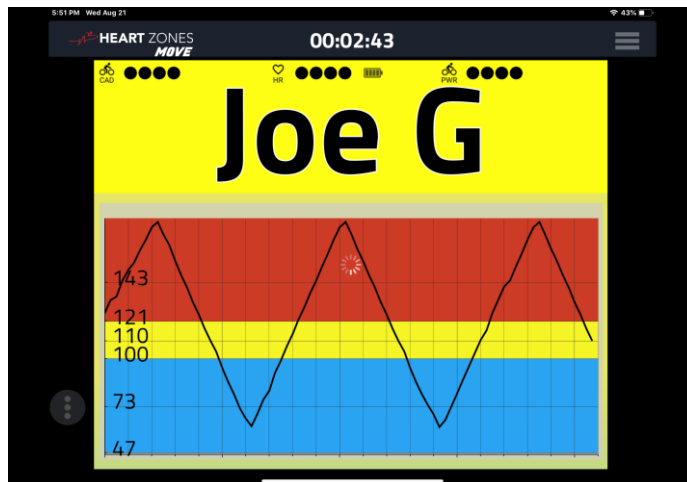
# Four-Sided Big Board Tiles



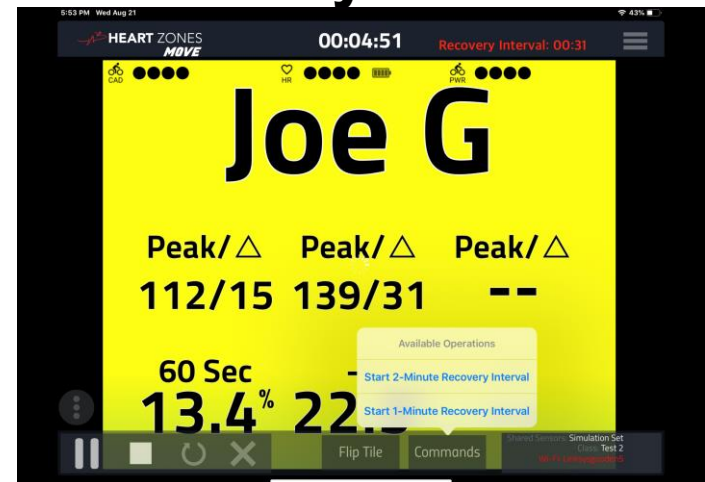
**Current Data Tile**



**Summary Data Tile**



**Historical Data Tile**



**Heart Rate Recovery Tile**

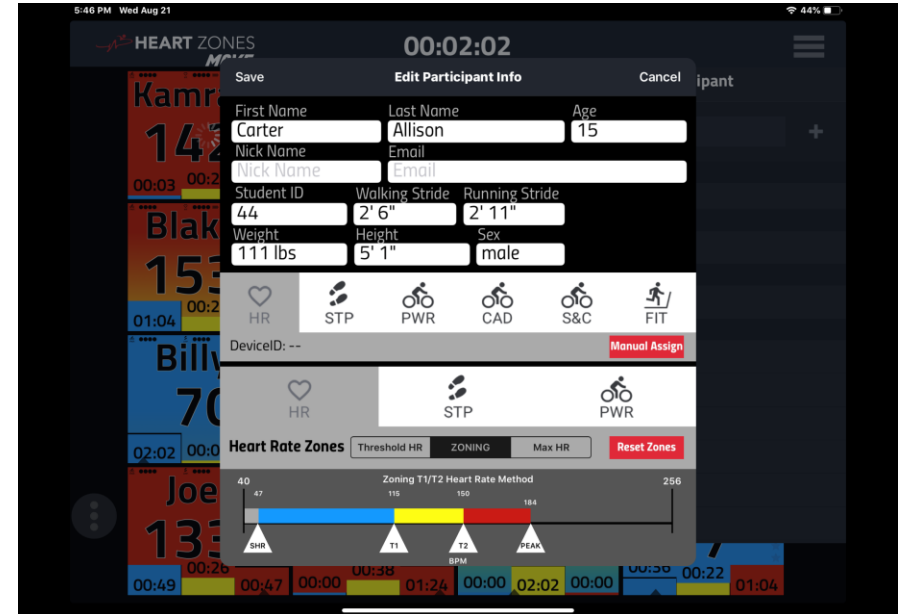


# Class Average Data Summary Screen



- Group goals setting
- Teacher lesson plan assessment

# “Save the Peak”... to automatically individualize heart rate zones



- “Save Peak Value During Session” feature allows you to run some type of “field” test (PACER test for example) to capture a participant’s peak heart rate, set the max heart rate for that participant, calculates zones for participant and save that information to the participant profile

# Heart Zones Connect Cloud Portal

May 27, 2020  
5:51 PM Wednesday

Last Class

Calendar

Date: 05/22/2020

Category: pe

Methodology: zoning

Participant Name: Test1 Participant1

Class Type: heart\_rate

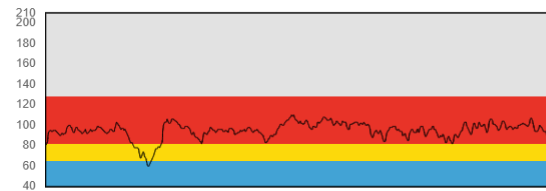
Participant ID:

Class Name: Test Course 2

Time in Zones



Heart Rate Profile



Heart Rate		Time in Zone		Scores		Session Time	
Average:	94 BPM	Blue Zone:	00:00:00 Min	Avg FIT Points:	32 Points	Activity Time:	00:21:04
Peak:	110 BPM	Yellow Zone:	00:00:57 Min	Total FIT Points:	96	Time in MVPA:	Min
Minimum:	60 BPM	Red Zone:	00:17:26 Min	Avg FIT Stars:	0	% Time in MVPA:	87%
				Total Cal Burned:	142 Kcals		

- View and create reports for Heart Zones Move and Heart Zones ePE
- View and create Individual and Class reports
- Create reports by class session or date range
- Individual, teacher or administrator can access portal
- Setup classes and create participant accounts

# In-App Individual and Class Summary Reports

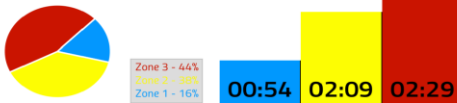
## ZONING™ Heart Rate Report



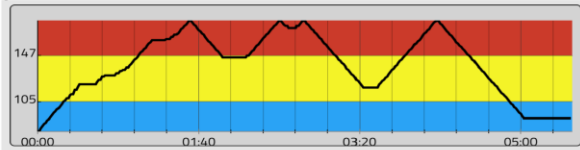
Name	Joe Gooden
Class	Demo 2
Date	06/02/2020
Start	08:43 AM
Finish	08:48 AM
Duration	0:05:24

User Metrics	
Avg HR	138bpm
Peak HR	179bpm
Min HR	78bpm
%MVPA	70%
MVPA Time	3:50
Points	20.9
kCal	67.8kCal
Zone Avg	2.7
Stars	1.2

Time In Heart Rate Zones



Zoning T1/T2 Heart Rate Method



Heart Zones, Inc. The Fitness Technology, Training, and Education Company for Smart Health & Fitness  
2636 Fulton Avenue Suite 100 | Sacramento, California 95821 | USA T 1-916-481-7283 | Skype: headheart | Fax: 1-916-330-4307  
@sallyedwards | Staff@HeartZones.com | Blog: <http://heartzones.com/blog/>

- Individual Summary pdf report
- Emails can be sent at the end of the class

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	date	time	teacher	class	participant	calories	HZPoints	duration	Zone1	Zone2	Zone3	averageHeartRate	peakHeartRate	location	latitude	longitude	category
2	7/14/2014	10:41 PM		Gym group	Debbie Anderson	7	4	0:00:36	0	0	36	166	179		44.9592	-93.2995	
3	7/14/2014	10:41 PM		Gym group	Peter Hillman	6	3	0:00:36	0	7	29	154	179		44.9592	-93.2995	
4																	

- The Class Summary Reports created as a .CSV file
- Class roster management system

# Heart Zones ePE- Individual Solution



Heart Zones Blink 24



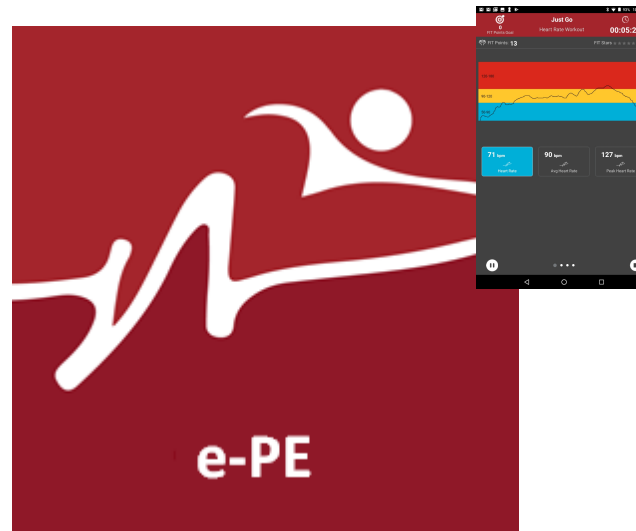
Heart Zones Blink 3.0



Heart Zones Atrio

- Heart Zones e-Physical Education – ePE
- Online, Hybrid and Distance Learning
- Supplement to your PE program
- Encourage and captures physical activity at home
- Syncs with Heart Zones Move app and Heart Zones Connect cloud portal
- Individual application for Apple iOS and Android
- Captures Heart Rate

# Software Applications



## Heart Zones Training- Individual solution

- iPhone
- iPad
- Android
- Web-base (Chromebook)

## Software License

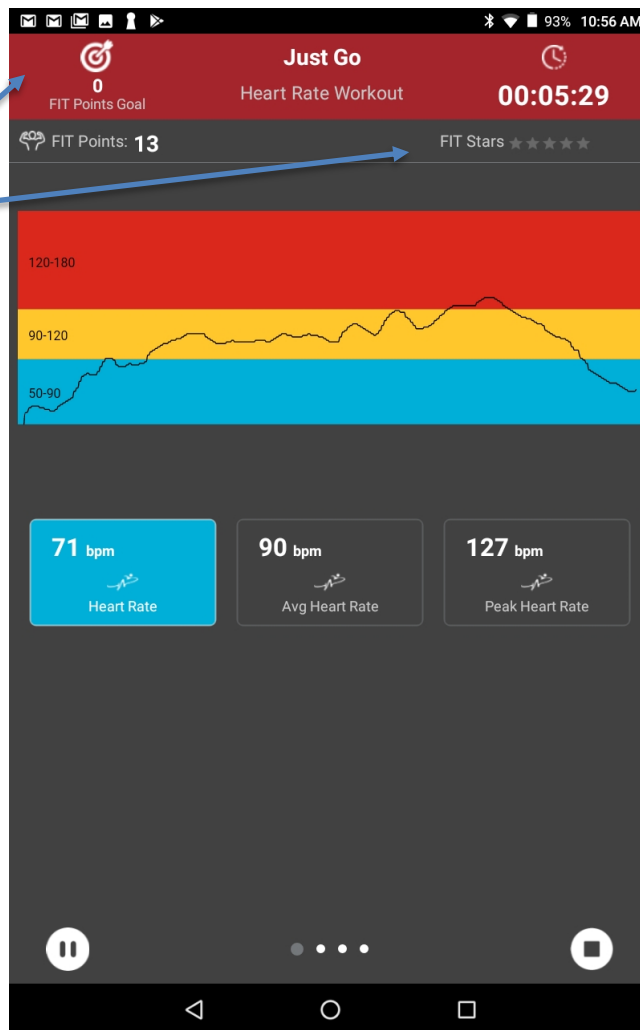
- Free application
- No annual fee's
- No Annual fee with purchase of Heart Zones Move
- Lifetime free software updates



# Heart Zones ePE- Live Screens

FIT Points and FIT Stars for goal setting

Current, average and peak heart rate



Total activity time

Graph of heart rate and heart rate zone over time

**Current Data Side**

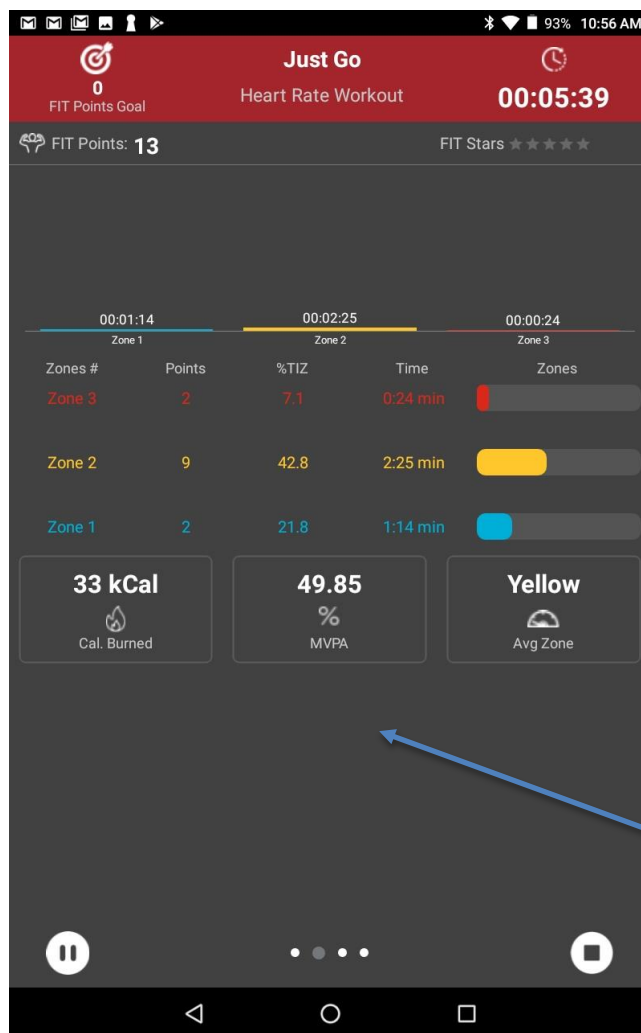




# Heart Zones ePE- Live Screens

Heart rate zone totals, time and percentage

Total calories burned during session



Graphical representation of Heart rate zone totals, time and percentage

Average zone during session

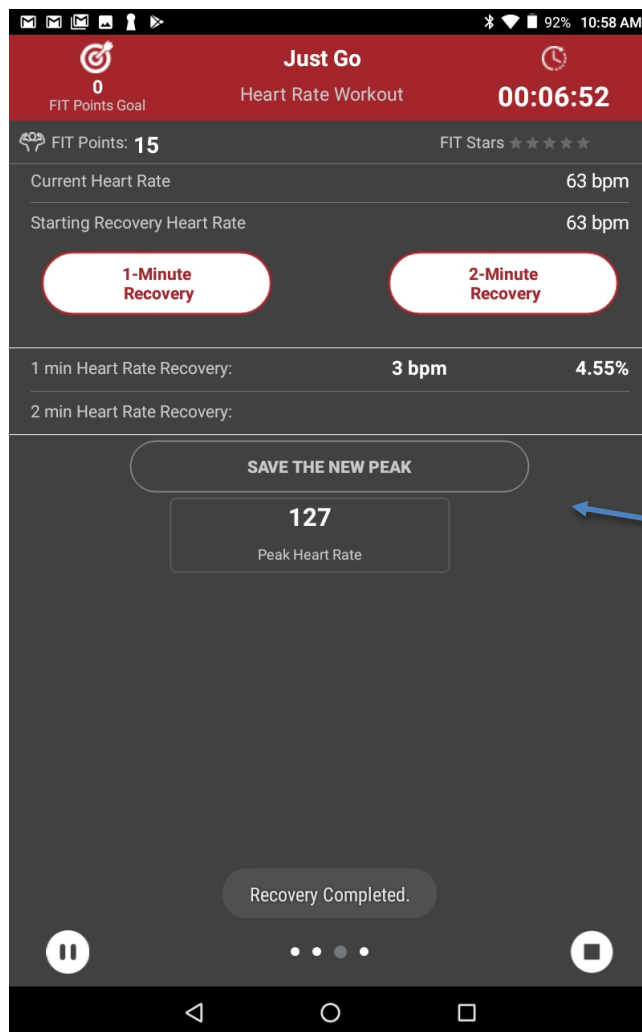
%MVPA for session

Historical Data Side



# Heart Zones ePE- Live Screens

One and two minute  
recovery heart rate test



Save the new  
peak heart rate  
for setting heart  
rates zones

## Heart Rate Recovery and Save the Peak

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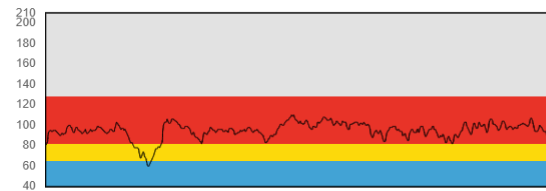
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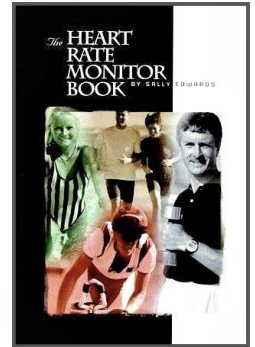
- View and create reports for Heart Zones Move and Heart Zones ePE
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# About The Company

Heart Zones, Inc. is recognized internationally as the experts in the development of programs, products, technologies, and specialty applications for physical education, health clubs, sports performance, weight management, personal training, cycling, and other physical activities.

## History

- **1983** Sold the first heart rate monitors in USA — CEO Sally Edwards' founder of Fleet Feet stores
- **1989** Developed the first heart rate training “system” in the world
- **1992** Wrote the first book ever-published - heart rate training
- **2000** Developed first school Physical Education curriculums
- **2010** Invented the Blink with flashing zones heart monitor, Blink sensor
- **2011** Awarded federal patent
- **2014** First group training system using an armband
- **2015** First multi-sensor system, heart rate and step sensors
- **2016** First 3-in-1 ANT+ sensor device: heart rate, step tracker  
Cadence, Blink 3.0 sensor
- **2017** First step tracking sensor + app: MVPA%, FIT points and  
pace zones
- **2019** Released Blink 24 sensor, 24-hour battery, on-board memory
- **2021** Launched e-Physical Education (ePE), online, hybrid, distance learning solution and new  
wrist-top sensor (Heart Zones Atrio)



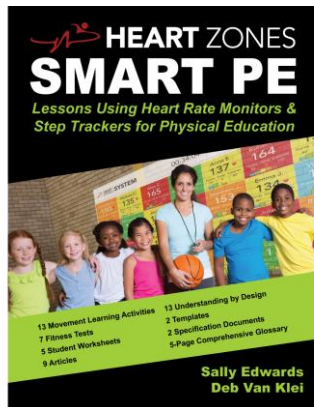
First book ever  
written on heart rate  
training by Sally  
Edwards



**HEART ZONES**

# Curriculum and Support

- New curriculum Smart PE: Heart Rate Monitors and Activity Trackers for Physical Education
- Wall Charts
- Workout cards
- DVD
- Workshops for Professional Development
- Presentations at National/State Conferences
- Showcase schools for you to visit
- Website support



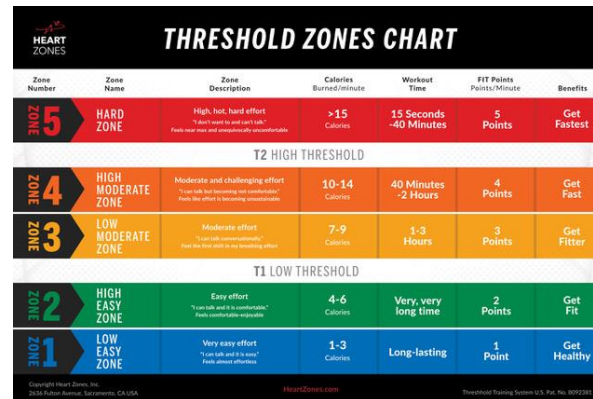
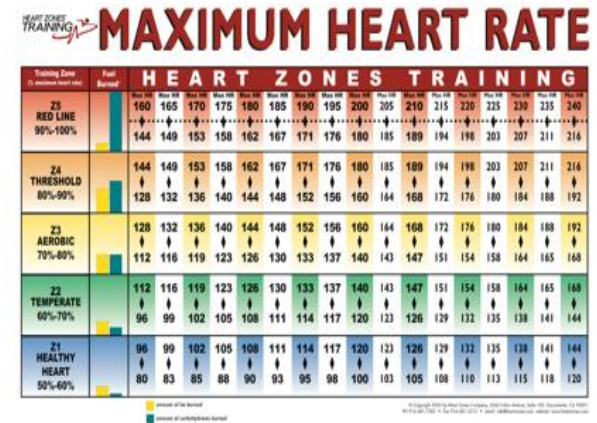
ZONING™ by HEART ZONES									
ZONES	TALK TEST	BENEFIT	WELLNESS ZONE	EFFORT	FUEL BURNED	CALORIES BURNED	**FIT POINTS	***MVPA	TIME IN ZONES
<b>RED</b> VIGOROUS	"I can't talk comfortably."	Get fast	Performance	Hard		Burn lots of calories	Five points	✓	Short
HIGH THRESHOLD									
<b>YELLOW</b> MODERATE	"I can talk but it is not comfortable."	Get faster	Fitness	Moderate		Burn some calories	Three points	✓	Most
LOW THRESHOLD									
<b>BLUE</b> EASY	"I can talk and it is comfortable."	Get fit	Health	Low		Burn some calories	One point	—	Some

\*\*FIT Points™ = Frequency x Time (min) x Zone Number. \*\*\*MVPA = Moderate to Vigorous Physical Activity. ©2014 Heart Zones, Inc. • 1000 Fulton Avenue Suite #100, Sacramento, CA 95811, USA • www.HeartZones.com • 1-877-361-1288



# Based on Science

**Federally Patented:**  
Only US patent ever  
awarded a cardio training  
system



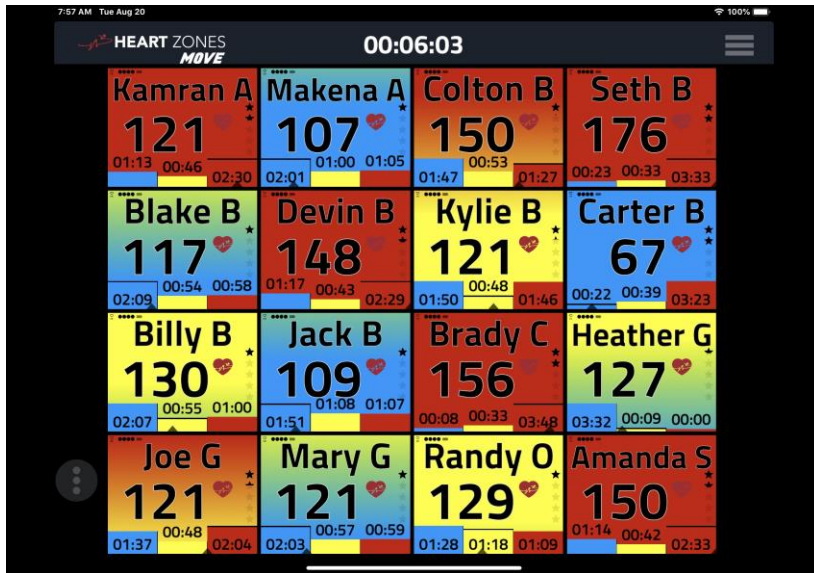
**Max Training System**  
5 Zones and 1 Maximum  
Heart Rate

**Threshold Training System**  
5 Zones and 2 Thresholds

**ZONING Training System**  
3 Zones and 2 Thresholds



# Why the Heart Zones System?



- No Yearly fees
- On-site and off-site companion applications
- Heart Zones Connect Cloud Portal allows you to manage the apps and data
- Developed by PE Teachers for PE Teachers
- Uses the world's top-rate forearm sensor, the Blink Armband
- With on-board data storage when out of range, no data loss
- Live visual display for encouragement and motivation - the Big Board
- Captures "moderate to vigorous physical activity" % (MVPA)
- Allows for the automatic personalization of heart rate zones and MVPA
- Provides activity points for goal setting
- Captures both heart rate and steps



# Why the Heart Zones System?



- **Step Tracker:** There are two types of step tracking sensors and methods using foot pods or armbands
- Includes four (4) bands per sensor for hygiene purposes
- On-line video training
- 14 Big Board displays with 3 sided tiles for more fun and data visibility
- Real time, wireless data retrieval (no standing in line to download data)
- Live visual display for encouragement and motivation - the Big Board
- First to capture a 1 and 2 minute Recovery Heart Rate to demonstrate current fitness levels

# Why the Heart Zones System?



- **Future Proof, as technology changes, so will the Heart Zones System**
- **Greater Range than ordinary BT technology**
- **Free updates for life**
- **Open system: Heart Zones System works with most wearable devices made by Timex, Suunto, Garmin, Heart Zones and others**
- **3 different professional development courses from the pioneers and experts in step and heart rate methodology**

# Why the Heart Zones System?

## •Simplicity

10 seconds to start a class, including putting on the sensor



HEART ZONES

# THANK YOU!



## HEART ZONES

[www.heartzones.com](http://www.heartzones.com)



HEART ZONES