



The Brain Fit Center

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Exercise and the Brain

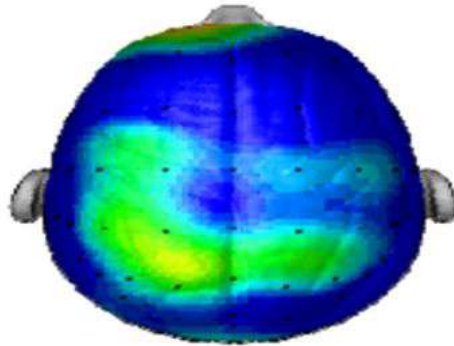
“Exercise is like Miracle-Gro for the brain, it puts the brain of the learners in the optimal position for them to learn.”

John Ratey, MD

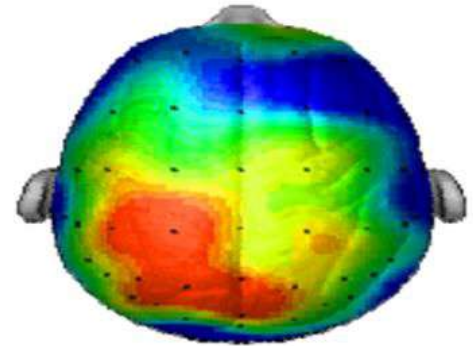
Harvard Medical School

Average composite of 20 student brains taking the same test

Brain after sitting quietly

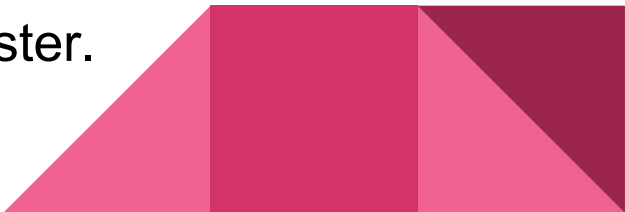


Brain after 20 minute walk



Slide compliments of Dr. Chuck Hillman University of Illinois

Thirty minutes of exercise has the following benefits:

- Repetitive gross motor movement strengthens secondary dendritic branching (the part of the neuron that remembers details).
 - Daily exercise cements the details learned in the last 48 hours, making a case for daily physical activity.
 - Neurogenesis: Growth of new brain cells in the hippocampus (learning and memory center of the brain)
 - BDNF (brain derived neurotrophic factor) causes neurons to fire more efficiently.
 - Oxygen and glucose (brain fuel) get to the brain faster.
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Student Self Assessment



Having self assessments empowers our students to:

- grade themselves fairly
- push themselves to work harder
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Rubric



Description	10	9	8	7	6	5
Engagement	Engaged in designed workout throughout entire block. (All drills completed)	Engaged in designed workout throughout most of the class block. (3/4's of drills completed)	Engaged in designed workout during portions of the class block. (2/3 of drills completed)	Sporadically engaged in designed workout during the class block. (1/2 of drills completed)	Rarely engaged in designed workout during the class block. (1/4 drill completed)	Didn't engage in workout
Efficiency	Works with optimum efficiency to obtain peak physical conditioning.	Works with above average efficiency to obtain peak physical conditioning.	Works with average efficiency to obtain peak physical conditioning.	Works with below average efficiency to obtain peak physical conditioning.	Works with poor efficiency to obtain peak physical conditioning.	Works with no efficiency to obtain peak physical conditioning.
Proper technique	Demonstrates proper technique at all times.	Demonstrates proper technique a majority of the times	Demonstrates proper technique sometimes.	Demonstrates proper technique rarely.	Demonstrates proper technique rarely.	Demonstrates proper technique never
Safety	Demonstrates proper safety at all times.	Demonstrates proper safety a majority of the time.	Demonstrates proper safety sometimes.	Demonstrates proper safety rarely.	Demonstrates proper safety hardly ever.	Demonstrates proper safety never.
Participation	Always on task, following lead teacher without prompting, energetic and highly motivated in all parts of class.	Active participation in all parts of class, cooperative and contributing member of the class most of the time, lacks consistent intensity, does not need verbal prompting.	Inconsistent participation in various parts of class, at times needs verbal prompting, cooperative member of class most of the time, lacks consistent intensity.	Participates in some parts of class, but inconsistently & only for short periods of time, does not respond to verbal prompting, displays very little desire to improve or be active, behavior has a negative influence on peers.	Lacks participation in most parts of class, does not respond to verbal prompting, and displays no desire to improve or be more active, behavior has a negative influence on peers.	Doesn't participate at all.

Workouts



Students view their workouts in Google Classroom and their partner enters their score.

Workouts have levels.
Students choose their own level and goals.

Exercise Level 1	Level 2	Round 1	Round 2
Planks	Hand-release Push-ups		
Jogging line to line	Sprints line to line		
Sumo DL High Pulls	Kettlebell swings		
Oblique sit-ups	Oblique sit-ups with Med ball		
Step-ups	Box Jumps		

Exercise Level 1	Level 2	Round 1	Round 2
Planks	Hand-Release Push-ups		
Burpees with a step	Burpees with a jump		
Air Squats	Squat jumps		
Goblet squats with light weight	Goblet squats with heavier weight		

Workout Examples

Data Collection

Students record their scores and save their data.

During Marking Period 3 students repeat workouts and see their own improvements.

The numbers speak for themselves.

The students feel empowered to workout even more.



$$\begin{array}{c} 2 > -3 \\ 0.999... = 1 \\ \pi \approx 3.14 \\ \sqrt{2} \\ 1 + 2 \cdot 3 \\ 5(2 + 2) \end{array} \begin{array}{c} + \\ - \\ \times \\ \div \\ 5^2 \\ (1 - 2) + 3 \end{array} \begin{array}{c} \infty \\ 101_2 = 5_{10} \end{array}$$

Let's get Moving

6 Stations

Partner work

1 Minute rounds

With a partner you are going to perform each exercise for 1 minute. When “partner 1” goes, “partner 2” will count repetitions, provide proper feedback, and motivate their partner and record their scores. Then we will switch partners.

After each partner has gone once we will rotate to the next station.



Brain Fit Center

Peer Motivation

Students choose their own partner to be their support, cheerleader and score keeper.



Creating a culture



Workout with your students

Be their biggest cheerleader

Positive talk (teach them positive self-talk)



Adding to the workout



Keep workouts short.

*10-20 minutes total

*Change it up

Switch to another activity ½ way through the class

*yoga, individual or dual sport, PA or a game



FitnessGram Scores

Working with our Freshman in the Fitness Center 2 times a week, doubled or even tripled their FitnessGram scores by the end of the year.

“I couldn’t even do a push-up at the beginning of the year. Now I can do 20.” Eryn McMahon (CCTEC student)



Questions?

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