

## TECHFIT Afterschool Program for Middle School Students

August 2014 – November 2014 at students' school

Week	Activity/Learning Objective
1	Introduce students to commercial exergames (DDR, Wii)
	Fitness testing & learn use of heart rate monitors/digiwalkers
	Discuss the science behind 1) the physiological response to fitness activity and 2) the exergame technology.
	Introduce Engineering Design Process (EDP) and the project
2	Introduce spreadsheets
	Introduce Scratch for exergame animations
	Introduce Inventor
	Introduce nanoNavigator
3	Apply EDP to simulate exergame
	Introduce automation technologies, including <b>safety</b>
	Play fitness games
4	Learn basic concepts of input/output and event driven programming
	Discuss roles of science and math in exergame development
	Review exergame-related examples
5	Apply EDP to exergame design/development
	Discuss the criteria for game development
	Brainstorm exergame ideas & present to group
	Evaluate exergame proposals based on fitness parameters, toolkit components, safety, flexibility, and fun
6	Apply EDP to exergame design/development
	Select best game idea & form teams
	Review tasks & develop plan for completing tasks
7-8	Apply EDP to exergame design/development
	Perform game development activities
	Test games
	Develop promotional materials (in parallel)
9	Develop animation (in parallel)
	Continued game development and testing, including safety
10	Plan showcase presentation (in parallel)
	Prepare for showcase
Show-case	Demo game at school assembly
	Compete in showcase at Purdue/CofC