iFLY Education Program – New Jersey
Middle School Standards Alignment

New Jersey Student Learning Standards

OBJECTIVES	STANDARDS
Interactive Presentation: • Recall what each letter of the STEM acronym stands for and list career examples for each letter. • Give examples of how STEM is used to solve real world problems. • Describe the engineering design process and how it applies to the evolution of indoor skydiving simulators. • Explain why the iFLY wind tunnel fans are located above the flight chamber. • Define speed, velocity and acceleration and how each applies to skydiving. • Identify the forces acting on a skydiver. • Recognize that the force of weight remains constant and the force of drag is variable. • Determine that terminal velocity is when the force of weight is equal to the force of drag. • Discuss the difference in frames of reference between the wind tunnel and skydiving (i.e. in the wind tunnel the flyer is still and the air is moving, while in skydiving the air is still and the skydiver is moving). • Explain why different objects need varying amounts of wind to make them fly in the wind tunnel.	Science: MS-PS2-1 MS-PS2-2 MS-PS2-4 MS-ETS1-1 MS-ETS1-2
Physics Demonstration: • Examine the physical attributes of the objects used for the demonstration. • Rank the objects from least to greatest mass and then from least to greatest frontal area. • Predict which objects will fly at faster velocities and justify your predictions with evidence. • Observe and describe the behavior of a variety of objects in the wind tunnel. • Recognize that water will separate into droplets when poured into the wind and those droplets have a terminal velocity based on their mass and frontal area. • Record the terminal velocity for each object, compare predictions to actual outcomes and discuss any differences.	Science: MS-PS2-2 Math: MP.1-8 6.G.A.1 6.SP.B.5