

EVERHART MUSEUM

On The Road

The Science of Superheroes

Type of Program:	Assembly
Student Min/Max:	30/75
Date(s):	By appointment
Time:	90-minute Presentation
Cost:	\$600 – Schools within Lackawanna County \$600 + <i>mileage</i> – Schools outside of Lackawanna County <i>Free</i> - schools who participate in our EITC program

Tech rider / Space Requirements:

- Large Open Space (gymnasium or cafeteria) to hold up to 75 students.
- Area for projection screen/wall.
- Five tables 6'-8' tables that are moveable.
- One small table for projector and equipment.
- Available power source and 10 – 20 foot extension cord if necessary.

Assembly Schedule:

- **Everhart Museum Staff Arrival for set up:** 1-hour pre-assembly
- **Arrival of students into assembly space:** 15 minutes prior to presentation
- **Welcome, introduction, group break up:** 10 minutes
- **Group Rotations**
 - **Station 1:** 15 minutes
 - **Station 2:** 15 minutes
 - **Station 3:** 15 minutes
 - **Station 4:** 15 minutes
 - **Station 5:** 15 minutes
- **Salutations:** 5 minutes
- **Everhart Museum Clean-up and Pack-out:** 30 minutes
- **Total Time: 180 minutes**

Educator/Administrator Instructions:

Students must arrive to the designated program space 15 minutes prior to Introductions. Name tags for each student are suggested as we may be calling on students for hands on activities. Students will be seated together for the first 10 minutes of the presentation, and then break up into the five designated groups. The five groups required for the program rotation should be evenly divided and pre-determined prior to the beginning of the assembly. School appointed educators to rotate with each group are recommended but not required.

Assembly Station Description:

STATION 1: MYSTIQUE -SHAPE SHIFTING / CAMOUFLAGE

Students will investigate how **adaptation** is important to the survival of creatures in both fantasy and reality. Some superhero and animal species are able to blend in with their **environments**. At this station, students will challenge their ability to detect **camouflage**. Featured at this station are: X-Men's Mystique, the Mimic Octopus, and the Mutable Rain Frog.

STATION 2: IRON MAN – JET BOOTS

With his use of technology, Tony Stark has the ability to transform himself from super-genius to superhero. But how exactly does he have the ability to fly? While at this station, students will investigate the laws of motion by testing **propulsion** and even attempting to make things hover like Iron Man!

STATION 3: ICEMAN – ICE SLIDES

Iceman has the ability to create unbreakable ice paths that allow him to get to the action quickly. In reality, ice will break when subject to stress and strain, but Iceman's ice will not break unless he lets it! At this station, students will experiment with **stress and strain** as they brainstorm and challenge each other to see who can create the strongest bridge!

STATION 4: TIGER SHARK- CREATIVITY MEETS FUNCTIONALITY!

Tiger Shark, formerly known as Todd Arliss, used to be an Olympic swimmer until one day he damaged his back and legs and was told he would never swim again. With the help of Dr. Dorcas' "Morphotron", Arliss was imprinted with the genetic pattern of a shark, giving him super abilities. At this station, students will investigate how **scientific research, design** and creativity play an important role in **product development**. Using Tiger Shark as an example, students will see how one company could create swimsuits that mimic the abilities of a shark moving through water.

STATION 5: SPIDERMAN – TENSILE STRENGTH

After creating his web-shooter, Spiderman had the ability to swing through the streets, catch falling objects, and even create webs to support not only him, but others as well. At this station, students will experiment with **tensile strength** and **force of gravity** to determine what material is strongest, and if gravity plays a role in the overall durability of the material being tested.