

Techsploration School Programs Are Offered in Two Formats: SHOWS AND WORKSHOPS

1. SHOWS:

- 45 Minutes to 1 hour
Large or Small Groups
- Auditorium or Gymnasium Setting

2. WORKSHOPS:

- 45 Minutes to 1 hour
- Limited to Approx. 30 Students

DURING WORKSHOPS, STUDENTS WILL:

- Experience "hands on" activities that reinforce concepts learned from individual shows.
- Build a variety of fun projects.
Apply scientific principles to solve real life problems.
- Receive specially designed worksheets for reinforcement.

All programs can be tailored to the individual needs of the school

"Excellent".

"(The students) were fully engaged during the show....."

"They loved it".

"...no down time....very organized".

"Superb program".

"Cool....funny...very positive".

"Well worth giving up a period (of classes) for!"

"The visuals were excellent and the explanationsvery clear".

"(Tom) was very energetic and enthusiastic- a great turn-on for science".
teachers and students in Ashland, MA

2008/2009 fees

One show or workshop\$ 800.00

Half day at same site.....\$ 1100.00

Full day at same site.....\$1300.00

Plus .75/mile travel fee.

Discount for New Hampshire schools

Techsploration programs are designed to introduce students to technology, science, math, and problem solving in a fun and exciting way. **Techsploration** uses a wide variety of methods - huge props, slides, juggling, and even balloon tying - mixed with lots of humor, to teach technological and scientific concepts. In addition to being fun, the activities are highly educational. They reinforce the school's curriculum, illustrate how concepts are applied to real life situations, and incorporate state standards.

Tom Wahle, the founder of **Techsploration**, is a certified technology education teacher with over 10 years classroom teaching experience. He has a BS degree in education, specializing in technology, industrial arts, and science education. He is the father of two children and has traveled extensively to schools throughout New England since 1998

Check Out

www.techsploration.com

To see videos of Techsploration shows and workshops, list of upcoming performances, and links to other science fun!

Like to see the fun?

Techsploration **demo video** now available.

Just ask and we'll send it to you.

Techsploration

Exploring science and technology

Traveling Science and Technology Shows and Workshops



"Our class loved your presentation and talked about it all day! It really got them thinking. Thanks so much for a super hour."

Ms. Van Dyke
Teacher
Washington St. School
Penacook, NH

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Techsploration
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ELECTRICITY and MAGNETISM

Show	Shocking Facts Of Electricity
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What is electricity and how is it made? Can you really make lightning? Can you generate a strong magnetic field using only a small battery. What are ohms and volts? In this exciting show we use audience participation, fun props, and spectacular demonstrations with such devices as a Van de Graff generator, Tesla coil, and even a light saber to show **basic laws of electricity and magnetism**.

Workshop	Circuits and Electricity
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How do you use circuits and electronics to get electricity to do what you want it to do? How does a motor work? What does a fuse do? In this hands on workshop the class uses a unique electronic building system to quickly **design and build basic electronic circuits**. They learn about basic electrical components such as resistors, switches, photo sensors, lights, motors, and electromagnets. Finally, they apply their new skills to build their own electrical devices.

SOUND

Workshop	Sound Science
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What is Sound? How do we hear? What is pitch? In this workshop we use lots of fun activities to show the **science behind sound**. Students make their own model ear drums, experiment with how sound travels, and build lots of devices that generate sound in different ways. This workshop definitely turns up the volume on science.

SIMPLE MACHINES

Show	Simple Machines Made Fun
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Can a student really lift their teacher using a lever? How were levers used in medieval warfare? How can you control force using gears and pulleys? Using a twelve foot long lever, three foot tall gears and pulleys, a catapult, and a hand crank music machine we **demonstrate how all simple machines trade force for distance to help us do work**. This is a whole new way to get the students excited about simple machines.

Workshop	Gearing Up For Speed
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What gear combination do you use to make your car go fast on level ground? Does that same combination work going up hill? Do belts and pulleys work better than gears? **Students use gears, belts and pulleys to build a transmission system for their motor driven cars**. They test their cars on up hill and down hill slopes, experimenting with different gear combinations to get the fastest, most efficient car possible for the various conditions. They learn how different gear combinations are used for different purposes. Using grade-appropriate math skills, the students use the data collected to determine why some gear combinations work better than others.

Workshop	Levers And Catapults
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What are the 3 types of levers? How did people in the middle ages use levers to make catapults? In this workshop students **experiment with the 3 classes of levers** and use their knowledge to design their own catapult and they fire away!

TRANSPORTATION

Show	Way To Keep Things Moving
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What is friction? How do rockets work? Can you really float on air? How do airplanes fly? Using rockets, jet cars, a hovercraft, a radio controlled blimp, a hot air balloon, and other fun props we **demonstrate the basic principles and history of transportation**. This presentation really gets the students' attention!

Workshop	Mag Lev - Trains Of The Future
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What is "mag-lev" anyway? Why can the trains go so fast? You mean they just float? In this hands on workshop the class **designs and builds their own magnetic levitation racer**. Students use safe, basic hand tools to build their prototype out of high density foam. They design and build a wind propulsion system for their racer and race them on an electronically timed mag lev track. Using grade-appropriate math skills the students use the data collected to determine how well their vehicle worked. This is a great problem solving workshop!

Workshop	Up, Up And Away
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Can you build a rocket that will go up several hundred feet? Can you measure how high it went while standing on the ground? What makes the rocket go? Here, students **design and build their own air water rocket**. Then we go outside to launch them! Next, students apply grade-appropriate math skills to determine how high their rockets flew and to evaluate their design. This is an exciting workshop. They can't believe how high the rockets go!

STRUCTURES

Show	Why Buildings Don't Fall Down
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What is the strongest shape? How did the Romans build structures 2000 years ago that are still being used today? Can you really stand on eggs? Can you build a bridge out of balloons? What is a truss? We use a ten foot truss bridge, a suspension bridge, a large block arch, slides, juggling, balloon tying and other props to demonstrate basic building principles.

Workshop	Now You're Building
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How long of a structure can you build? How can you make it more stable? **Using beams and connectors, students try their hands at building their own structures**. They learn to build trusses, towers, suspension bridges and arches. Finally, students work together to solve a construction problem using their new knowledge and design skills.

Workshop	Little Bridges Falling Down
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Have a little more time? In this workshop the students **design and build their own balsa wood truss**.

WEATHER

Workshop	The Science of Weather
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What is weather? What is air pressure and how does it affect weather? How is lightning formed? In this workshop we use hands-on experiments to **demonstrate basic science principals that effect our weather**. This is a fun way to get students to look at weather a whole new way.