



ROCKETS!



Dear Educator:

Thank you for choosing to bring your students to the Science Gallery. When you arrive, check in at the box office on the Planetarium level. For payment, you will be required to know the exact number of students and adults in your group.

Store outerwear, lunches, backpacks, etc. in the cloakroom in the lower level. No backpacks in the gallery. The Manitoba Museum is not responsible for loss or theft; valuables should be left at home or school.

For further information, please visit our website www.manitobamuseum.ca or call 988-0626.

Visiting the Science Gallery

After your program, you will be exploring the Science Gallery. Our exhibits are best enjoyed with the assistance of an adult – teachers are asked to divide the class into smaller groups assigned to adult supervisors.

Please note, washrooms and water fountain are located near the *Numbers Game* exhibit. There is no need to leave the gallery during your visit.

Science Gallery Rules

1. No running, please.
2. Out of respect for other classes and visitors, please use indoor voices.
3. Food and drink are not allowed in the gallery. No gum, please.
4. Before entering the Matrix –the room of mirrors– everyone must remove their shoes and put on the slippers provided. Please put your shoes back on your feet when you leave the Matrix.
5. Please read or listen to instructions before trying out the exhibits.

Class control remains the teacher's responsibility.

Please turn off cell phones or set the ring to silent during programs.

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Grade: 6-S4
Cluster: Flight
 Particle Theory of Matter
 Atoms and Elements
 Exploration of the Universe
Duration: 30 minutes

Program Outline:

This explosive series of experiments promises to blow you away. Discussing the ins and outs of rocket travel and Newton's third law of motion, each experiment ramps up the rocketry with a combusive combination of fuel, ignition and oxidizer. It ends with a big BANG. Earplugs not included.

Vocabulary

Here is a list of words we use during this program:

Rocket, combustion, fuel, ignition, oxidizer, liquid, gas, air, oxygen, nitrogen, hydrogen, carbon dioxide, thrust, gravity.

Pre-visit Suggestions:

1. Review Newton's third law of motion (for every action, there's an equal and opposite reaction). Create a list of situations where this law applies.
2. Discuss the various gases that make up air in Earth's atmosphere and other common gases.

Science Gallery

When your class is exploring the Science Gallery, have them take advantage of the following exhibits:

1. Micro-gravity Trainer – located in *Cosmos Corner*, this interactive exhibit allows users to experience the difficulty of working in micro-gravity. Using your arms, you pull yourself along in attempt to complete a series of challenges similar to what an astronaut performs on the International Space Station.
2. The Planet Scale –located in the *Cosmos Corner*, this scale is designed to weigh you (on Earth) and show you how much you weigh on other planets and satellites in our solar system. Where are you the heaviest? The lightest?