



**The Tech Show Video Science Workshop -
Lesson Plan for Instructors**

Episode One: Magnets!

Workshop Summary and Teacher Resources
Advanced Prep and Set-Up
Workshop Lesson Plan
List of Materials for Shopping

Tech Science Show: Magnet Episode - VIDEO WORKSHOP SUMMARY

Magnets can do more than hold your homework on the refrigerator! Students get the chance to learn about magnetism, and convey their knowledge through video so that they can then access and share it online.

Grade Level: 3-8

Educational Outcomes:

- Students will demonstrate their knowledge of magnetism.
- Students will learn about the applications of this principle in real life
- Students will have fun
- Students will become inspired and excited to participate in the Tech Challenge
- Students learn valuable presentation skills as they produce their own video: "The student becomes the teacher."

Estimated Time: 90 minutes

- Introduction to Science Topic and "Live Television Show" - 5 Minutes
- Introductory Science Presentation - 20 Minutes
- Hands-on work stations introducing magnet concepts - 10 Minutes
- Introduction to video production, break into teams - 5 Minutes
- Students create media to showcase what they've learned - 40 Minutes
- Wrap-Up /Final Presentations- 10 Minutes

California Science Content Standards Connection:

- Grade 2: Physical Science, 1., 1c., 1d., 1e., 1f
- Grade 4: Physical Science, 1., 1b., 1c., 1e.,1f.
- All Grades - Investigation and Experimentation: Scientific progress is made by asking meaningful questions and conducting careful investigations

Pre-Visit Vocabulary

These are words and concepts that we will discuss in the video workshop. Your students' experience will be enhanced if they are familiar with these terms prior to your visit.

Magnetism: In physics, magnetism is one of the forces in which materials and moving charged particles exert attractive, repulsive, or perpendicular to motion force on other materials or charged particles.

Magnetic Field: An invisible field produced by magnetic objects or electrical current. Magnetic fields are able to exert forces on magnetic materials and moving electric charges.

Magnet: An object that produces its own magnetic field.

Permanent Magnet: An object composed of magnetized material that produces its own persistent magnetic field.

Poles: The two ends, which are the regions of concentrated lines of force, are called the poles of the magnet. Magnets have two magnetic poles and both poles have equal magnetic strength.

Force: A force is anything that causes a change in the motion of a movable object, or that causes [stress](#) on an unmovable object

Electron: A sub-atomic particle that carries a negative electrical charge.

Electromagnet: A type of magnet in which the magnetic field is produced by electric current (the movement of electrons).

Magnetic Moment: A measure of the strength and direction of an object's magnetism.

Magnetic Domains: A small region of a material that has uniform magnetization.

Tech Museum Gallery Connections:

Innovator Gallery

Technology Benefiting Humanity exhibit-