



STEM Demonstration “Parts” List

The following is a list of items suggested for conducting the National VOA Museum STEM Outreach Presentation. The items here have been tested by us. Once you begin your presentations you may decide to add or subtract items from the demonstrations. We have found these items to be effective, affordable and reliable. They also engage most any age group. We welcome your feedback.

Magnetite

Magnetic Lodestone Magnetite Mineral, 1/2Kg

Price \$14.00

Ships from and sold by Amazon.



Standard Compass

Coghlan's Map Compass

Price: \$6.99

Ships from and sold by Amazon.com.



World's Simplest Motor

Sold by Amazon.com.
Part Number DOP - 10A
Price \$6.99



Galvanometer

United Scientific MGV002 DC Galvanometer, +/-500-0-500 μ A
Price: \$12.36
Ships from and sold by Amazon.com.



AC/DC Generator

Esco Labs Demonstration Motor Generator Activity Model
(AC/DC) Hand Powered
Price: \$67.77
Ships from and sold by Amazon.com



Batteries

3 -6 Volt Lantern Batteries

3- 9 Volt Batteries

Available at any Hardware Store or Home Center



Magnets

Delta Education N/S Painted Bar Magnet, 3" Length (Pack of 2)

Price \$7.95

Ships from and sold by Amazon.com



Dowling Magnets Alnico Bar Magnet 6" Long

Price \$12.74

Sold by [Court House Supplies](#) and [Fulfilled by Amazon](#).



Note you will need both sizes. The small colored magnets can be passed around for the kids to experiment with. The longer 6" bar magnet is used with the coil and galvanometer.

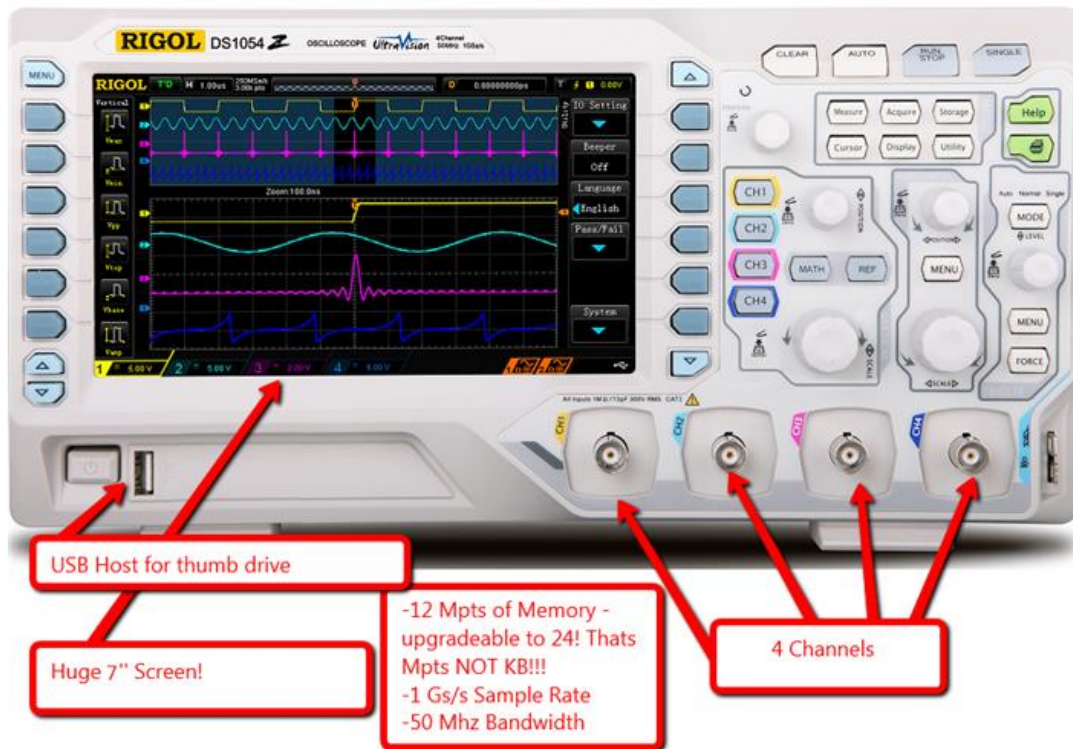
Various Patch Cords/Alligator Clips

(available at electronic parts stores and on line)



Oscilloscope

Rigol DS1054Z Digital Oscilloscopes - Bandwidth: 50 Mhz, Channels: 4, Sampling Rate: 1 GS/S
List Price \$399.00
Ships and Sold by [TEquipment](#)



Waveform Generator

Rigol DG1022A 25MHz Function / Arbitrary Waveform Generator

List Price \$ 499.00

Ships and Sold by [TEquipment](#)



Mini Windows 8 Computer

Acer Aspire Switch Touchscreen 2-in-one / Intel Atom Quad Core

Price \$279.99

Sold by Costco, Amazon and others



Note any source of music can be used but using a touch screen will engage the younger audience.

AM/FM Radio

Panasonic RF-2400 AM / FM Radio

Price \$31.95

Ships from and sold by Amazon.com



Note any AM radio can be sued. We chose this one because of the simple dial shows the various frequencies. Many new radios have digital readouts which are not as visually intuitive.

Mini Audio Amplifier

XBOOM Mini Portable Capsule Speaker with Rechargeable Battery

Price \$14.99

Sold by E Depot Express and Fulfilled by Amazon



[Wire 22 g/solid/100ft each](#)

Price \$50.00

Sold by [Electronix Express](#) and [Fulfilled by Amazon](#) or available at electronic parts stores



You will need some other miscellaneous hardware items such as PVC pipe, tape, audio patch cords, etc. All are available at big box hardware stores and specialty electronic parts vendors.

Return to this page often as we will modify this list.

Revised June 4, 2015