

STEM-Rich Afterschool Making: Materials List for Scribbling Machines

This document outlines a starting place for gathering materials to make Scribbling machines, the third activity in the 6-week series. Scribbling Machines are motorized contraptions that move in unusual ways and leave a mark to trace their paths. This activity especially fun and whimsical as well as an effective way to introduce students to the practices of iterative design and engineering. The simple recycled materials make it easy to get started and easy to make changes or start over as students get new ideas and insights.



Stabilization, balance, weight, vibration and kinetic motion are some of the principles that students investigate while testing and adjusting their creations. Many students integrate narrative and storytelling while making their machines, and journals can be used to capture these creative ideas.

Scribbling Machines		\$450		
Hobby motor (1.5 to 3.0 V)	\$1.15	30	\$35	http://www.kelvin.com/mm5/merchant.mvc?Store_Code=k&Screen=PROD&Product_Code=851230
Screw drivers (tiny)	\$3.95	3	\$12	http://www.buywatchwinders.com/watch-repair-tools/mini-precision-screwdriver-set-p-479.html?gclid=CKqRf2O97wCFY17fgodjwYALw&ref=
Pipsqueak crayola markers (thin)	\$8.24	2	\$16	http://amzn.com/B0019665DK
Thin markers	\$7.00	2	\$14	http://amzn.com/B00004UFOO
Strawberry baskets	\$83.57	0.02	\$2	95P carton (2160/per) from Molding Corp of America contact Lilia Gonzalez l.gonzalez@moldingcorp.com
Yogurt cups/plastic tubs	\$0.00	10	\$0	collect
Solo cups	\$7.79	1	\$8	pack of 100 http://amzn.com/B00OCGUG02
Other bases	\$0.00	10	\$0	collect items like: CD spindles, plastic tubs, packaging material
AA batteries	\$0.35	30	\$11	http://www.cheap-batteries.com/p/MN1500AA-PRC.html
Broccoli bands	\$6.00	1	\$6	1LB bag, size #81 http://www.dykemarubberband.com
Masking tape	\$1.39	12	\$17	1" w http://www.uline.com/Product/Detail/S-11736/Masking-Tapes/1-x-60-yards-Uline-General-Purpose-Masking-Tape
Hot melt glue stick - small	\$8.49	1	\$8	http://amzn.com/B003JZII34 cut into various size pieces 1/4" to 2"
Hot melt glue stick - large	\$6.83	1	\$7	http://amzn.com/B00C6Z67UE cut into various size pieces 1/4" to 2"
Clothespins	\$6.64	1	\$7	http://amzn.com/B002CGV57M

Popsicle sticks	\$4.21	1	\$4	http://amzn.com/B0033F7YQW
Washers	\$9.35	1	\$9	http://amzn.com/B00CR8ZRBA
Copper wire - 18 ga	\$17.00	1	\$17	http://www.enasco.com/product/9711269
Wire stripper	\$18.90	3	\$57	http://amzn.com/B0002KR95W
Scissors	\$9.00	10	\$90	http://amzn.com/B00006IFN9
Googly eyes	\$4.50	1	\$5	http://amzn.com/B0074MHV7W
Pipe cleaners	\$10.75	1	\$11	http://amzn.com/B001QOGZ7Q
White butcher paper	\$75.00	1	\$75	36"w http://www.uline.com/Product/Detail/S-5233/Specialty-Paper/Butcher-Paper-Roll-White-36-x-1100
Hula hoop	\$30.28	1	\$30	3 hoops http://amzn.com/B004PBYYWK
Copy paper	\$11.25	1	\$11	can find cheaper by buying in bulk/from office supply store directly http://amzn.com/B004NRP1JQ

Note: Materials sourced for 20 participants.