Helping Hands Worksheet

Instructions: Biomedical engineers design tools to help people with their daily activities. Your challenge is to design a device that can help someone with MS hold a pencil and write.

Criteria

- 1. Must hold a pencil securely.
- 2. Must be easy to use (i.e., can be put on and taken off easily).

Constraints

- 1. Cost device must cost less than \$5 worth of materials.
- 2. Time device must be built in 20 minutes.
- 3. Size device must be sized to work for middle school students to adults.

Available Materials:

Material	Cost/item
	Cost/item
craft stick	\$1.00
straw	\$1.00
string (30cm)	\$1.00
rubber band	\$0.50
pipe cleaner	\$1.00
note card	\$0.50
paper clip	\$0.50
masking tape (30cm)	\$0.50
cotton balls	\$0.25
playdoh	\$2.00

IMAGINE: In the box below, brainstorm by sketching your design ideas.





Name:	Date:	Class:

PLAN: Choose the materials for your design. List the material and cost for each.

Material	Cost	#	Total Cost
(Example) Craft Sticks	1.00	3	\$3.00
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ILD: Build your device. (You will have 20 minutes to build.) scribe your design:	





TOTAL:_____

Name:	Date:	Class:	
ANALYZE YOUR DEVICE Design Successes: Which parts of your	r design worked? Why do you	ı think they worked?	
Design Failures: Which parts of your de	esign did not work? Why do y	ou think they did not work?	
What will you change?			



