

Name:

Date:

Class:

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
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.

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ANALYZE YOUR DEVICE

Design Successes: Which parts of your design worked? Why do you think they worked?

Design Failures: Which parts of your design did not work? Why do you think they did not work?

What will you change?
