

It's SO Easy Being Green Low and No Cost Solutions

Megan Kennedy^{1,3}, Christine Naca^{2,3}

¹ Lawrence Livermore National Laboratory

² Lawrence Berkeley National Laboratory

³ DOE Joint Genome Institute

March 2011

The work conducted by the U.S. Department of Energy Joint Genome Institute is supported by the Office of Science of the U.S. Department of Energy under Contract No. DE-AC02-05CH112

DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor The Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or The Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or The Regents of the University of California.



It's SO Easy Being Green

Low and No cost Solutions

**Ergo Cup 2011
Applied Ergonomics
Conference**

Table of Contents

3	Mobile Carts	21	Suction Cups
4	PVC Pipe	22	Hands Free Dispense Button
5	Glass Syringe	23	Hector the Helper
6	Clear Microtube Racks	24	Bottle Platform
7	Pelican Cutter	25	Cover Plate
8	Dycem	26	Automated Sealer
9	Microtube Opener	27	Plastic Trough
10	Labeling Gun	28	Cup Holder
11	Vortex Accessories	29	Styrofoam Ring
12	Shelf Heightener	30	Cap Sealer
13	Gel Wrist Support	31	Port Covers
14	Recycled Reagent Plastic Holder	32	Stylus
15	Tip Boxes		
16	Strip Tube Popper		
17	Manifold Remover		
18	Cassette Ramp		
19	96 Well Plate		
20	Waste Disposal		

Mobile Carts

Problem



Solution



Lab Safety Supply
Rubbermaid® Utility Trolley™
#49936
Cost \$50



PVC Pipe

Problem



Solution



Local Hardware Store
1", 3ft PVC Pipe
Cost \$2

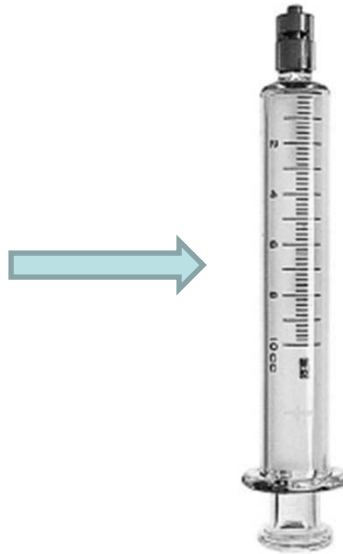


Glass Syringe

Problem



Solution



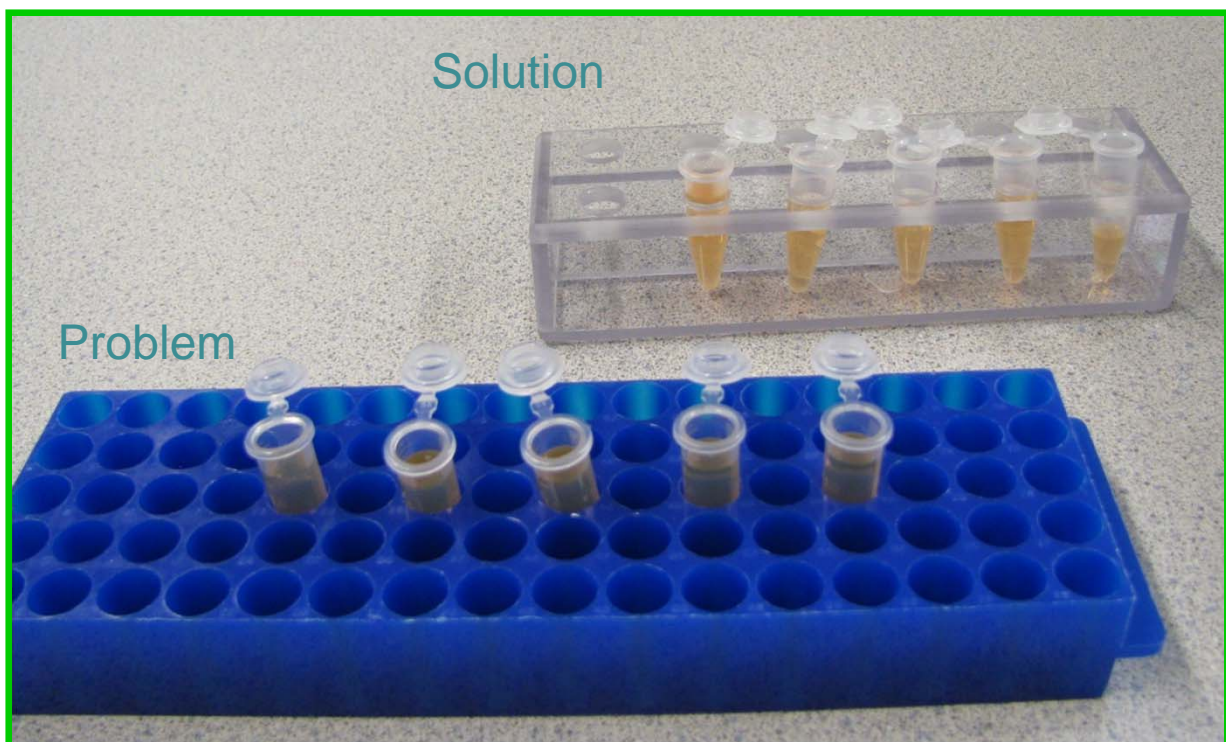
<http://www.bd.com/>

BD 20 ml multi fit glass syringe 512133

Cost \$50



Clear Microtube Racks



Poltex
Clear 12 Microtube Rack #CS-01146-12
Cost \$32

Pelican Cutter

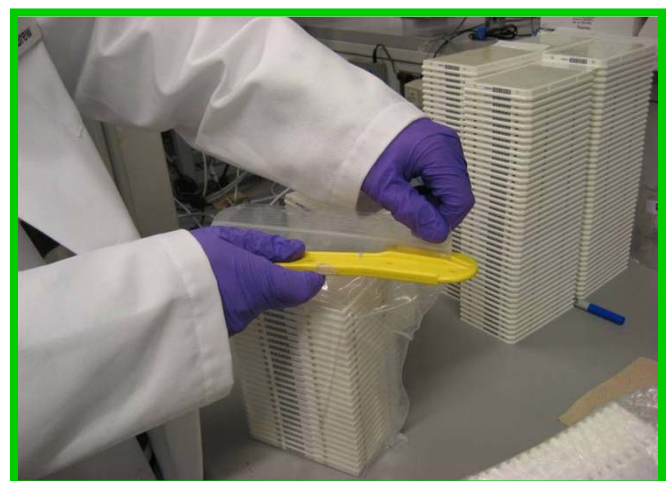
Problem



Solution



McMaster Carr
Finger-Safe Cutters 4926A41
Cost \$13



Dycem

Problem



Solution



www.dycem.com

Dycem grip material

6 Foot Roll : \$50

Jar Opener: \$13

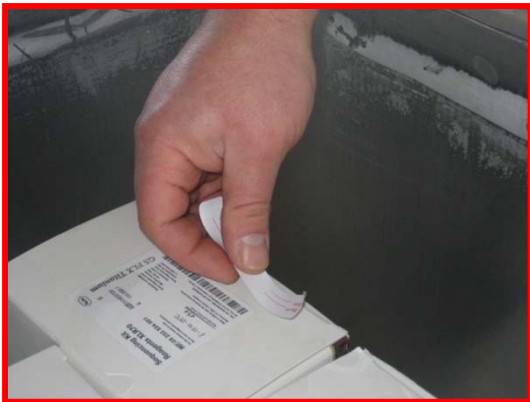
Microtube Opener



ISC BioExpress
Microcentrifuge Tube Openers # C-3272-1
Cost \$0.40 each

Labeling Gun

Problem



Solution



Uline
Monarch 113
Cost \$74



Vortex Accessories

McMaster-Carr
Hook & Loop #8200K131, 8200K136
Cost \$3.97 each



VWR
Vortex Adapter, Labnet 50mL#100370-838
Cost \$77

Shelf Heightener



TAP Plastics
Scrap
Cost \$2

Gel Wrist Support



www.alimed.com

Gel Edge Protector

Cost \$25

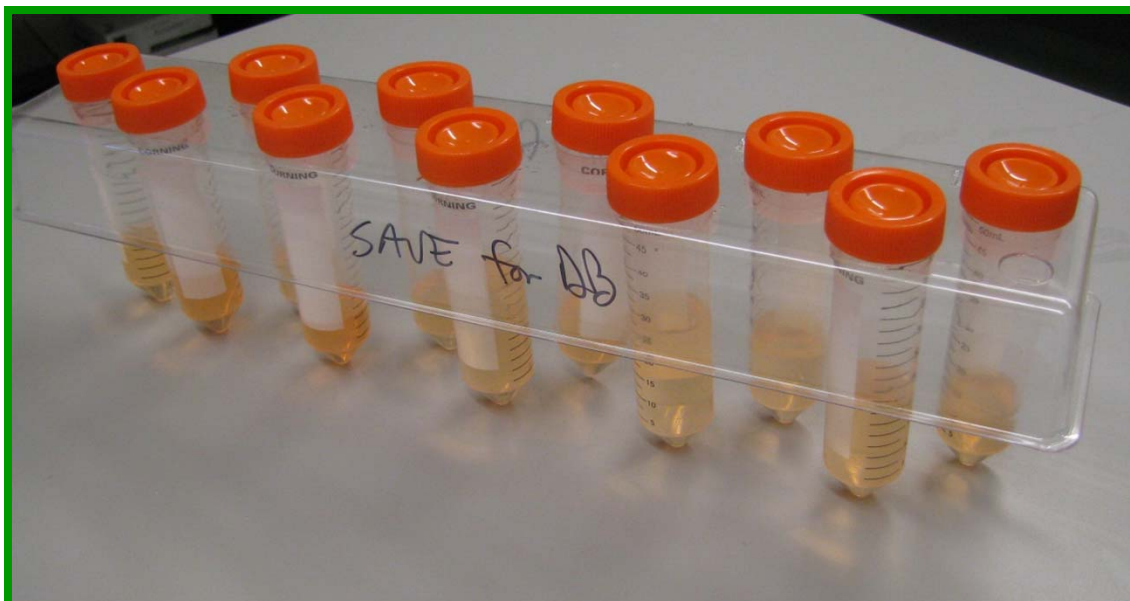


Recycled Reagent Plastic Holder



Reused clear plastic holder for a different task to allow use of decapping device and clear visibility of tubes contents

Cost \$0



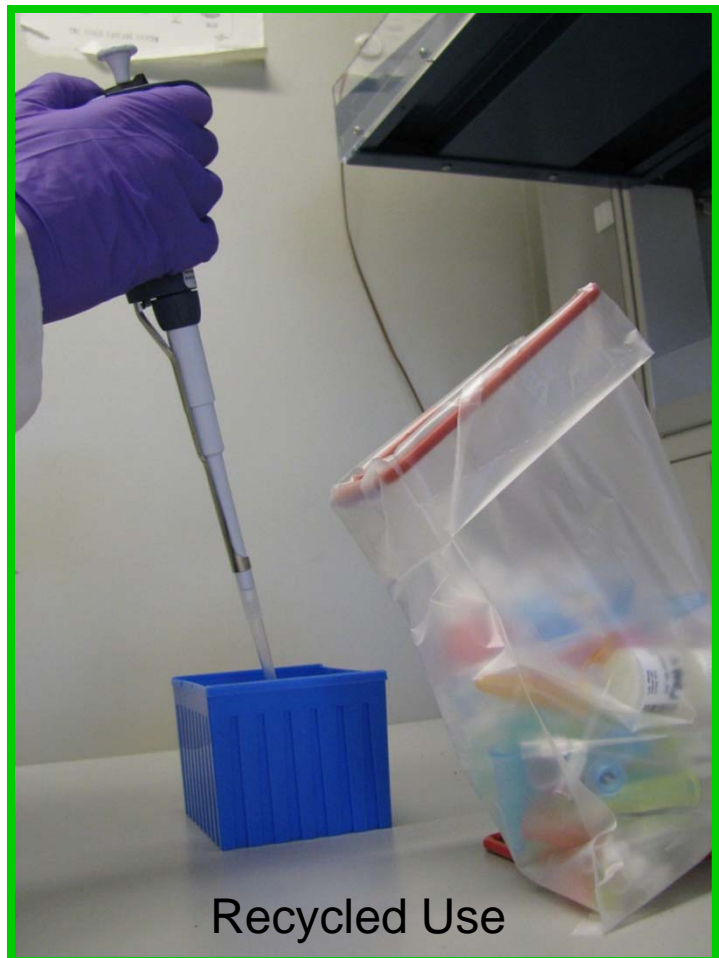
Tip Boxes



Original Use

Used for pipette tip ejection:
Reduces reach required
versus using standard higher
waste bin

Cost \$0



Recycled Use

Strip Tube Popper

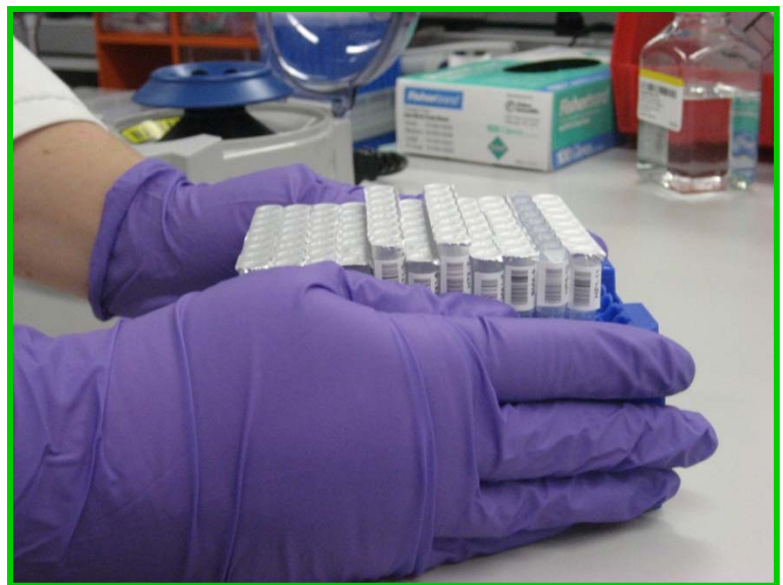
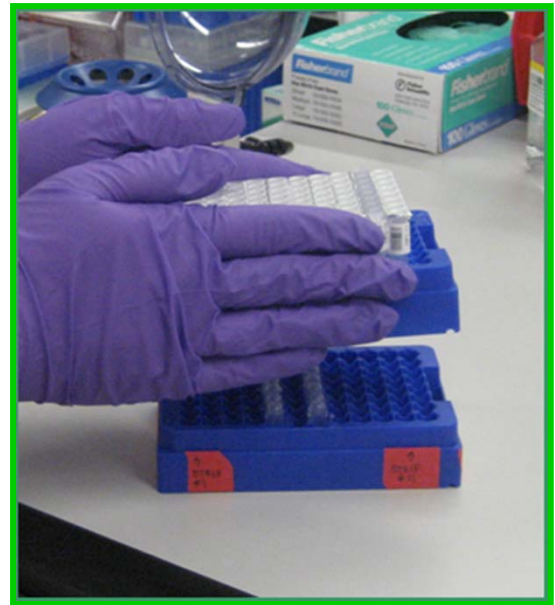
Problem



Used to pop out desired strip tubes without pinching

Cost \$0

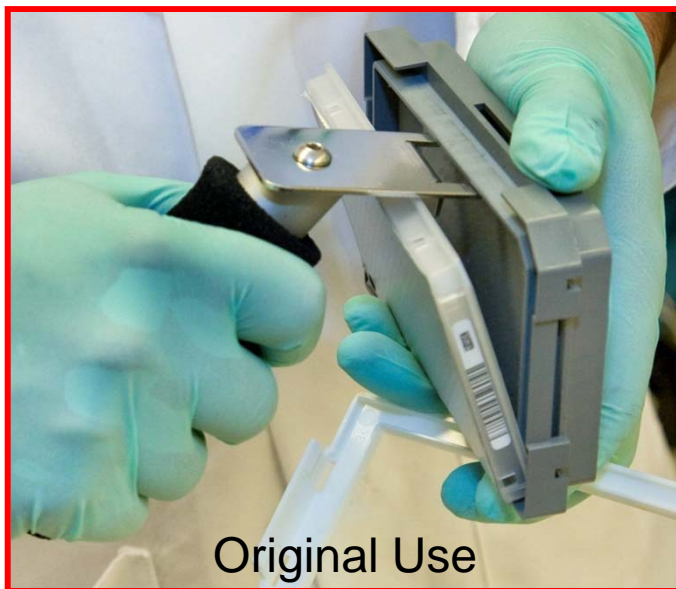
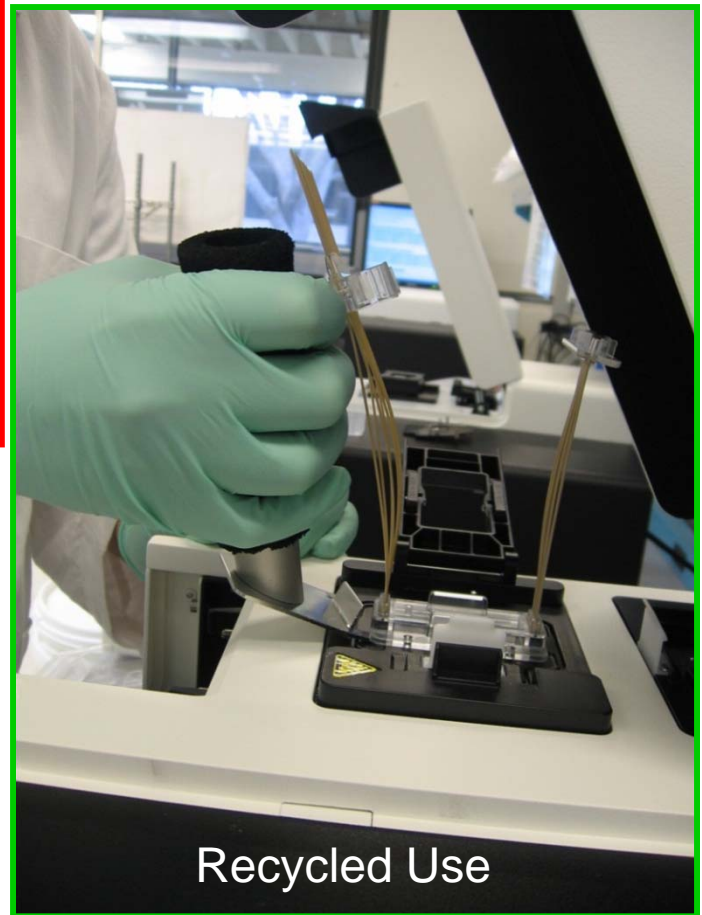
Solution



Manifold Remover

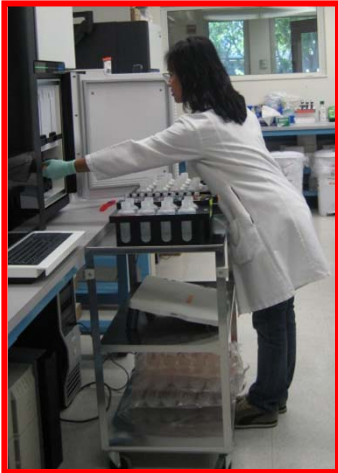


Used as a pry tool to remove a manifold
Cost \$0

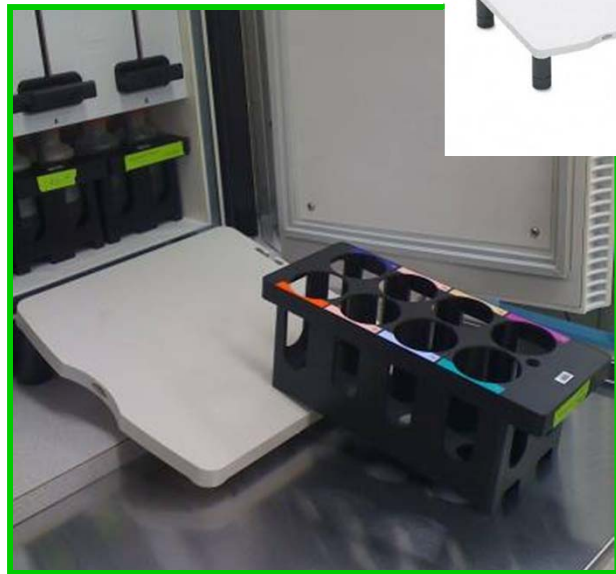


Cassette Ramp

Problem



Solution

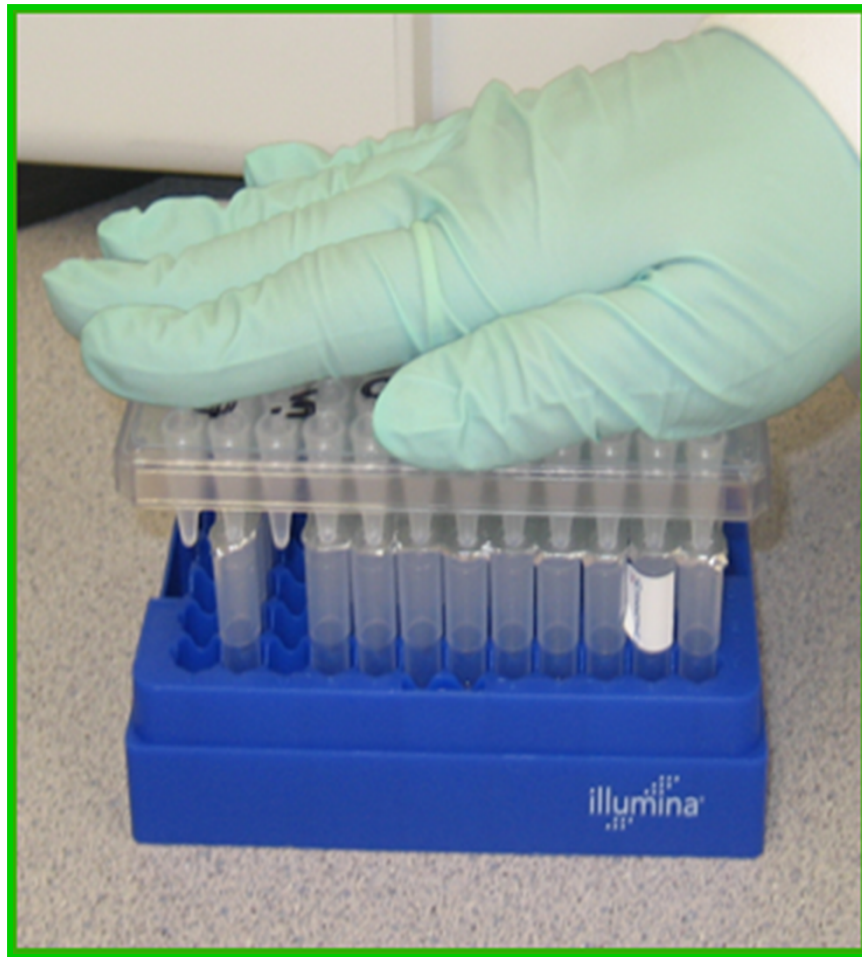


Used monitor stand as a ramp to minimize reach

Cost \$0



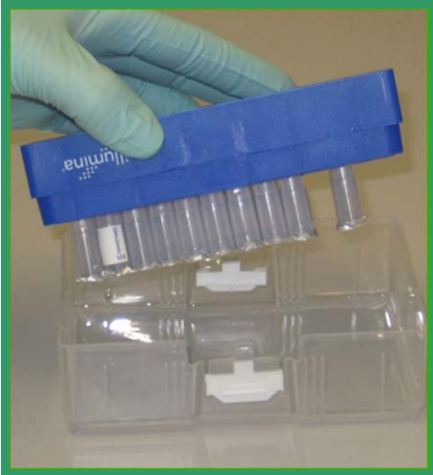
96 Well Plate



96 well plate used as a hole punch

Cost \$0

Waste Disposal



Tip and shake
waste into lid



Use lid to put waste into
large waste container

Used a plastic lid to collect
waste

Cost \$0

Suction Cups



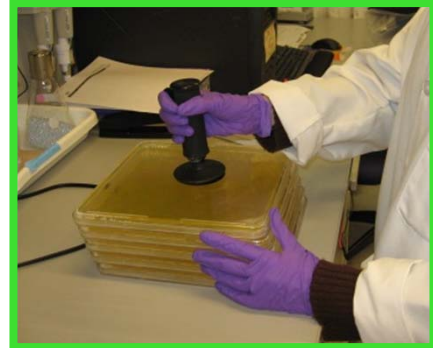
Used tools from retired process for different applications

Cost \$0

Problem

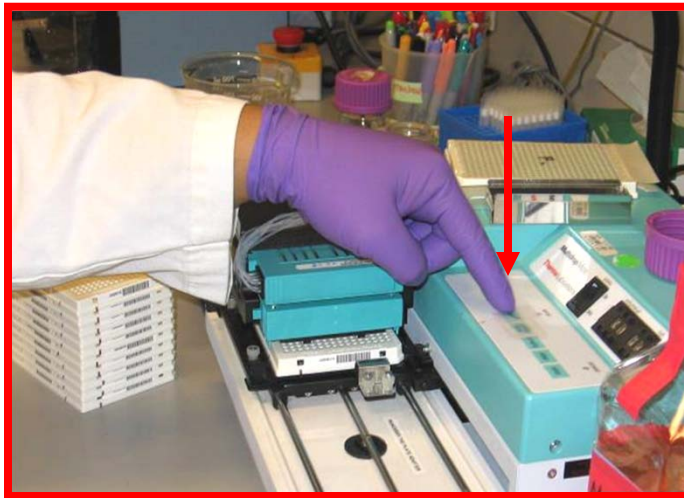


Solution



Hands Free Dispense Button

Problem



Re-purposed a bottle to hold down a button for hands free operation

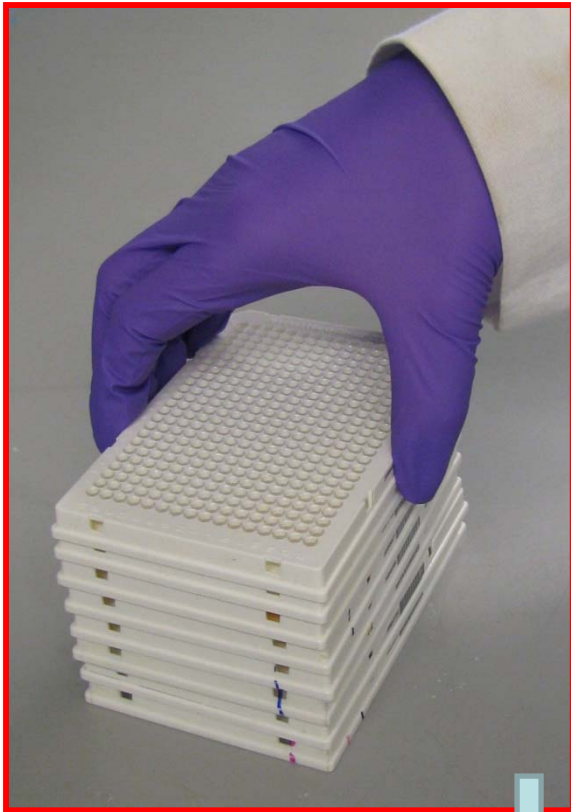
Cost \$0

Solution



Hector the Helper

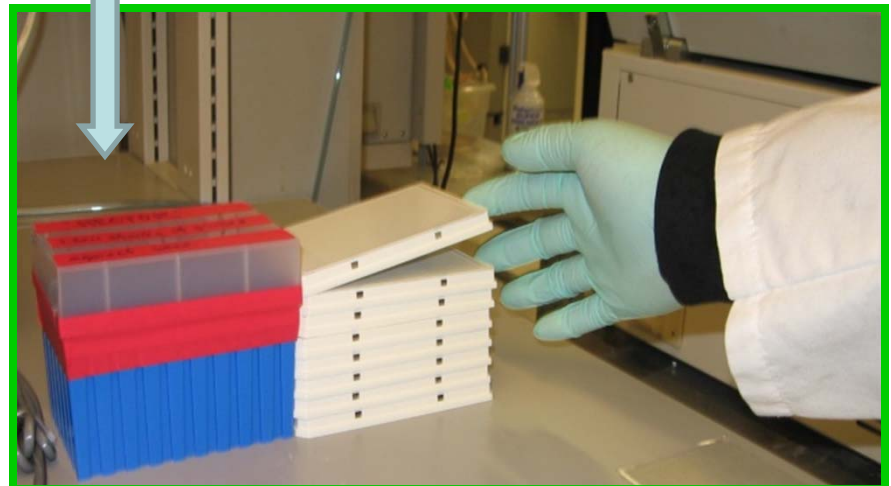
Problem



Allows you to “tip and lift”
without claw grip

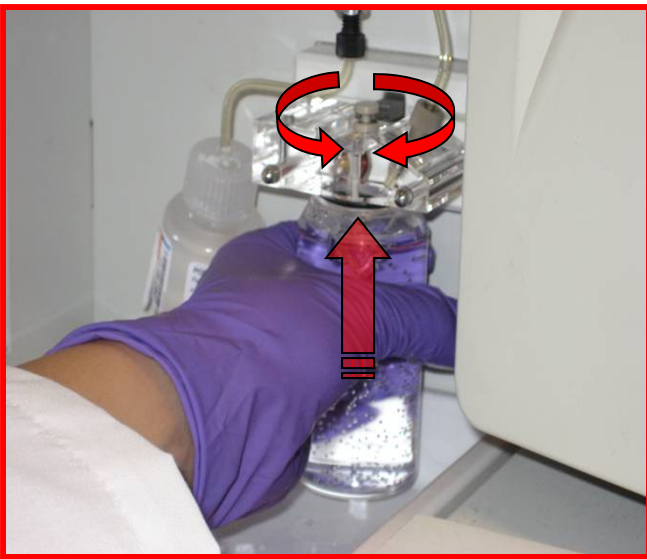
Cost \$0

Solution



Bottle Platform

Problem



Solution



Used an old plate underneath the bottle for easy placement and removal of the bottle without screwing the bottle onto the machine

Cost \$0



Cover Plate

Problem



Solution

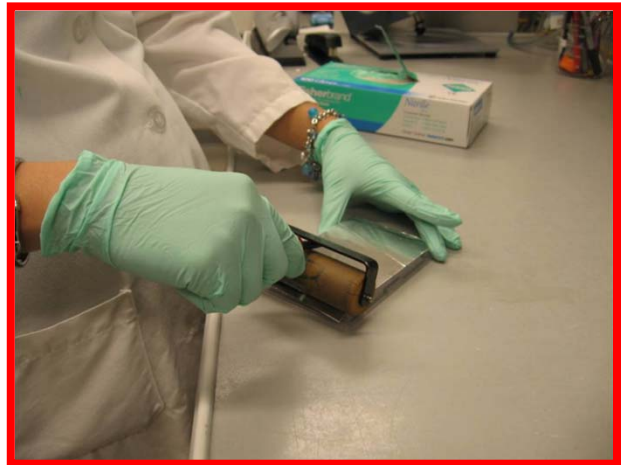
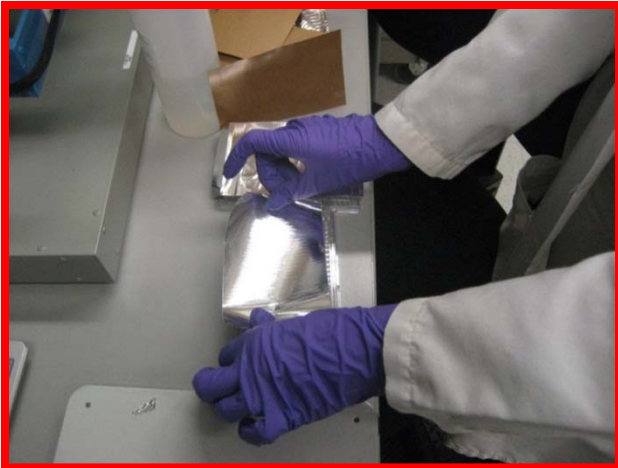


Used “cover plates” to prevent evaporation vs need to purchase plastic film covers that require pinching...ouch!

Cost \$0

Automated Sealer

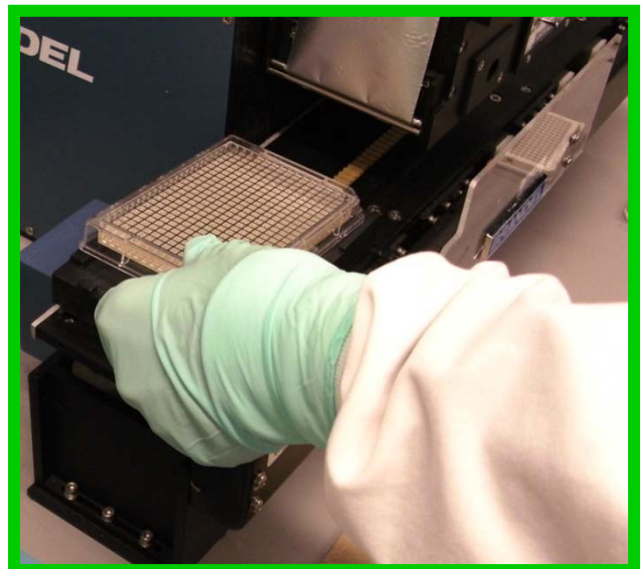
Problem



Re-used instrument from retired process to automate sealing plates

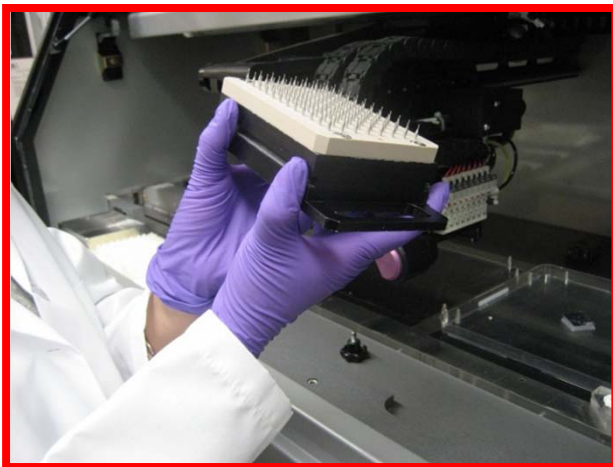
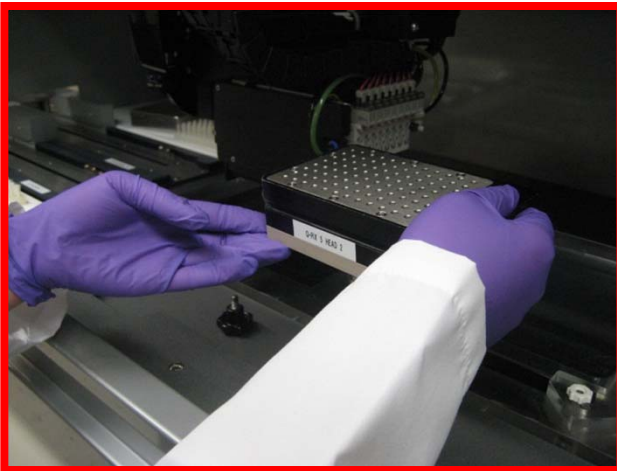
Cost \$0

Solution



Plastic Trough

Problem



Solution



Used unused plastic troughs
to protect hands from
pricking

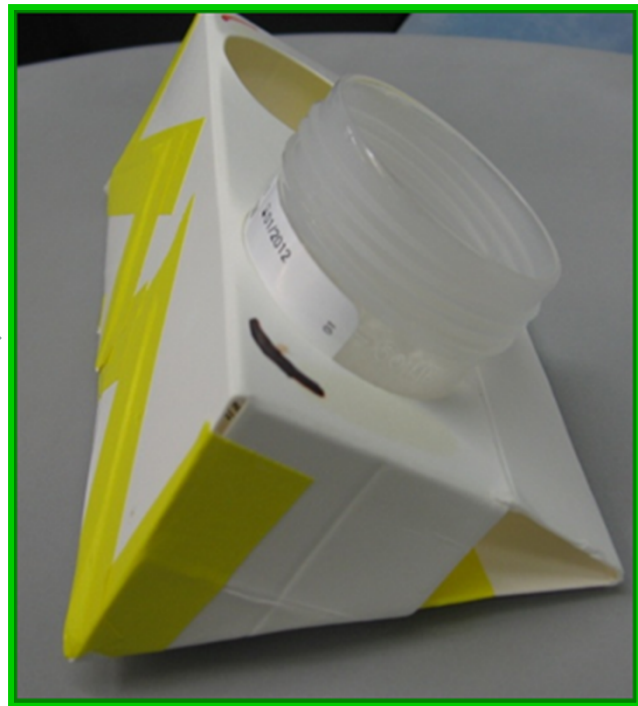
Cost \$0

Cup Holder

Problem



Solution



Transformed the box the cup was shipped into the holder

Cost \$0

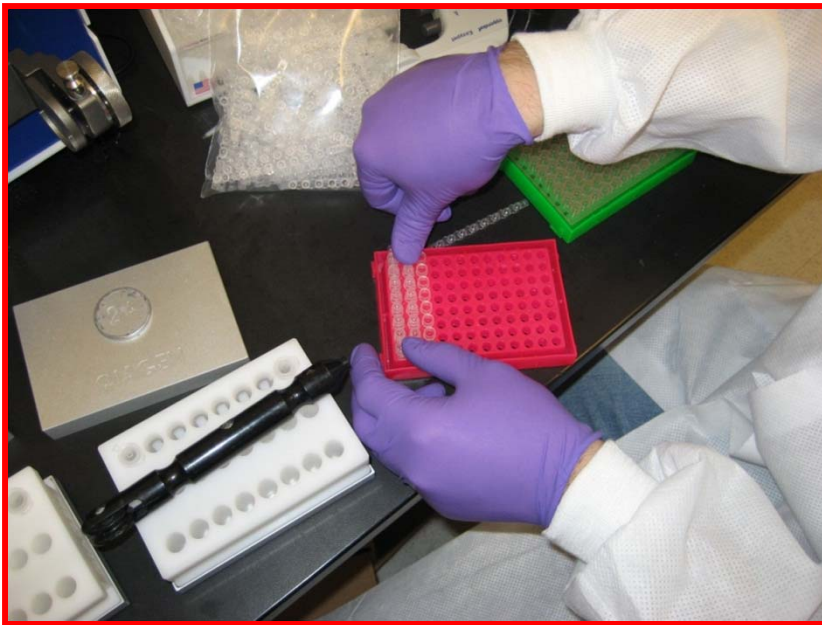
Styrofoam Ring



Used styrofoam from shipment box to stabilize the bottle

Cost \$0

Cap Sealer



Problem

Solution

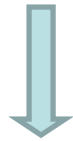
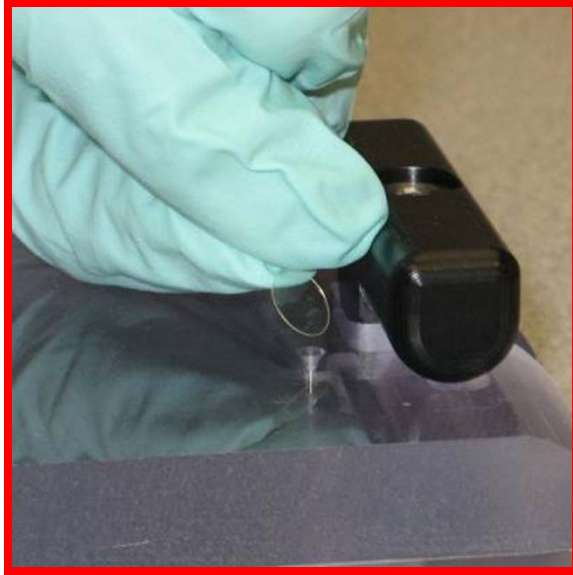
Found an old roller
tool to eliminate
pinching

Cost \$0



Port Covers

Problem



Solution

Used sticky flags (office supplies) for ease of use

Cost \$0



Stylus

Problem



Solution



CDW
Elo Touch Screen Stylus
#1038167
Cost \$50

