How Ya Gonna Keep 'em Down on the Farm After They've Experienced STEM?

(There’s a lot of STEM on the farm too!)
Why are we here?

Discuss what encourages students in STEM

Have some fun (and challenges)

Talk about resources and what’s important
A little background first...

http://engineerintheclass.org/
What’s important in afterschool STEM

Hands-on fun
Related to real life
Challenging but doable
Across all elements of STEM
Something they can do or take at home

Connected with the school curriculum?
Two quick demos...

DNA extraction from strawberries
One source:
http://genetics.thetech.org/online-exhibits/do-it-yourself-strawberry-dna

PVA slime
One source:
http://www.nuffieldfoundation.org/practical-chemistry/pva-polymer-slime

Photo by Karen Farrell
Now it’s your turn!
1. Make a car using only the materials on the list. Here’s the catch: to make your car move, you can only blow on it!

2. Test it out! How far does your car go when you blow once? How many puffs does it take to make the car travel 6 feet?

Design requirements

1. The arm must pick up a plastic cup from a distance of 45cm
   - Lift the cup to a height of at least 15cm
   - Bring the cup back to rest and release it

2. Lift and release the cup when it is upside down

Source: http://teacherstryscience.org/lp/build-your-own-robot-arm
My favorite resources

TryScience and Teachers TryScience

PBS Learning Media
http://www.pbslearningmedia.org/

Sparticl
http://www.sparticl.org/

Howtosome.org

CPALMS
http://www.cpalms.org/

and there are lots of others.
The 5Rs of Afterschool STEM

Make it Real
Make it Relevant
Point to Role models
Relate STEM to what interests them
Use the many Resources available to you
Busy hands
Thank you!
More videos

More videos

Strawberry DNA

You Are What You Drink

Puff-Mobile

How Cold Is Cold

My thanks to Mary Carnes

Float Your Boat