FAITC
Saint Lucie County

Community Connections

“There is no finer investment for any community than putting milk into babies.”

~ Winston Churchill

Community Involvement Connections

- Local County Extension Office
- In Class Field Trips
- Field Trips
- Curriculum
- Master Gardeners
- Lady Beetle Releases
- Garden Grants and Plants/Seeds
- 4-H In School Clubs
- Family Nutrition Program
- Local Fair Garden Competitions
- Embryology Kit

Community Connections

- Library and Local Government Offices
- Book donations, guest speakers, contests

- City or County Utilities/FPL
- Tours, on site field trips, grants, donations, guest speakers, contests

- Local Farms, Zoos, Animal Rescue/Rehabilitation, State Parks, Marine/Aquatic Institutes
- Trips, guest speakers, curriculum, resources, donations, community service projects for your classroom

- Restaurants or Local Stores

Garden Festival

Celebrate all the growth in and out of the garden!

What?

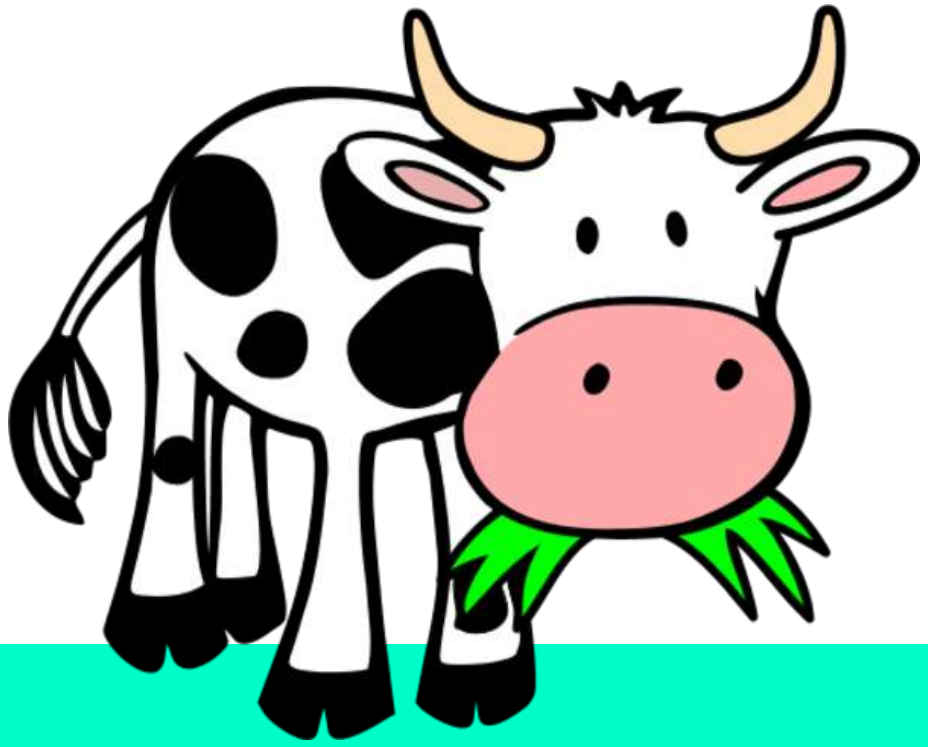
- Invite the community, business partners, parents, volunteers, administration & more!
- Showcase of cross-curricular agriculture and garden student projects
- Farm to table

Get creative!

- Release insects
- Paint rocks
- Read poetry or present songs
- Plant honorary plants
- Taste test garden vegetables
- Try new recipes
- Thank community, volunteers & donors!
- Cultivate excitement about work completed in garden

Check Out Photos

Feeding Frenzy



STEAM Design Challenge

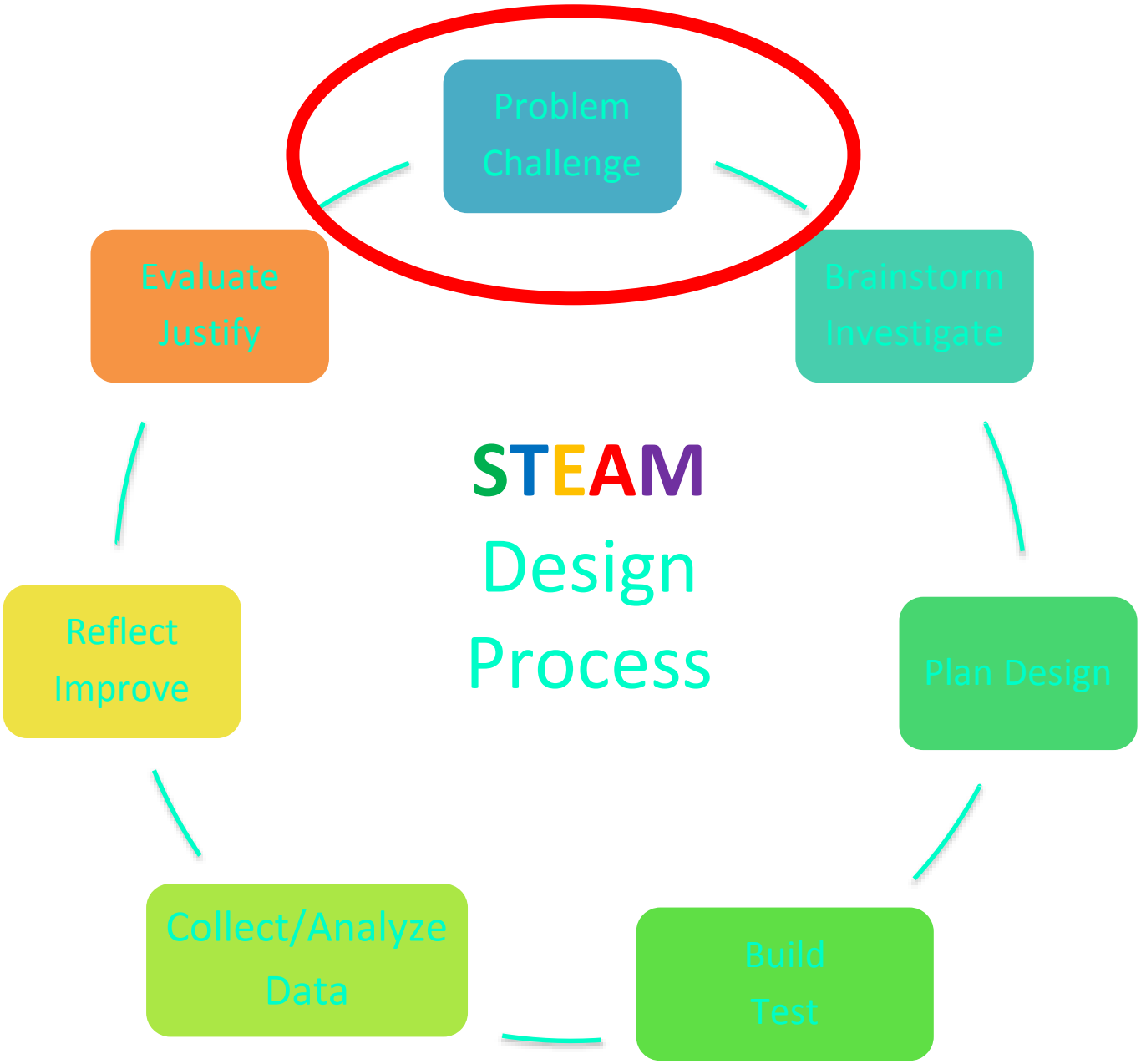
Problem, Challenge, & Design Prototype

- Have you ever had a problem or had to figure something out but needed the help of others?
- Have you ever wondered how they got the Space Shuttle into space?

Think of a situation where you have said, "I think if they would have just done this, it would be so much easier!"

(Example – iPads were created to take your computer with you)

A **STEAM** Design Challenge is a process of looking at a problem and then designing a prototype to fix that problem.


Problem Challenge
Brainstorm Investigate
Plan Design
Build Test
Collect/Analyze Data
Reflect Improve
Evaluate Justify
STEAM
Design
Process

The Dilemma

Marvin loves animals! Who doesn't? But animals need a lot of care. Marvin lives on a small farm with his family. His dad's favorite cow gave birth to a baby calf named Lyla in the spring. Sadly, Lyla's mom was not able to produce enough milk for her. Marvin is now in charge of feeding Lyla. Lyla is old enough to have dry feed that will help her grow up to be a healthy cow. Animals must eat! Mom's calling him for school! If only there was a way to feed Marvin's calf automatically, then his mornings would be so much easier. It's time to call on some friends to help!

Lyla

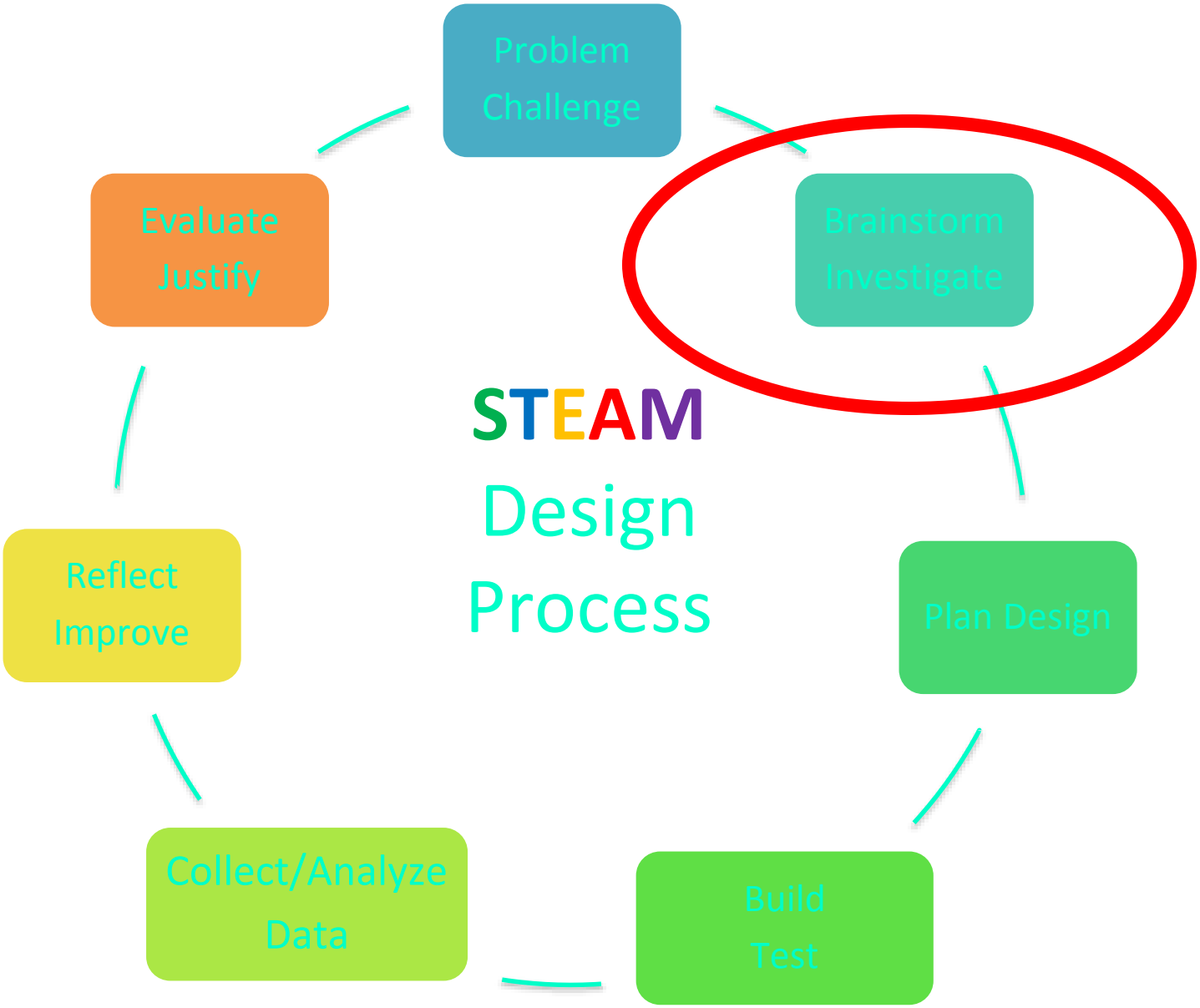
Your Mission

Can you help Marvin feed his calf? He needs you to create a device that will feed Lyla, the calf, automatically. The prototype must hold 2 cups of food and be easy for the animal to eat from it. Lyla must be able to get out all of the food you pour into it for the prototype to be successful.

Your Challenge

Let's Review

- **Who is your client?**
- **What are you supposed to create?**
- **Why are you creating it?**
- **What is your goal?**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Literary Connections

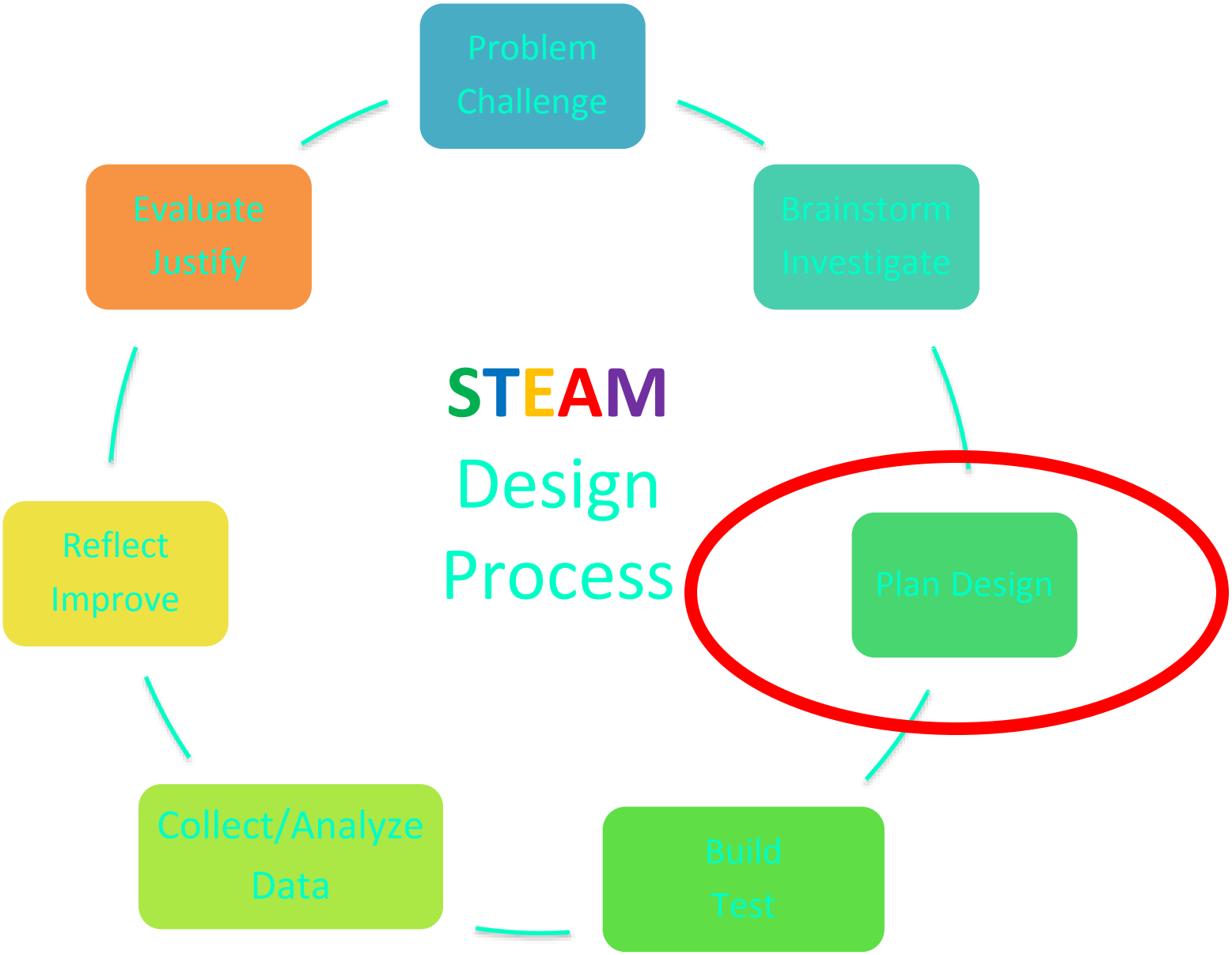
National Geographic Kids Everything Pets: Furry facts, photos, and fun-unleashed! by James Spears
Moo! By Penny Dolan
Buttercup, the Clumsy Cow by Julia Moffatt
Moo Who? By Margie Palatini
Cowgirl Kate and Cocoa by Betsy Lewin
Something to Tell the GRANDCOWS by Eileen Spinelli
Millie Waits for the Mail by Alexander Steffensmeier
A Particular Cow by Mem Fox
What Pet Should I Get? by Dr. Suess

What do we know?

All living things need food and water

- Turn and Talk. Discuss what you know about ***4 basic needs of animals and animal purposes.***

- Turn and Talk. Discuss what you know about how ***plants help animals.***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Design Your Prototype

On your Design Challenge Planning Sheet, draw at least 3 *prototypes* that your team might want to *construct*.

- **Material Choices**: Paper towel rolls, toilet paper rolls, plastic water bottles, scissors, plastic cups, styrofoam cups, tape, Kix cereal

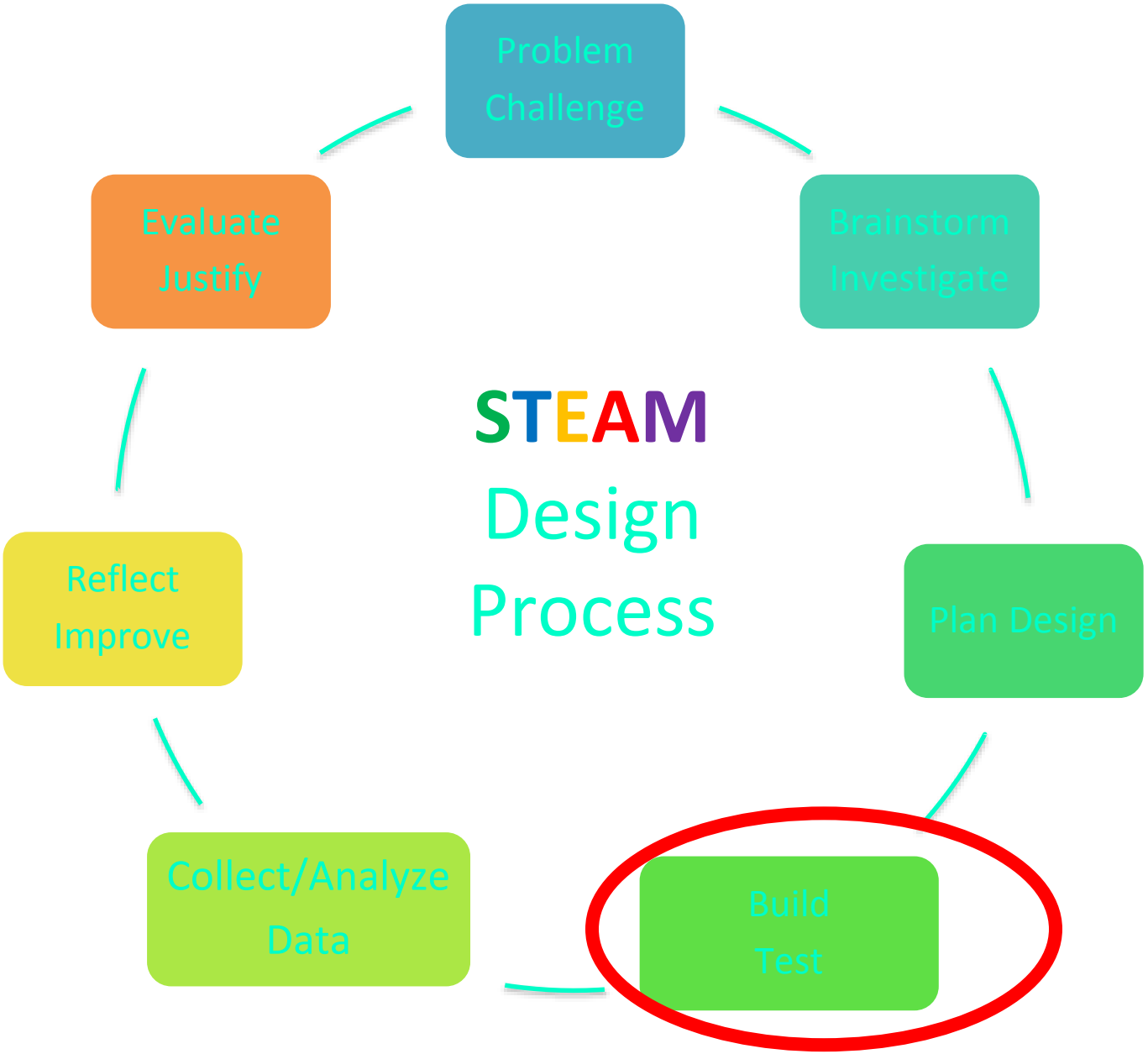
Your Turn!

Team Responsibilities

- As a team, decide together which prototype you are going to engineer.

Keep in mind your structure prototype goals!

- **Must create an automatic feeder that holds 2 cups of food.**
- **Calf must be able to access the food easily and eat all 2 cups.**
- **Must stay within a $50 budget.**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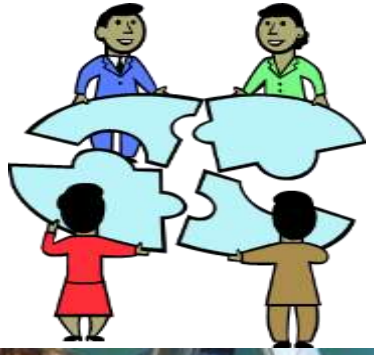
Your Turn!

Team Responsibilities:

As a team, pick up your materials for the challenge and then engineer, or construct, your team's actual prototype.



Be Safe!

Teamwork is the key!

Have fun!

Think before you act!

Test and Collect Data!

Team Responsibilities:

Now, you will be testing your prototype.

Remember the requirements from the challenge!

Think and Act like a scientist!

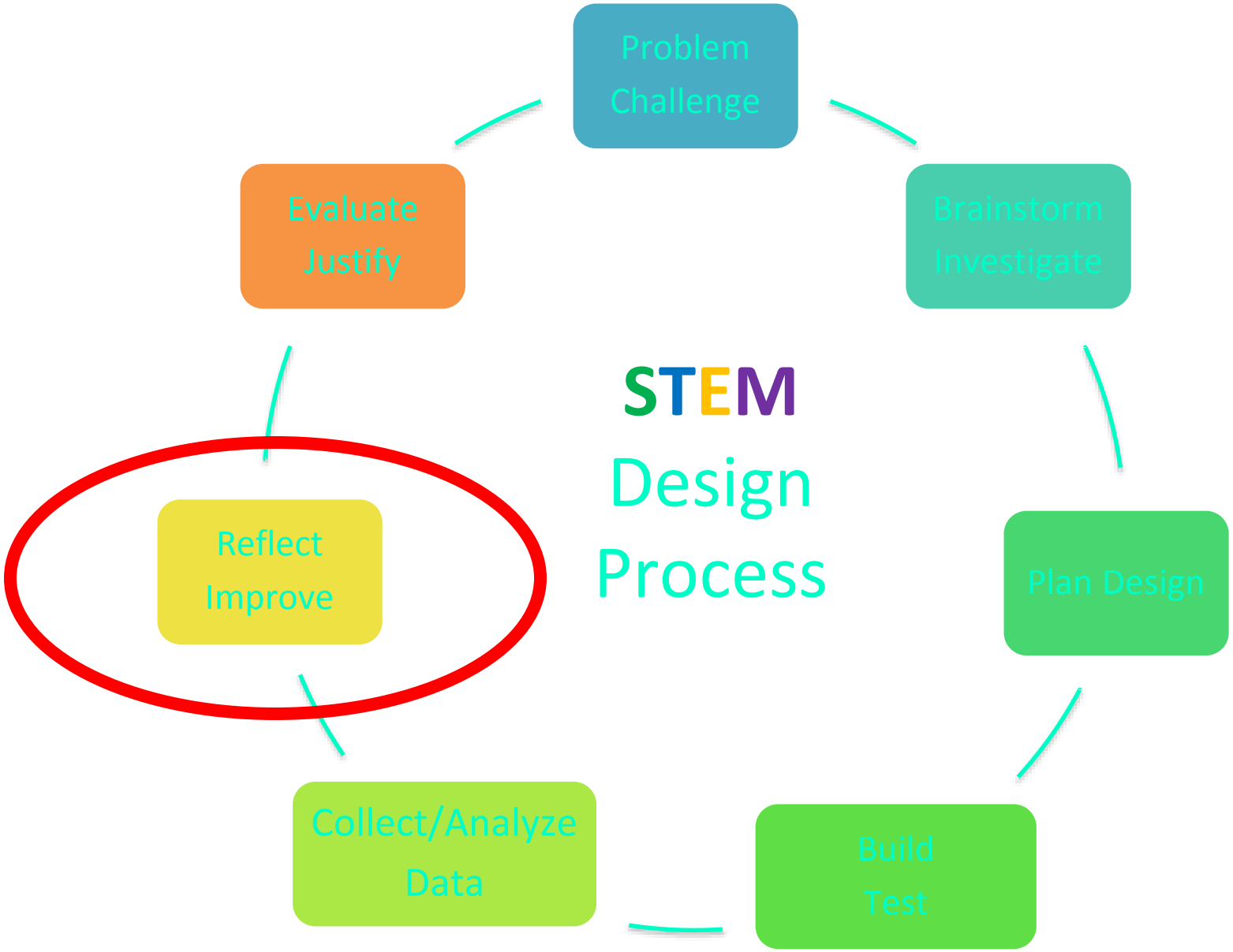
Observe closely

Our ProtoTypes

Communicate Your Results!

Answer the following questions:

1. **Which team had the most effective prototype?**
2. **What were some of the differences you observed between the prototypes?**
3. **Which one was the most effective?**
4. **Did certain design aspects, such as materials, shapes and sizes make a difference?**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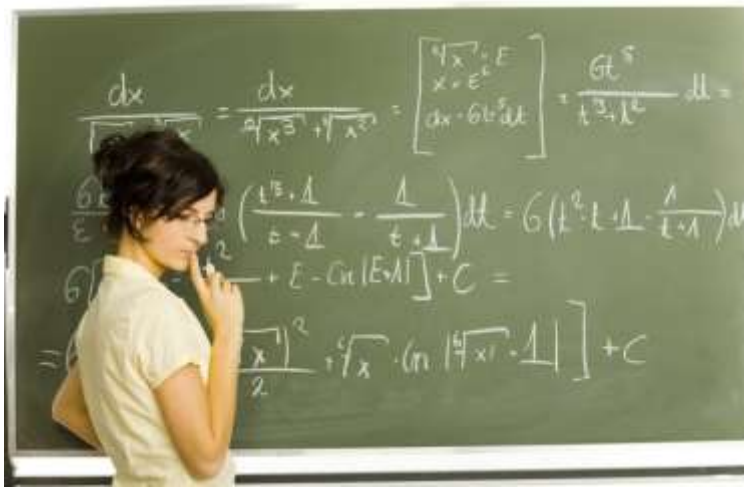
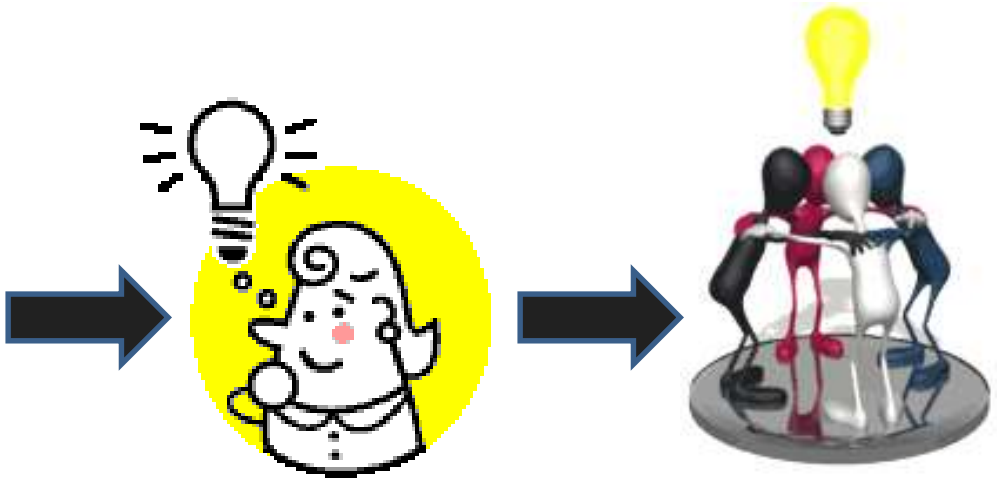
Redesign & Retest

Good scientific thinking means:

- You go back and look at your work
- You ask yourself questions about what could be done differently
- You try again!

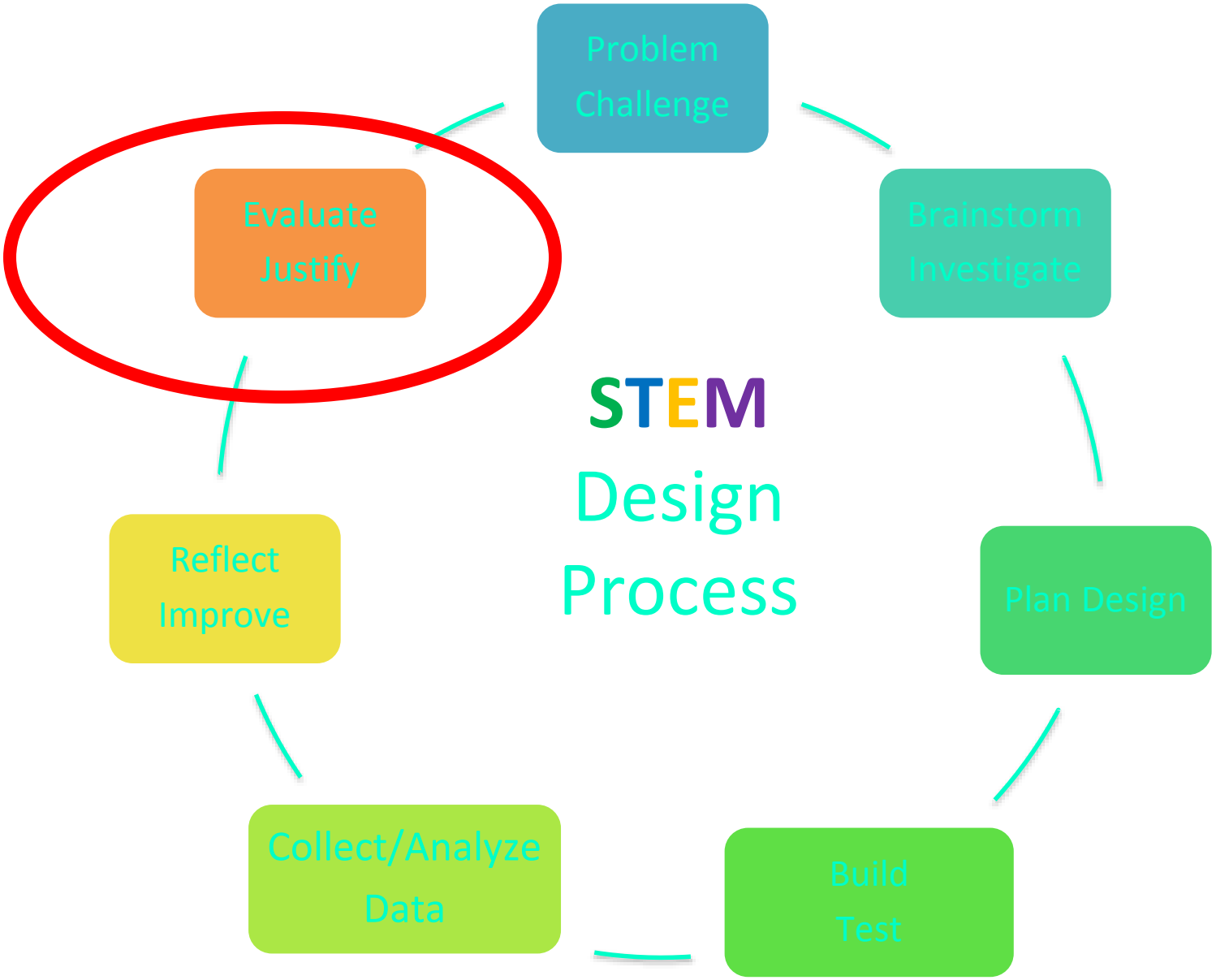




Redesign & Retest

As a team, respond to these questions:

- What would you do differently if your team could redesign your prototype?
- Why would you make those changes?



Justify!

You have worked hard to design and create an automatic feeder. Today, you will be convincing Marvin why your team's prototype should win the challenge.

You can convince him, and other pet lovers, by one of the following:

- Create a poster advertising your automatic pet feeder for sale in PetsRUs magazine.
- Create a paragraph describing your automatic pet feeder to go with your Advertisement in PetsRUs magazine.

Congratulations!

If you have any questions….
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