


Welcome. My name is Heidi.

**STEMtastic!™**

What is your favorite flower?



Science Education for kids to play, learn & love nature.

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**STEMtastic!™**




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**3 Questions**



What is STEM?

How does e-STEM connect kids with nature?

How can STEM be made easy?




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**SCIENCE** = Problem finding  
+ Problem solving

**CREATIVITY** = the ability to produce solutions or works through imaginative skill

**ENGINEERING** = design of object, process or system to meet human needs and wants

**TECHNOLOGY** = application of science

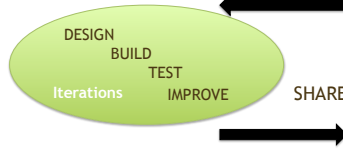


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**The EDC Process & Vocational Discernment**

PROBLEM  
human need or want →

CRITERIA  
& CONSTRAINTS → RESEARCH  
prior learning  
existing models



SHARE




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**STEMtastic!™**

**Iteration #1**  
Please use the materials from the white bin to build a flower.

**Constraints**  
Your flower must...

- have 5 main plant parts
- stand taller than your knees, shorter than your ears
- all materials reusable, recyclable or compostable




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## STEMtastic!™

**Test of Iteration #1**

- Does it have roots, stem, green leaves, petals, seeds?
- Is it taller than your knees, shorter than your ears?
- Can it stand on its own?


***Next...Improve it!***



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## Engineering Design & Iterations teach us:

- 1) Failure leads to true learning and innovation.
- 2) Check your work. Meet all of the criteria.
- 3) Science and art are processes, not products.




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### Atmosphere

Air is gases all around; nitrogen, oxygen and a little other stuff.

### Biosphere

Life on earth abounds; plants, bugs, people, fish & trees. Animals large and small.




### Geosphere

Mountains, plains plateaus. Smaller boulders go to rocks and sand and stones.

### Hydrosphere


Rain, snow, sleet and hail, oceans, lakes, rivers, streams, glaciers-ice sheets where its cold.



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## Systems & Cycles

Interconnectedness  
Parts working together  
Dependence upon something else  
Cycling 'round & 'round  
Small parts of a greater whole  
Bowen Systems Theory  
Big Picture



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Brightly colored flower petals tell birds and bugs to visit the flower.


Flowers need visitors to make fruits and seeds.

Green leaves (chlorophyll) use the sun's energy to make food for the plant.

The stem holds the plant high to reach the light and pollinators (bugs, wind, water).

Roots anchor the plant (+ soil).





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## Thank you.

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