



Biomimicry - Invention Intentions

Activity Snapshot:

- It's no secret that the world of Nature is full of amazing abilities, or Adaptations, that help plants and animals survive and thrive in their natural environment.
- We can learn from these creatures and invent devices that help us, by mimicking them!

BIOMIMICRY: BIO = *Life*, MIMIC= *Copy*

Biomimcry is copying useful parts of nature to use in our own lives! We can learn from nature to make our lives safer, easier, better, etc.

For example: Plants might seem quiet and still, but they are incredible survivors, pushing up through rocks, racing for resources, climbing and branching and stretching toward the sun.! They send their seeds as far away as they can, so that their children aren't lost under their own shadow. But how do they do it?

There are all different kinds of seed dispersal!

Plants use tools like grappling hooks and parachutes to carry their seeds further.

They create sugary bait in the forms of fruit to get animals to carry them!

Sometimes they even have spring loaded explosions! There are so many different designs, we could learn a thing or two from them!

Goal:

Your mission is to move a “Seed” (a penny or dime, for example) to a target 10 feet away or more, without moving yourself! This Biomimicry activity will challenge you to design your own method of seed dispersal, based on one found in nature.

Time Recommended:

45 minutes -

- 15 for exploration/nature observation for inspiration
- 15 for gathering and planning materials
- 15 for assembling and ‘launching’ Baby Green

Materials:

- Codename: “Baby Green”, our stand in seed - what are you ‘launching’?
 - We recommend a dime, a small, lightweight object that can be easily attached to devices.
 - You could also try eggs, ping-pong balls, or even real seeds!
- Paper and writing tool (for designing your device!)
- Craft supplies for constructing your device (scissors, tape or glue, etc.)
- Materials for construction of your ‘seed dispersal device’
 - Paper?
 - Sticks?
 - Tape?
 - Rubber bands?
 - Anything you can find!

Instructions:

1. Take a few moments to observe wild plants, looking for seeds/seed pods. If there are no living examples in your area, you could research a little online.
 - a. Make note of any interesting ‘techniques’ that might be used by local plants.
2. Talk to your parents or guardians about where a safe place to launch your seed could be, and what sorts of materials you are allowed to use.
 - a. Locate a space with open air and a distance of at least 10 feet.
3. Choose a method of seed dispersal:

- a. Wind? Gliding or ballooning on the breeze?
 - b. Water? Floating away on the river?
 - c. Explosive? Launching with spring-like force?
 - d. Anything you can think of!
4. Gather materials and supplies to construct your device!
 5. Mark your starting position, then your 'landing pad' - approximately 10-20 feet away.
 6. When finished, set your "seed" into the contraption and 'fire' at the target landing pad. See how close you can get to the target without moving your feet!
 7. As a bonus or extended Challenge: Try to move your seed as far away from you as possible! How far can you get your seed to go?

Closing Questions:

1. What method of seed dispersal did you try and how did you launch your seed?
 - a. Did the method work as expected? Did it not work as expected?
2. Are there other plants and animals with special adaptations that might work better?
3. Can you think of any tools or items we use that might have been inspired by Biomimicry?