THROUGH THE WIND

M1-4 PLANT SCIENCE

Question

- Does the shape/type of seed affect how far it will travel through the wind?

Abstract

- Does the shape/type of seed affect how far it will travel through the wind? The purpose of this is experiment is to learn more about seed dispersal. If the shape/type affects how far a seed travels through the wind, then the Maple seed will travel the farthest because glider like shape is more aerodynamic. 1) Place the fan on the ground 2)Next to the fan put down the meter stick and place tape along the side until there are 10 meters of tape 3) Set up a place for the video camera to take video of the flight preferably in slow motion 4) Take a seed you chose and hold the seed 6 centimeters over the fan 5) Have the assistant turn the fan on 6) Drop the seed and turn off the fan as soon as the seed hits the ground 7) Take the marker and mark where the seed landed on the tape (make sure to say which seed landed there and which trial it was) 8) Measure and Graph where the seed landed. 9) Repeat the last 5 steps for each of your 5 seeds 5 times The seed that went the farthest was the Dandelion and the seed with the shortest was the Marigold. My hypothesis was not supported because the Dandelion went farther than the Maple.

Hypothesis

- If the shape affects how far a seed will travel through the wind then the maple seeds will travel the farthest because it’s glider like shape is more aerodynamic.

Materials

- Five different shaped seeds (Maple seeds, Dandelion seeds, Sunflower seeds, Marigold seeds, Chinese Elm Tree seeds)
- A fan (portable)
- A meter stick (make sure to measure in centimeters)
- Tape
- Marker
- An assistant
- Video Camera (if you would like to see how the seeds moved)

Procedure

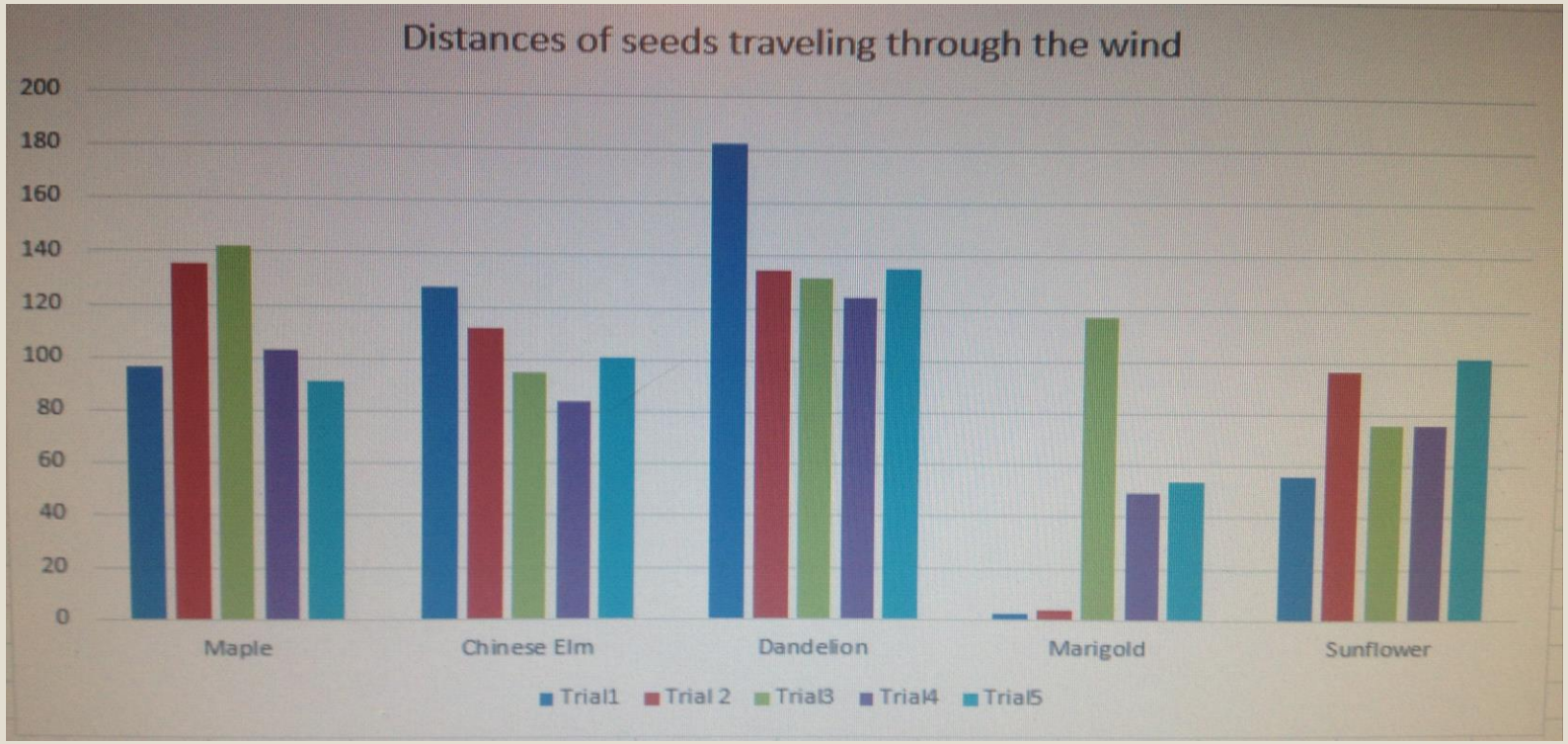
- IN THIS ORDER!!!!!!
- 1) Place the fan on the ground
- 2)Next to the fan put down the meter stick and place tape along the side until there are 10 meters of tape
- 3) Set up a place for the video camera to take video of the flight preferably in slow motion
- 4) Take a seed you chose and hold the seed 6 centimeters over the fan
- 5) Have the assistant turn the fan on
- 6) Drop the seed and turn off the fan as soon as the seed hits the ground
- 7) Take the marker and mark where the seed landed on the tape (make sure to say which seed landed there and which trial it was)
- 8) Measure and Graph where the seed landed
- 9) Repeat the last 5 steps for each of your 5 seeds 5 times

Experimental Pictures

Results

	Trial1	Trial 2	Trial3	Trial4	Trial5	Average
Maple	96.52	135.7	142.24	102.87	91.44	113.754
Chinese Elm	127.762	112.268	95.25	83.82	101.092	104.0384
Dandelion	182.88	134.62	132.08	124.46	135.89	141.986
Marigold	2.54	3.81	116.84	49.53	54.103	45.3646
Sunflower	55.88	96.52	76.2	76.2	101.6	81.28

Graph


Distances of seeds traveling through the wind
200
180
160
140
120
100
80
60
40
20
0
Maple
Chinese Elm
Dandelion
Marigold
Sunflower
Trial1
Trial 2
Trial3
Trial4
Trial5

Conclusion

- My hypothesis was not supported because the Dandelion seed traveled farther than the Maple seed. This is because the Dandelion seed is lighter and its shape allows it to be more aerodynamic.

Works Cited

- "Rules for All Science Projects."Student Science N.p., n.d. Web. 25 Aug. 2015.
- <https:□□student.soc!et□forsc!ence.org□rules#$ll#projects%
- (I don't know why the link appeared that way when I put it on Word but I guess it's a glitch)
- Original lab:
- Russell, A. and Rice, S. (n.d.). *Sailing Seeds: An Experiment in Wind Dispersal.* Union College, Department of Biological Sciences. Retrieved July 30, 2015, from http://botany.org/bsa/misc/mcintosh/dispersal.html.

  pictures and general information on seed dispersal:
- Armstrong, W.P. (n.d.). *Blowing in the Wind: Seeds and Fruit Dispersed by Wind.* Wayne's Word. Retrieved July 30, 2015, from http://waynesword.palomar.edu/plfeb99.htm

  Videos of seed dispersal:
- Missouri Botanical Garden. (n.d.). *Biology of Plants: Seed Dispersal.* Retrieved July 30, 2015, from http://mbgnet.mobot.org/bioplants/seed.html Helpful Website
- Science Buddies Staff. "Gone With the Wind: An Experiment on Seed & Fruit Dispersal" *Science Buddies*. Science Buddies, 6 Aug. 2015. Web. 12 Sep. 2016 <http://www.sciencebuddies.org/science-fair-projects/project_ideas/PlantBio_p013.shtml>