

If you have Maple trees near your house, you'll notice their seeds all over the ground mid-May. Take a look at these photos and answer the questions posed on the next slide.



1. It takes the tree lots of energy to produce so many seeds. Why would the tree expend the energy to produce so many?
2. Notice the seeds on the path are lying flat and those in the grass are standing up. Why might this be advantageous for the tree seeds?
3. Maple seeds fall from their mother tree in sort of a whirlybird motion. Why is that a good adaptation for species survival?
4. This process gives evidence for Mother Nature being a good engineer. Propose an explanation for this idea.



1. It takes the tree lots of energy to produce so many seeds. Why would the tree expend the energy to produce so many? **Most will not germinate and/or survive. If more seeds are produced, odds are that more are likely to land in places good for germination and survival.**
2. Notice the seeds on the path are lying flat and those in the grass are standing up. Why might that be advantageous for the tree seeds? **Notice that seeds are burrowed in—a better position to access the soil and water—if the plant material around the seed is not too dense.**
3. Maple seeds fall from their mother tree in sort of a whirlybird motion. Why is that a good adaptation for species survival? **The whirlybird or helicopter motion carries the seeds in the wind, and farther from the mother tree to colonize new areas.**
4. This process gives evidence for Mother Nature being a good engineer. Propose an explanation for this idea. **Engineers use prototypes and trial and error; they test and retest to solve a problem. Biologists propose that this strategy has evolved over time through trial and error. If the strategy “works” the plant will reproduce and pass on its genes—which carry the information for the strategy. If the strategy doesn’t work, the seeds don’t**