**Sunflower Smiles**

*Looking for an opportunity to include a math lesson with your gardening? Grow a sunflower! Each floret in the sunflower head is oriented to the next to produce a pattern of interconnected spirals that is mathematically the most efficient packing of seeds within the flower head. Once the seeds have formed, look at the seed head – the numbers of clockwise spirals and counterclockwise spirals are consecutive* ***Fibonacci numbers.*** *This is a sequence where each number is the sum of the last two -1,1,2,3,5,8,13,21 etc. Of course, in this digital age you may need to start with an explanation of what is clockwise! The reward for all this math is, of course, a treat – the seeds are edible as well.*

*Sunflowers come in a wide range of sizes and colors. Some are bred for cut flowers and may not produce edible seeds. These are usually marked as ornamental on the seed packet. Others can produce dinner plate sized seed heads on plants ranging from 2’ to 16’ tall. Some of my favorite ornamental ones are ‘Moonshadow’, ‘Autumn Beauty’ and ‘Sun Samba’. These all grow about 5 to 6’ tall. For edible seeds the standard is ‘Mammoth Grey Stripe’ growing to about 6 to 10’, but ‘Sunspot’ will need less staking at 18 to 24” tall and ‘Sunzilla’ claims to be the tallest at 12 to 16’. There are even varieties that are well suited to containers such as ‘Big Smile’, ‘Teddy Bear’ and ‘Elf’.*

*Whichever ones you grow do not plant too early! They need the soil temperature to warm up to 55-60 degrees otherwise they may rot. This is typically mid-May in our area. I like to plant from seed as they form somewhat of a tap root and often do not transplant well from starts if overgrown. They grow best in full sun with fertile, well drained soil, even moisture and appreciate a good mulching. Plant the seeds about 1” deep and far enough apart to accommodate the width of the variety you have chosen. Using an organic fertilizer at the time of planting is best as too much fertilizer while your sunflower is growing can cause stems to split. If you are growing taller varieties don’t forget to stake them before they get too tall. Edible varieties may need some protection from the birds with a light fabric like cheesecloth covering the head. Of course, I like to grow some just for the birds – it is fun to watch them hang upside down from the flower heads to get at the seeds.*

*When the flower petals have fallen off and the head turns brown on the back it is a signal that it is ready to be harvested. Cut with enough stem to hang in a cool dry area. Covering the whole flower with a paper bag will save any falling seeds. When they are dry you should be able to just rub the seeds off. Store in an airtight container and enjoy your tasty, mathematical marvels.*

*\*\*\* Note: one of the pictures should be a close up of a mature flower head that shows the spiral arrangement of the seeds and another should be of one of the ornamental varieties.*