Exploring nature's pattern magic

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Spheres

Spheres have the smallest surface area for their volume. Spheres are circles in three dimensions.

Bubbles a thin film of water enclosing air .

Photo: Heather Arnold

• Through our circular eyes we see how nature creates circles on our spherical earth.
• Nature's cycles like the seasons are circles that operate through time.
• Spheres and circles are seen everywhere in nature from snail eggs to craters on the moon.

a pattern fact

Concentric circles are found in tree rings.

Surface tension pulls the rain drops (on leaves) into spheres.

Photo: NASA

Wheel shaped spokes in the centre of the poppy flower.

where to look

On leaves after rain. In mud pools, lichens, fungi, fruits and vegetables inside onions, centres of flowers.

Fibonacci

Fibonacci discovered a series of numbers that appear throughout nature. 0,1,1,2,3,5,8,13,21,34 ... each new number in sequence is created by adding the two previous numbers.

Leonardo of Pisa, born in 1170, was nicknamed Fibonacci. He was a mathematician who saw nature expressed in specific shapes and numbers with curious and interesting properties.

a pattern fact

The passion flower has 5 petals, 5 sepals and 5 anthers. ◀

Fibonacci numbers can be seen in the spiral of sunflower seed heads. ▽

Fibonacci numbers can be seen in flower petals like this lily. ▽

Nectar guides are patterns on flowers that show insects the way to the nectar. They are found on many flowers. ◣

Fibonacci patterns in pineapples.. Start at the bottom of an organically grown pineapple. Can you count the 13 spirals in an anticlockwise direction? Do you see 8 spirals in a clockwise direction?

try it yourself

Flower petals are often fibonacci numbers. ▲

Leaves display numerical patterns. ▲

Where to look

Look for Fibonacci spiral patterns in pineapples and pinecones. Make a collection of flowers and leaves and see how far you can count.

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