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## Patterns in Nature



## Across

1. have one shape that is the same for top and bottom, and a different shape that is the same for left and right 2. an arrangement of shapes closely fitted together, especially of polygons in a repeated pattern without gaps or overlapping.
2. a mound or ridge of sand or other loose sediment formed by the wind, especially on the sea coast or in a desert
3. a curve or geometric figure, each part of which has the same statistical character as the whole. Fractals are useful in modeling structures (such as eroded coastlines or snowflakes) in which similar patterns recur at progressively smaller scales, and in describing partly random or chaotic phenomena such as crystal growth, fluid turbulence, and galaxy formation.
4. a thin sphere of liquid enclosing air or another gas. 15. follow a winding course
5. a ridge of water between two depressions in open water
6. a small round or roundish mark, differing in color or texture from the surface around it.
7. patterns of symmetry that tessellate the plane from a given fundamental region
8. winding in a continuous and gradually widening (or tightening) curve, either around a central point on a flat plane or about an axis so as to form a cone.
9. classified in seven distinct patterns. Each pattern contains all or some of the following types of symmetry: Translation symmetry, Horizontal mirror symmetry,
Vertical mirror symmetry, Rotational symmetry, or Glide reflection symmetry.
10. ... a single line, called an axis, about which the cell can be rotated by either $60^{\circ}$ or $120^{\circ}$ without changing its appearance
Down
11. common in flowers, fruits, molecules, logos, and buildings, but it is a forbidden symmetry in the world of crystals
12. symmetry around a central axis, as in a starfish or a tulip flower.
13. very rare, and it refers to an organism that can be
divided into two identical halves by any line or cut that passes through its center point
14. symmetry across a line of reflection
15. the property of being divisible into symmetrical halves on either side of a unique plane.
16. a set of numbers that starts with a one or a zero, followed by a one, and proceeds based on the rule
17. a long narrow band or strip, typically of the same width throughout its length, differing in color or texture from the surface on either side of it.
18. a mass of small bubbles formed on or in liquid, typically by agitation or fermentation.
19. the property possessed by an object of producing different sensations on the eye as a result of the way the object reflects or emits light.
20. a twisting movement or course.
21. a line on the surface of something along which it has split without breaking into separate parts
22. a woody perennial plant, typically having a single stem or trunk growing to a considerable height and bearing lateral branches at some distance from the ground.
23. open or spread out from a folded position.
