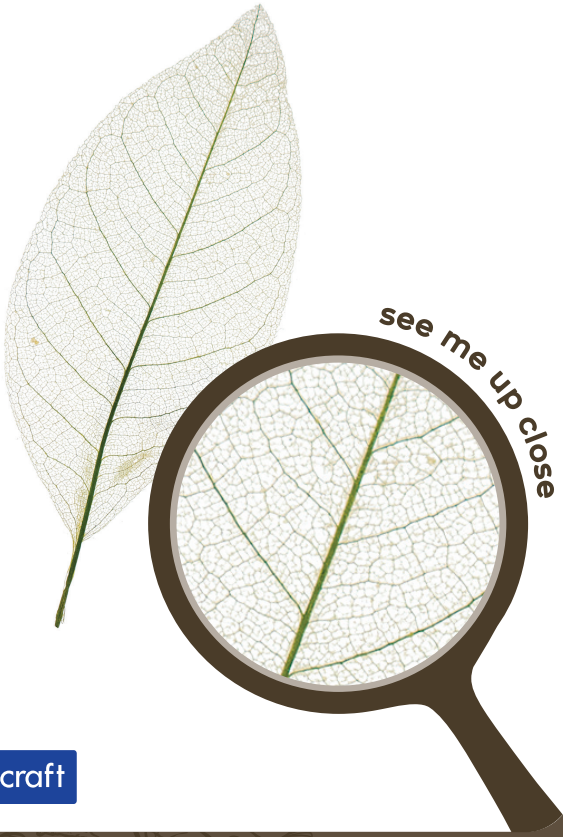
# MAGNOLIA LEAF

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## What shape is it?

The shape is ovate—like a stretched egg on its side! It's a narrow oval, with both ends tapering to a point. Can you spot the pointy ends?

## Where else in nature can you find this shape?

The leaf's shape might remind you of a sweet potato, a bird feather, or an ear of corn! Inside, its structure is a mesh-like network of tiny veins, like the support fibers in a sponge or loofah.

## What is it?

This is a skeletonized magnolia leaf. The soft tissue is taken away, revealing its secret bones! These tough, twisty veins support the leaf and carry water and food, just like our veins transport blood around our bodies.

## Why is it shaped like this?

The pointy tip of the leaf helps water drip off, so it doesn't stay wet. A waxy coating on top repels water and dirt, keeping leaves clean. Test with a fresh leaf and a few water drops! Leaf bottoms are often different and don't need the waxy coating.

## What's its geometry?

Leaves come in many shapes, but those on one tree usually share the same form. Magnolia's oval leaves grow alternately along branches, giving the tree its rounded look. How many leaf shapes can you find?

# MAGNOLIA LEAF

# ONCOMELANIA


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## What is it?

Ever wonder what's inside a snail's shell? This slice shows its secret hideout—the tiny chambers where it once lived. The shell, called an exoskeleton, grows with the snail and protects its soft body.

## What shape is it?

The shell is long and pointy, like an ice cream cone! Its shape, called a conical spire, makes the snail look like a long carrot.

## Why is it shaped like this?

Snails are squishy animals called gastropods. Their shells come in amazing shapes, from simple cones to winding spirals, that protect them and give space to grow.

## Where else in nature can you find this shape?

A snail's spiraled shell is like a swirling tornado, a coiled seashell, a chameleon's curled tail, or even a spiral galaxy!

## What's its geometry?

Snail shells are common, but it's hard to see inside. Peeking in shows a special spiral that grows bigger but keeps the same shape, like a never-ending coil!

# MURICIDAE


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## What is it?

This slice of a murex, or rock snail's, shell shows its beautiful home! Murex snails have unusually strong, twisted shells, often covered with spines on the outside.

## What shape is it?

The whole shell looks like two ice cream cones stuck together. The sliced section resembles a flat diamond. The openings start small and grow as the snail grows, making each larger than the last.

## Why is it shaped like this?

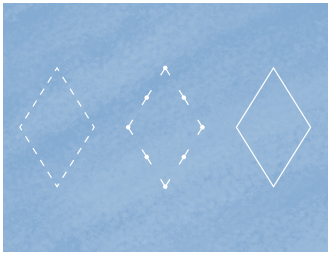
The twisted shell gives the snail space to grow and protects it from harsh waves and predators. The outer spines help defend the snail and may also help it hide in its surroundings.

## Where else in nature can you find this shape?

A murex snail can look like a spinning top or jewels with sharp points. When you slice it open, it can look like a kite, a diamond on a card, or a sparkling gemstone.

## What's its geometry?

A diamond shape has four sides. They can be different lengths, but if all are equal, it's a square. Try drawing a diamond. Can you spot two triangles hiding inside?



# STAR FRUIT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## What is it?

Who doesn't enjoy the sweet and tangy flavor of a ripe, juicy carambola or star fruit? When sliced carefully, a plate full of slices looks like a star-studded night sky!

## What shape is it?

The whole fruit is a simple oval with bold ridges, but when sliced, it reveals a stunning five-pointed star shape! The seeds sit in the middle, right under the star's arms.

## Why is it shaped like this?

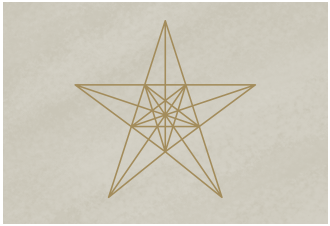
Carambola's shape comes from ridges running top to bottom. Each ridge forms one arm of the star. They keep the fruit strong, protect from insects, and help water slide off so it doesn't rot.

## Where else in nature can you find this shape?

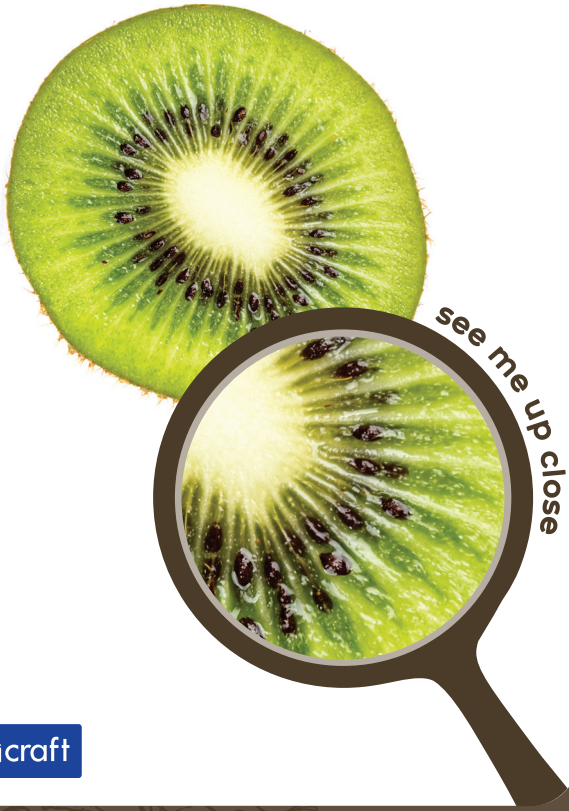
When you slice the fruit, it looks like a starfish, a star anise, a flower with five petals, some snowflakes, or a sand dollar!

## What's its geometry?

Like a star polygon, a carambola slice has five arms, five corners, and ten sides. It looks just like the stars you draw. Look closely, can you find shapes inside, like triangles hiding between the points?



# KIWI FRUIT

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## What shape is it?

A kiwi is oval or egg-shaped, ranging in size from a grape to a chicken egg. Its seeds circle the core, making the slice look like a sunflower!

## Where else in nature can you find this shape?

Nature and humans both love ovals. Many things, like avocados and bird eggs, are oval. Human-made objects like balloons and mirrors are oval, too!

## What is it?

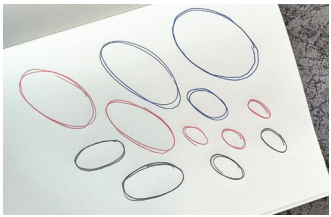
This is a kiwi slice. Kiwis are fuzzy or leathery on the outside, but inside they are soft, juicy, and full of crunchy seeds. It's like nature's own green lollipop!

## Why is it shaped like this?

Oval shapes aren't just nice to look at; they're useful, too! An oval shape makes the fruit stronger, protects the seeds evenly, and gives them enough room to grow.

## What's its geometry?

An oval is a stretched-out circle with no corners or straight sides. Can you draw it? Try drawing a circle and then slightly stretching it.



# FIG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## What shape is it?

Figs come in many shapes and sizes. A slice is a simple oval, but the whole fruit is often shaped like a teardrop.

## Where else in nature can you find this shape?

While figs can be many shapes, they often look like pears or balloons. Inside, they look like a pomegranate, with tiny flowers and seeds packed close together.

## What is it?

Did you know the tasty figs we eat aren't one fruit but a cluster of flowers? A slice shows its juicy insides, which are actually a maze of tiny flowers and seeds hugging together inside a pouch!

## Why is it shaped like this?

The teardrop shape of a fig lets it hang with its narrow end attached to the stem. Food from the mother plant flows through the stem into the rounded fruit, keeping it healthy until it is ready to eat.

## What's its geometry?

A teardrop shape has no corners and one curved side that gets wider toward the bottom. Try drawing a teardrop, then turn it into a fig by adding a stem and bumpy sides!

# PINECONE


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## What is it?

Pines are cone-bearing trees called conifers, and some of Earth's oldest. A pine cone slice shows an amazing pattern with a central core and surrounding layers, like a halved pineapple!

## What shape is it?

As its name says, a pine cone is shaped like a cone. A slice shows a woody core running from base to tip. Layers of scales circle it, each with a seed at its base. Can you spot them?

## Why is it shaped like this?

A pine cone's shape keeps seeds safe. When the weather is good, the scales open to release seeds. During harsh times, it closes tightly and sheds water and snow like a raincoat.

## Where else in nature can you find this shape?

A pine cone cut lengthwise resembles a halved artichoke. From the outside, it can look like a beehive or a curled-up baby armadillo. Can you see the fish-like scales?

## What's its geometry?

A cone joins a dot and a circle to make a 3D shape. Pine cone scales spiral both ways, like two curly slides at a water park! This pattern also appears in sunflowers, pineapples, and even snails!

# LOOFAH


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## What is it?

This is a slice of a loofah gourd, a close cousin of cucumbers and squash. When young, it's green and juicy, but when old and dry, it reveals the fibrous structure you see here.

## What shape is it?

The slice is almost round with rough edges. Inside is a web of spongy mesh with large holes that look like a flower. The whole fruit resembles a fat cucumber.

## Why is it shaped like this?

The fibrous mesh is a skeleton of tissues that once carried water and food while protecting seeds. Its long shape gave the seeds room to grow. Now that the fruit is old, only hard fibers are left to hold it up.

## Where else in nature can you find this shape?

The brownish slice might remind you of a spider web, a sea sponge, or a messy bird's nest! The young fruit, on the other hand, looks like a big cucumber or a giant caterpillar.

## What's its geometry?

The inside of a loofah is nature's play with geometry, full of shapes, symmetry, and patterns! Look closely at a loofah scrubber with a magnifying lens and see how many shapes you can spot.

# SALMON VERTEBRA


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## What shape is it?

Each salmon vertebra is round with two hollow sides like bowls facing apart. Bony arms stick out from each side, and together they give the fish its rocket-like shape.

## Why is it shaped like this?

The shape keeps the backbone strong and flexible, making salmon expert swimmers! Bony arms support muscles that help it move its body and tail smoothly.

## What is it?

A backbone is made of small bones called vertebrae that work as a team to support an animal and keep its posture. This is a single vertebra from a salmon's backbone.

## Where else in nature can you find this shape?

The shallow faces might look like a bowl, a saucer, or even red blood cells in our body! The thin arms look like the spokes of a bicycle wheel.

## What's its geometry?

Curved surfaces can be convex, bulging outward like a turtle's shell, or concave, curving inward like a spoon. A salmon's vertebra has two concave faces, so it's called biconcave.

# SALMON VERTEBRA