GUESS THAT SMELL!

Round 1

HINTS

-Hint 1: I cover 70% of the Earth

-Hint 2: Whales, fish, and kelp all call me home

HINTS

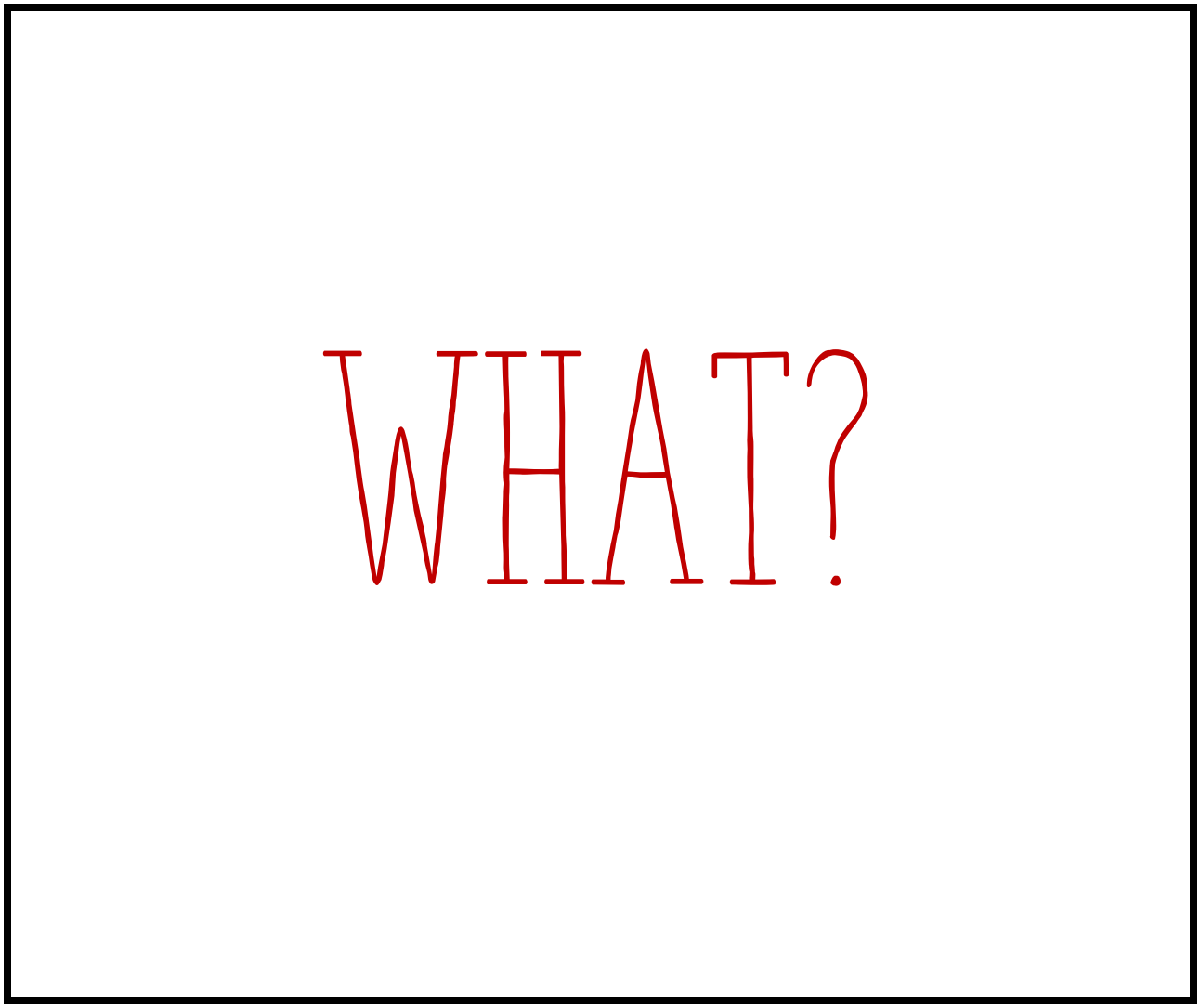
-Hint 4: I'm a popular vacation spot, and I cover 347 miles of Oregon

ANSWER

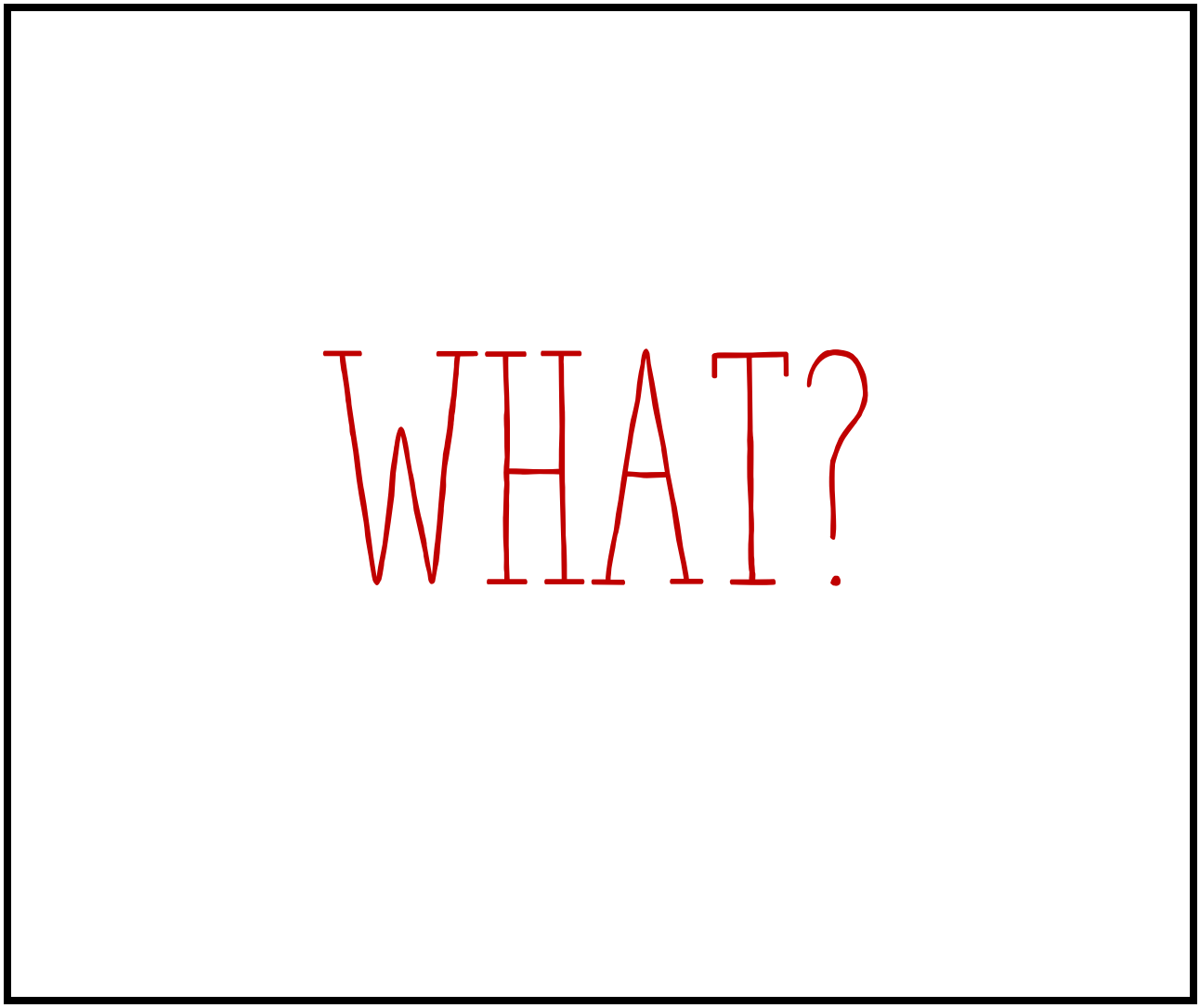
The answer is...

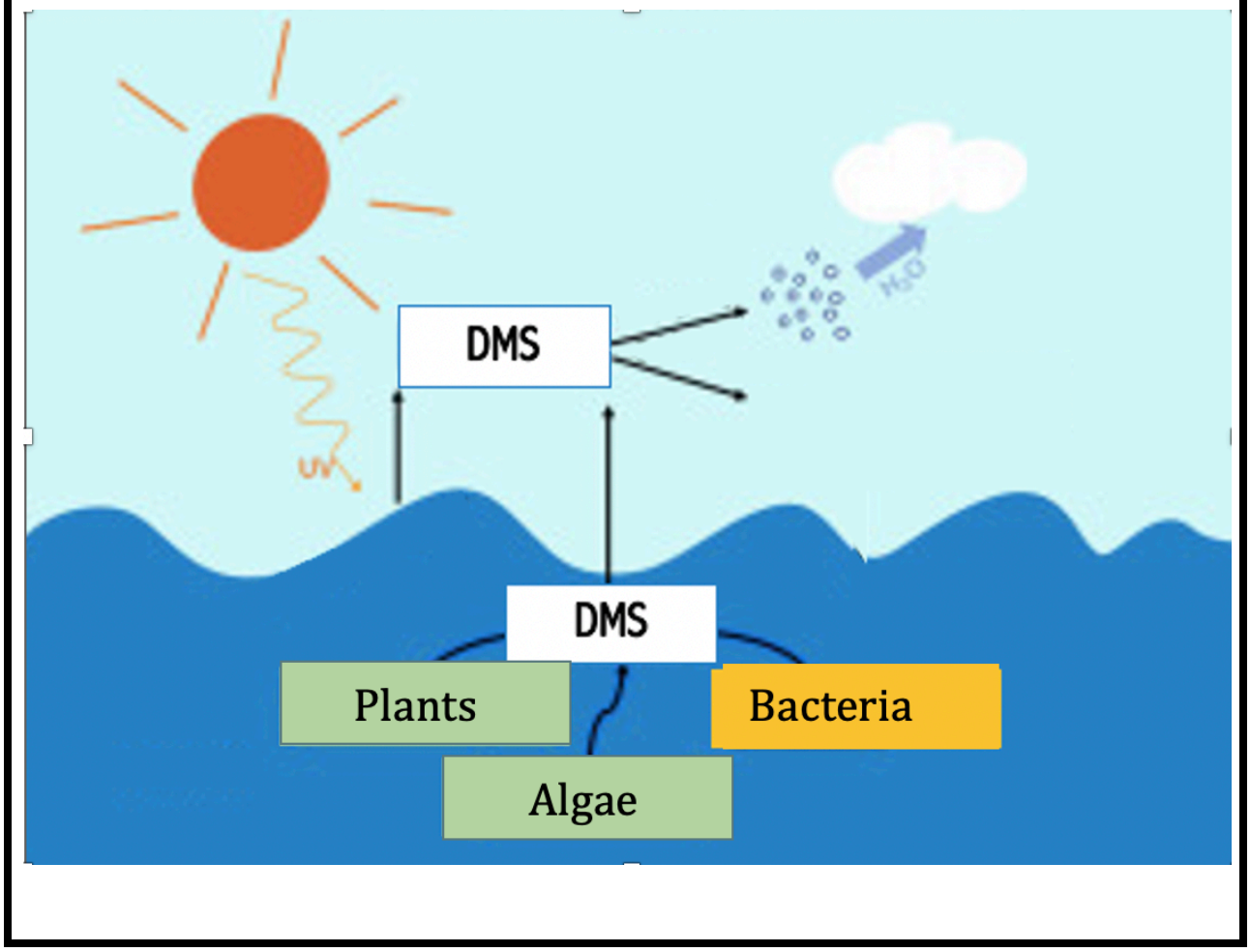
The Ocean!

smells like... dimethyl sulfide


WHAT?

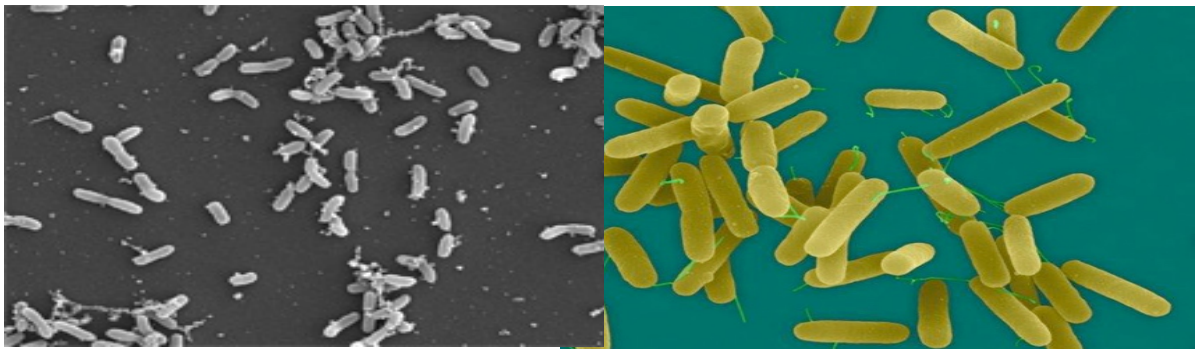
Dimethyl Sulfide (DMS) is a stinky chemical found in the ocean. On warm days, it is released as a gas. Once in the atmosphere, DMS causes water to form clouds.

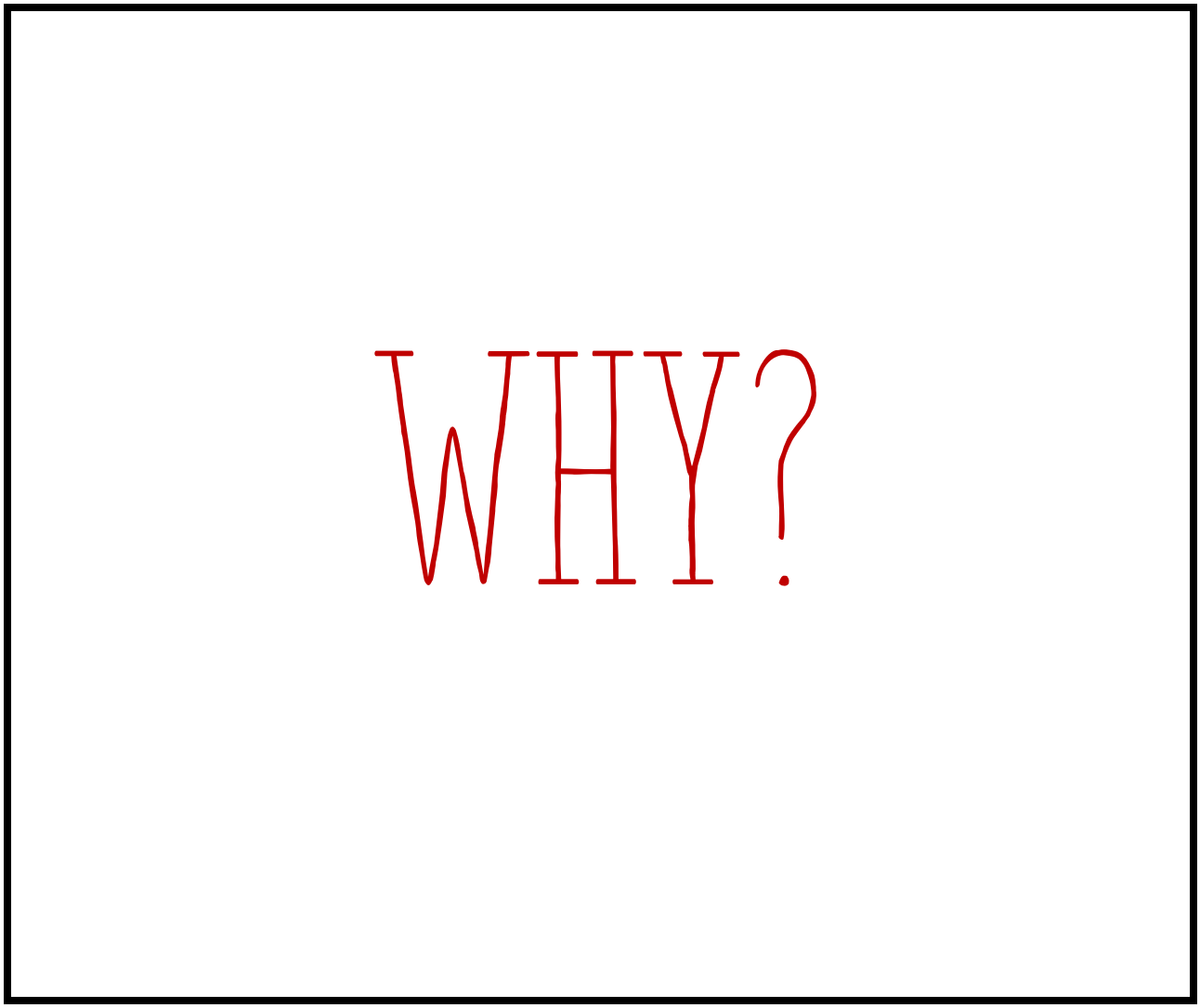

WHAT?


DMS
DMS
Plants
Bacteria
Algae


WHO?

Bacteria, algae, and plants all make DMSP, which some bacteria can turn into DMS




WHY?

DMSP is a good source of energy and nutrients, and living things need both. They break down the DMSP, making DMS and releasing it as waste.

GUESS THAT SMELL!

Round 2

HINTS

-Hint 1: There are more than 7 species of me in Oregon

-Hint 2: I live all over the state, but I like how cool it is by the coast the very best.

HINTS

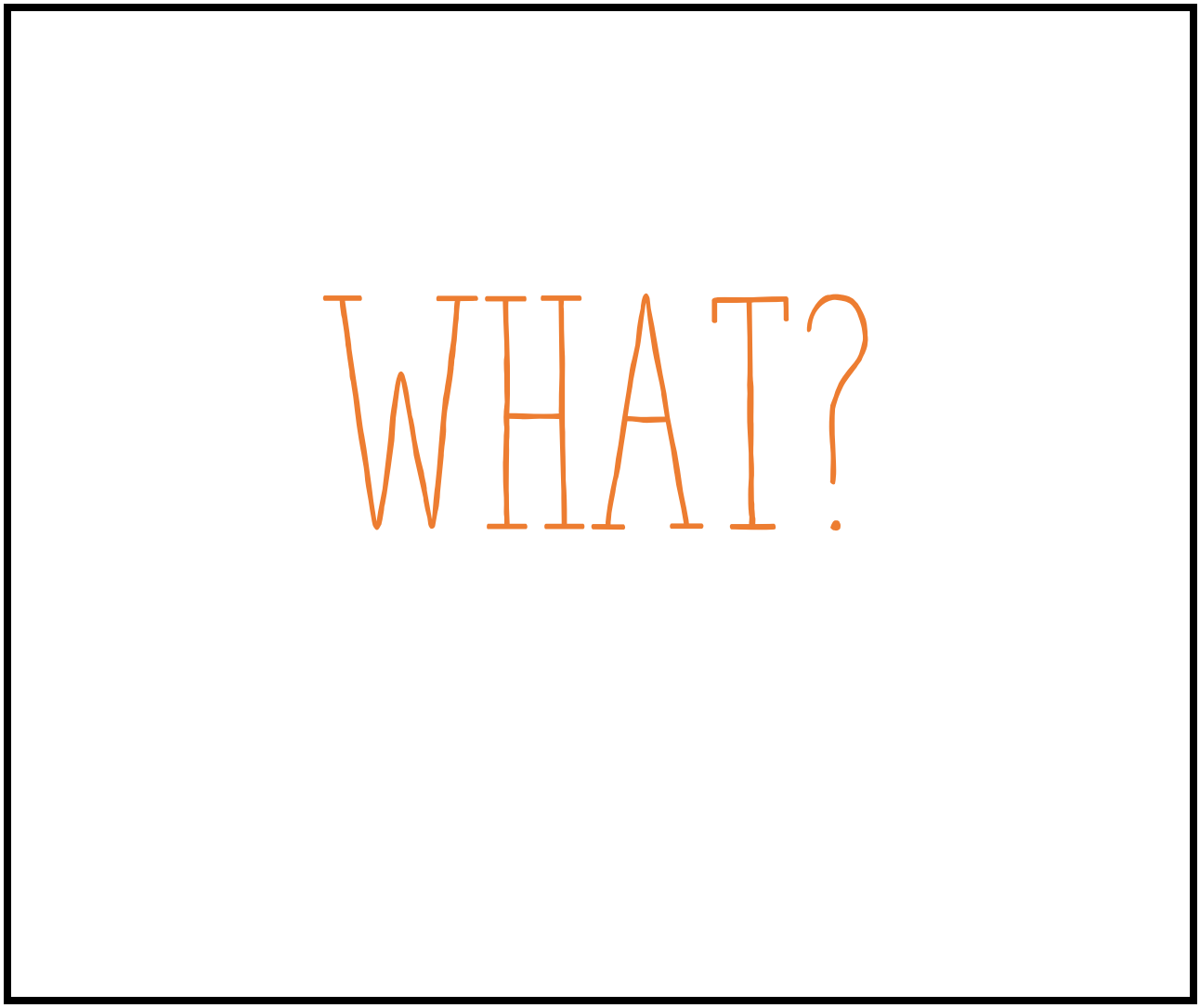
-Hint 4: Beavers love to knock me down and use me

ANSWER

The answer is...

Pine Trees!

smells like... alpha-pinene


WHAT?

Alpha-pinene is found in many things, including cleaning products, candles, soaps, and other things that smell nice. Your brain recognizes alpha-pinene as a relaxing scent, which is why you may feel less stressed in a forest!

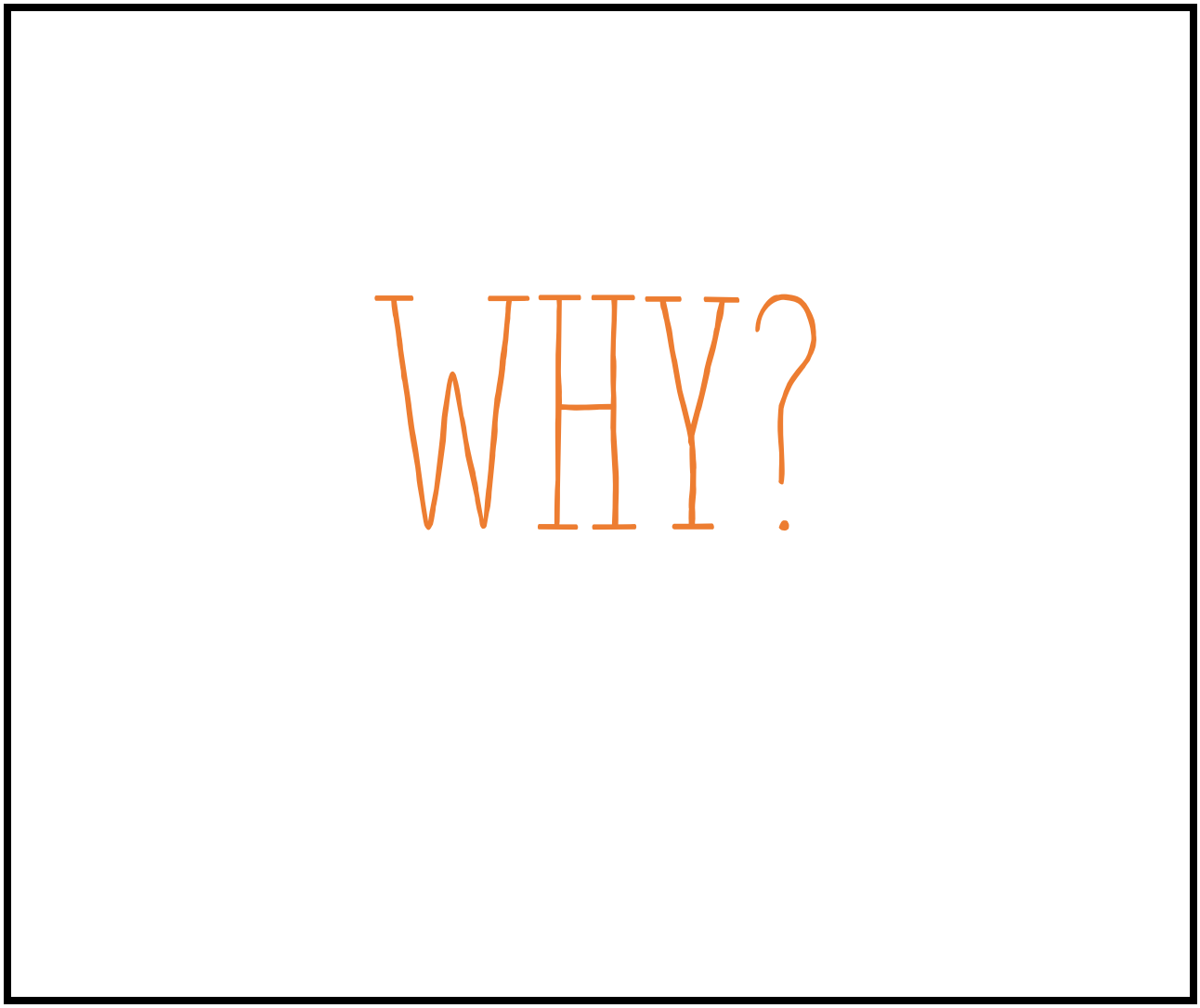

WHO?

Alpha-pinene is made by pine trees and its relatives, which are called conifers. Conifers are types of trees that release their seeds in a cone (for example, a pine cone).


WHO?


Pine


Spruce


WHY?

Similar to DMS, alpha-pinene causes clouds to form, and the clouds collect water until it starts to rain. By releasing alpha-pinene, the trees give themselves a source of water. This is part of why Oregon has a lot trees, and a lot of rain.

GUESS THAT SMELL!

Round 3

HINTS

-Hint 1: I'm the second most expensive spice in the world.

-Hint 2: I'm native to Mexico and Central America, but you'll find me in your favorite desserts.

HINTS

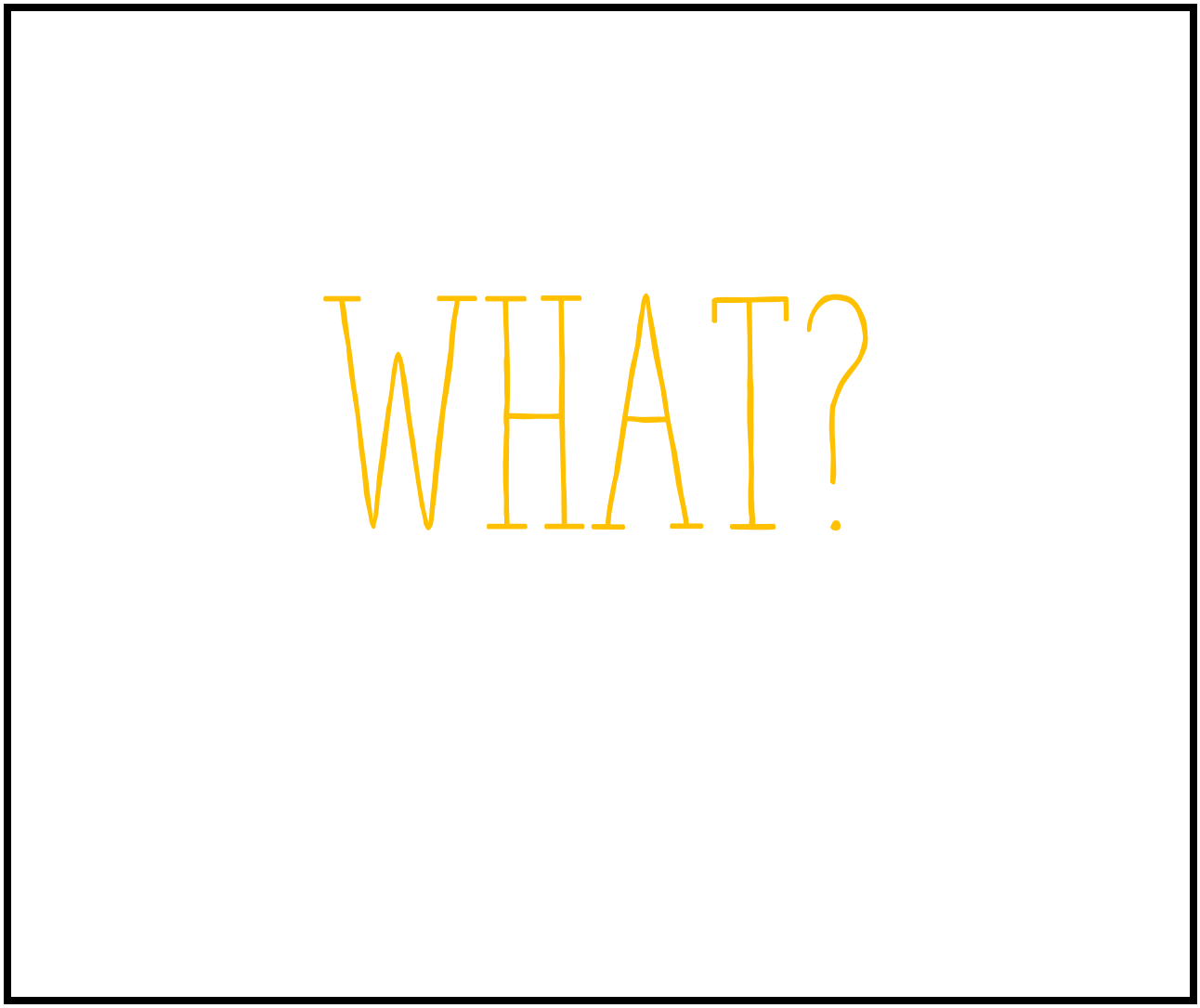
–Hint 4: I'm considered the most universally liked scent in the world.

ANSWER

The answer is...

Vanilla!

smells like... vanillin


WHAT?

Vanilla is one of the most popular scents and flavors in the world. It is made from vanilla bean, which is very expensive. Most vanilla in the food we eat was made in a lab.

WHO?

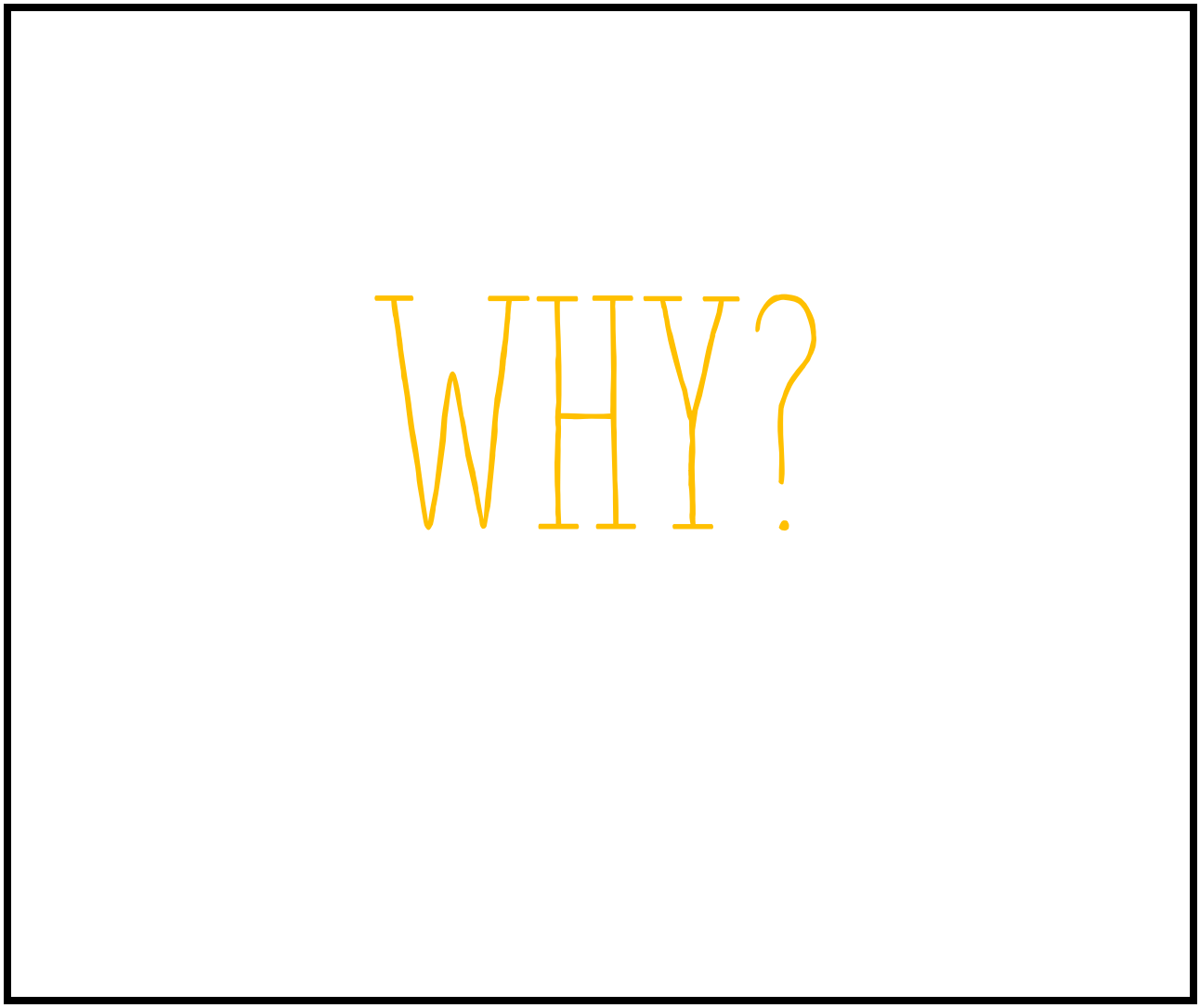
Vanilla beans are made by the vanilla orchid, which is a type of flower. They are fragile, difficult to keep alive, and difficult to get seeds from, which is why vanilla beans are so expensive.


WHO?

WHO?

Vanilla orchids do not produce beans very often. In order to farm them, farmers pollinate the plants to force them to produce the beans.

WHO?


WHY?

While vanillin tastes very good, nobody knows why the vanilla orchid makes it. One theory is that the sweet smell attracts pollinators, helping the orchid to create more seeds.

GUESS THAT SMELL!

Round 4

HINTS

-Hint 1: My name is famously hard to rhyme.

-Hint 2:I'm part of a bitter family, but I'm sweet.

HINTS

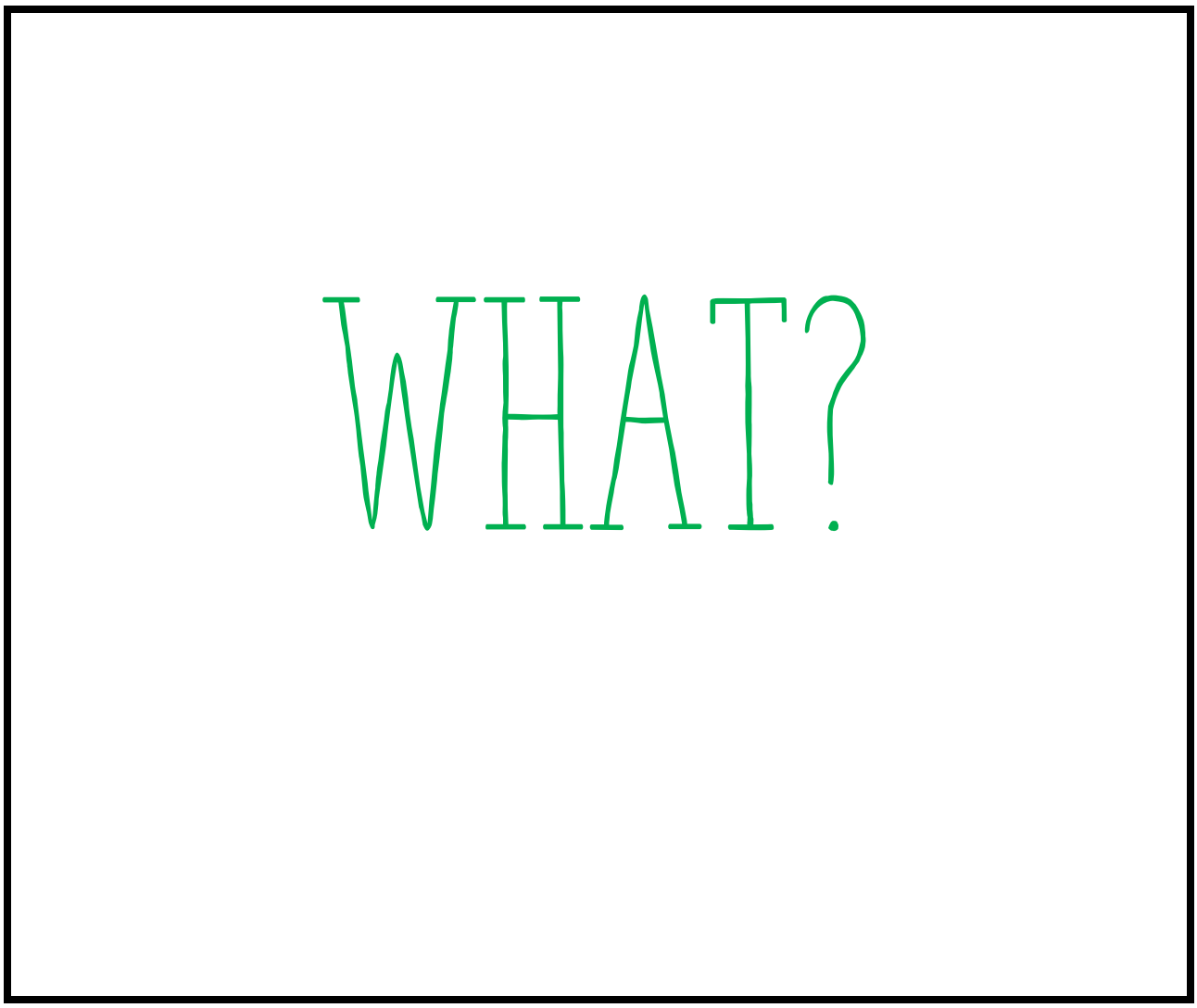
-Hint 4: I have the same name as the color that describes me

ANSWER

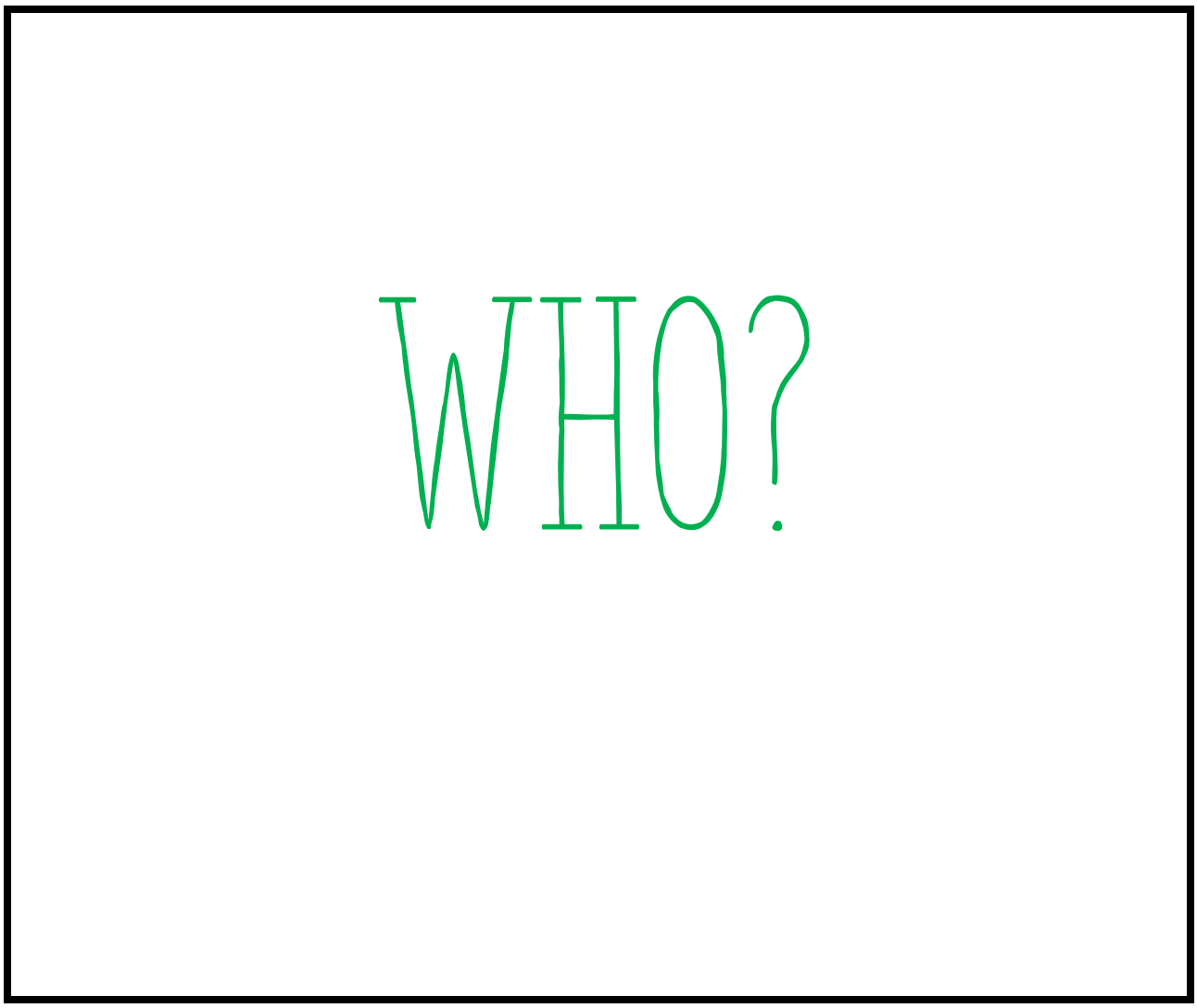
The answer is...

Oranges!

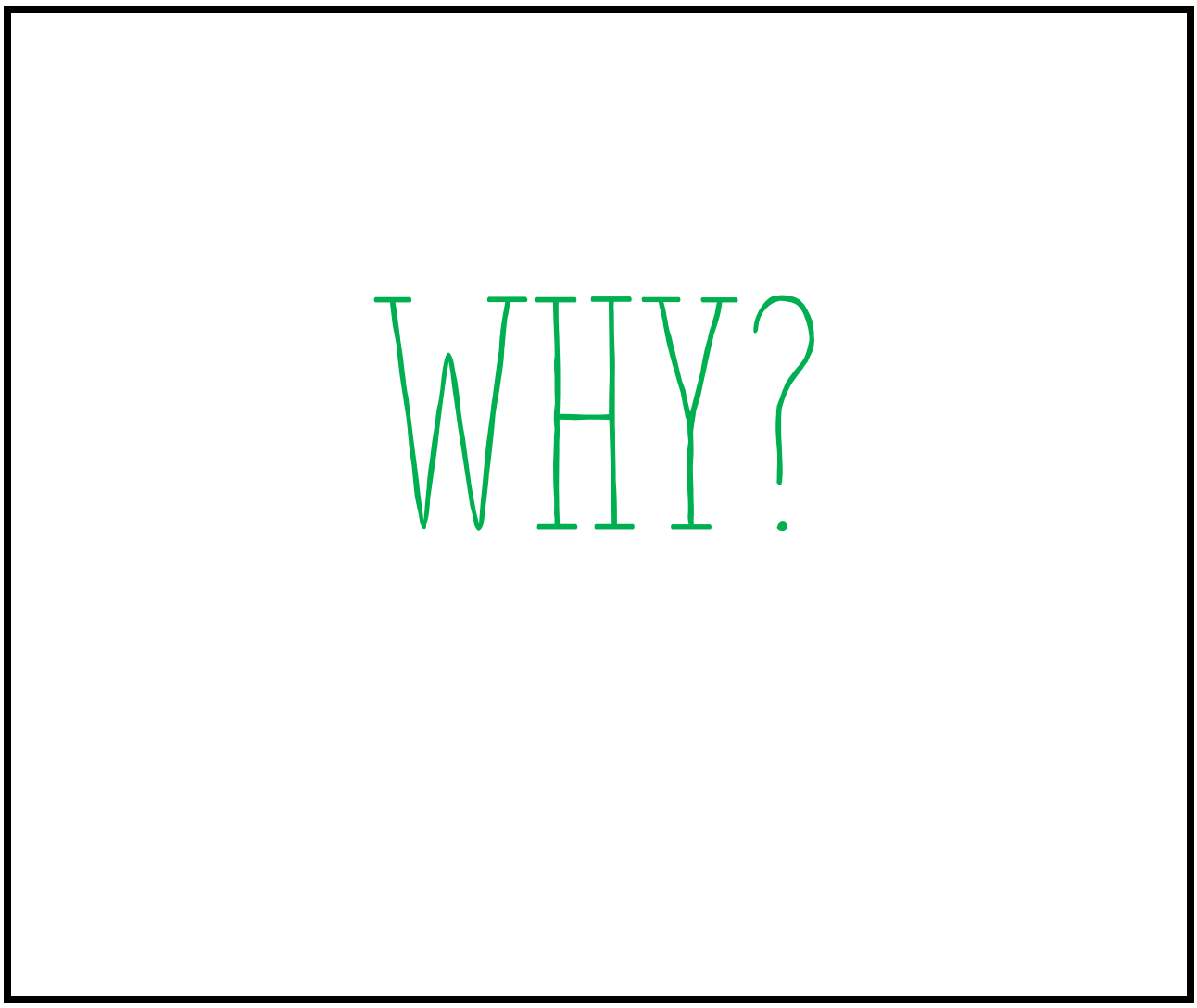
smells like... d-limonene


WHAT?

d-Limonene is the fruity smelling chemical in oranges. It is used as artificial flavoring, and like alpha-pinene, it is used in cleaning products. It is even able to kill Covid-19 and the flu!


WHO?

d-Limonene makes up most of the oils in an orange rind, and is the primary chemical responsible for an orange's smell.


WHY?

The sweet smell of oranges attracts bugs, including fruit flies, which break down the rind and fruit. Once the fruit has decomposed, the seeds are ready to become a new tree.

GUESS THAT SMELL!

Round 5

HINTS

-Hint 1: You might see me on the side of the road, or in ranch dressing.

-Hint 2: If you don't like how I taste, you may have to dill with it.

HINTS

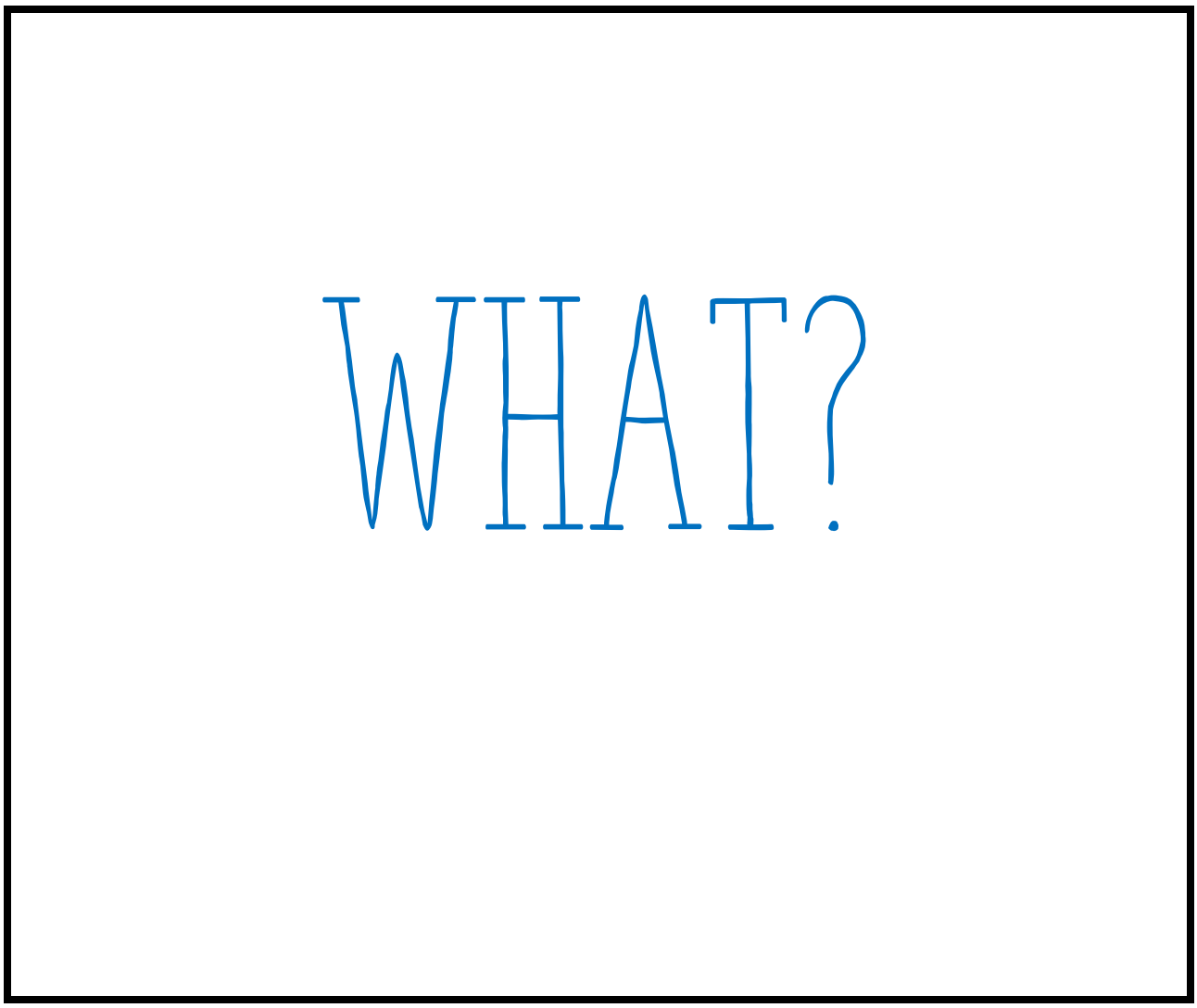
–Hint 4: Mirror mirror on the wall,
I mirror Round 4,
But don't smell like it at all

ANSWER

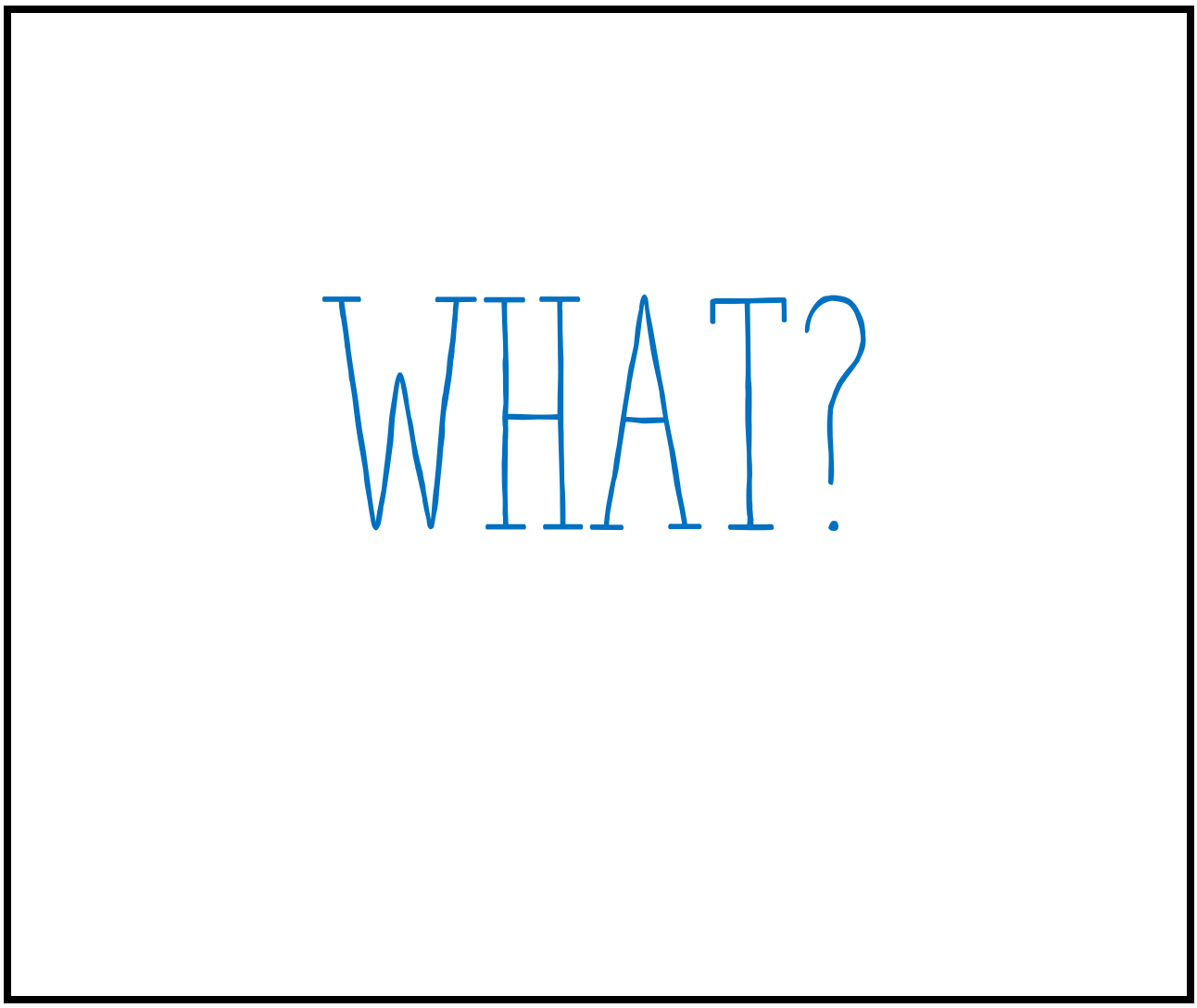
The answer is...

Dill!

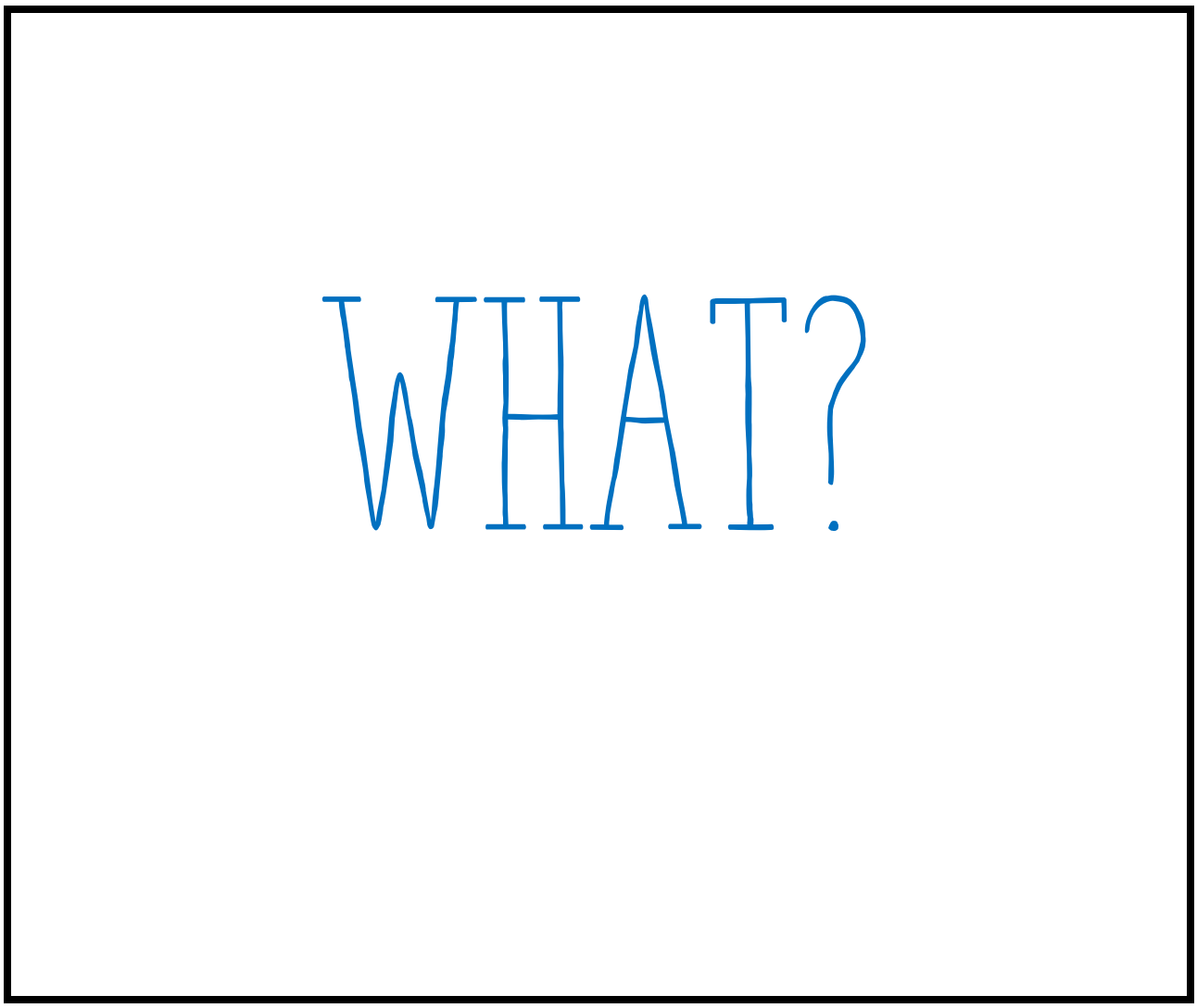
smells like... l-limonene


WHAT?

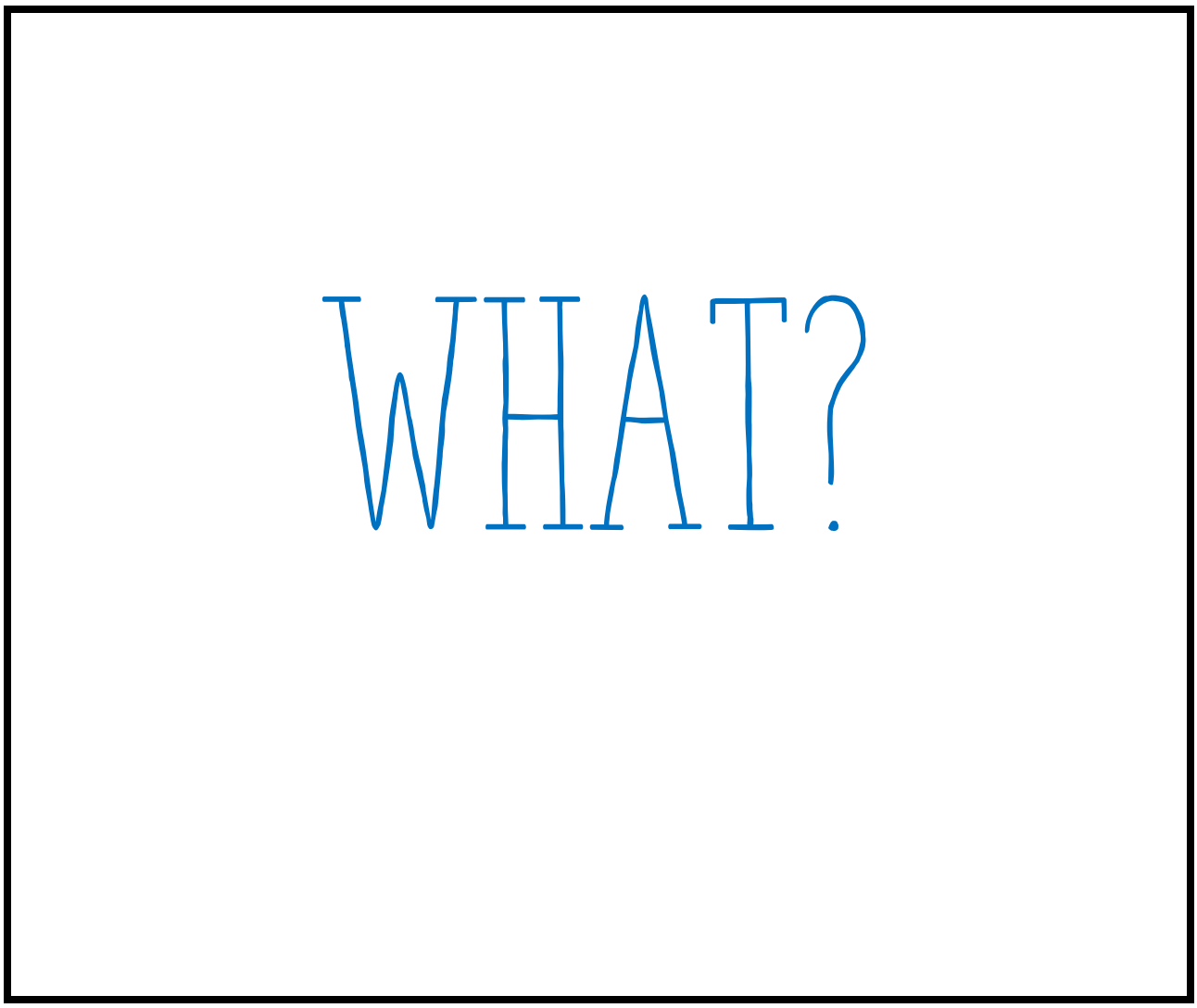
L-limonene is the main compound found in dill, which is an ingredient in ranch dressing. Its odor has been described as smelling like pine, lemon, and citronella (bug repellant) as well.

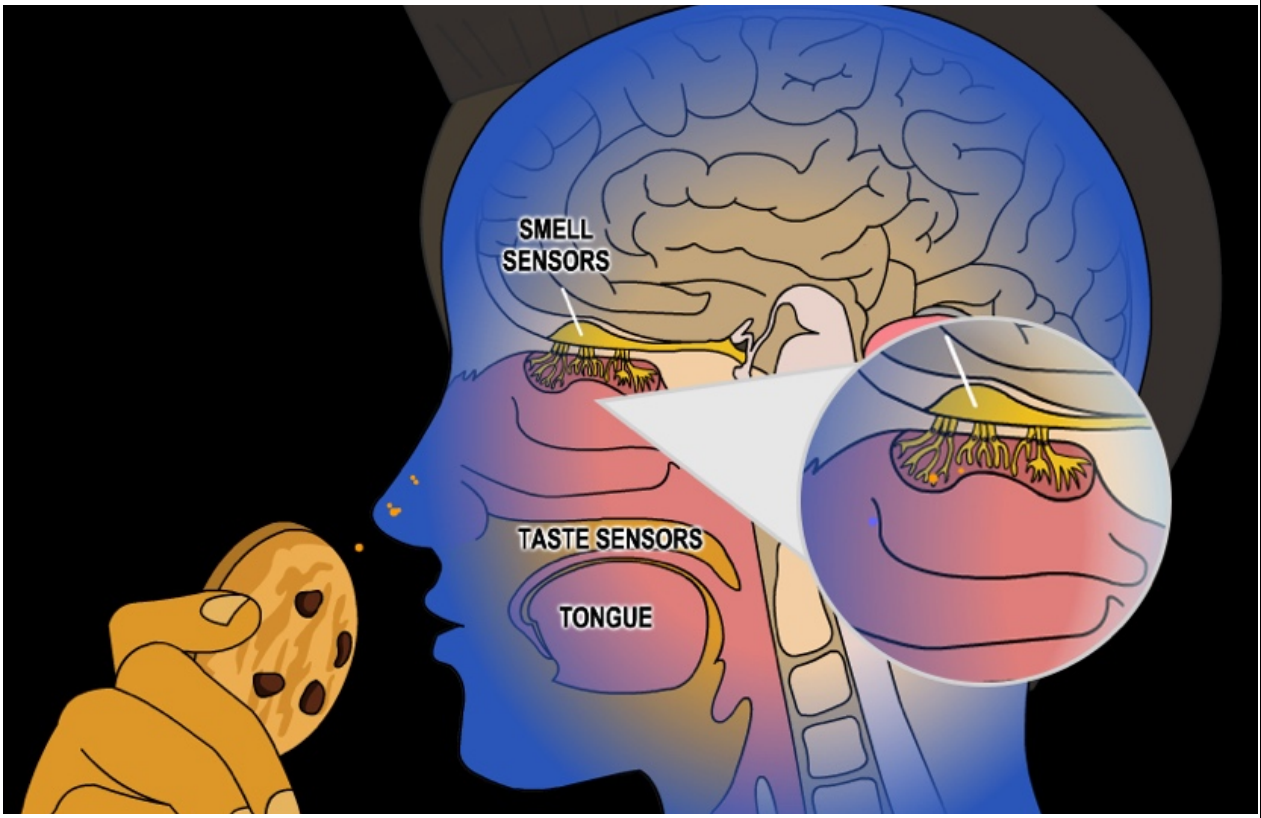

WHAT?

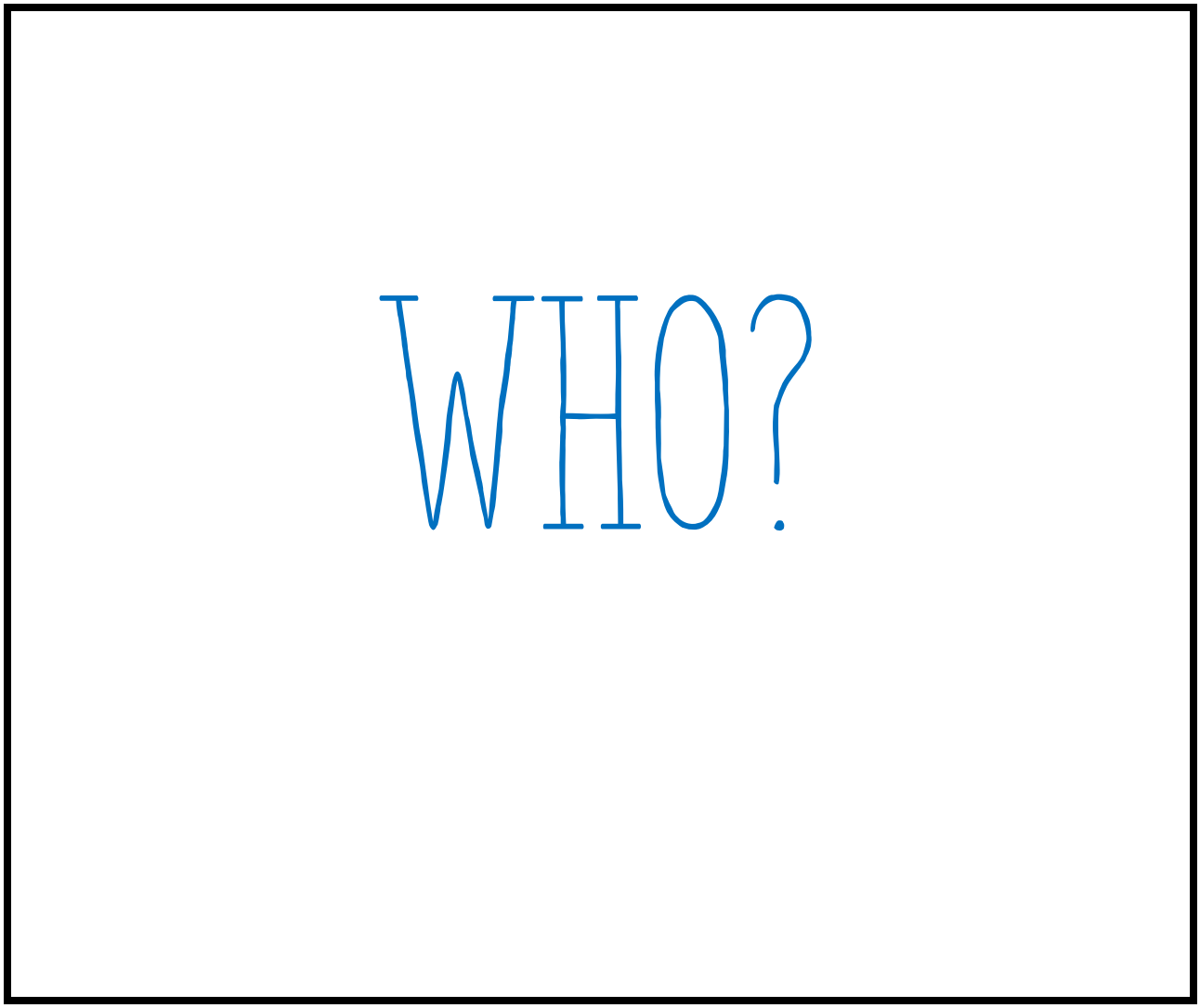
Because D and L-limonene are so similar, they can be hard to separate in a lab. Most things outside of nature have a mixture of the two.


WHAT?

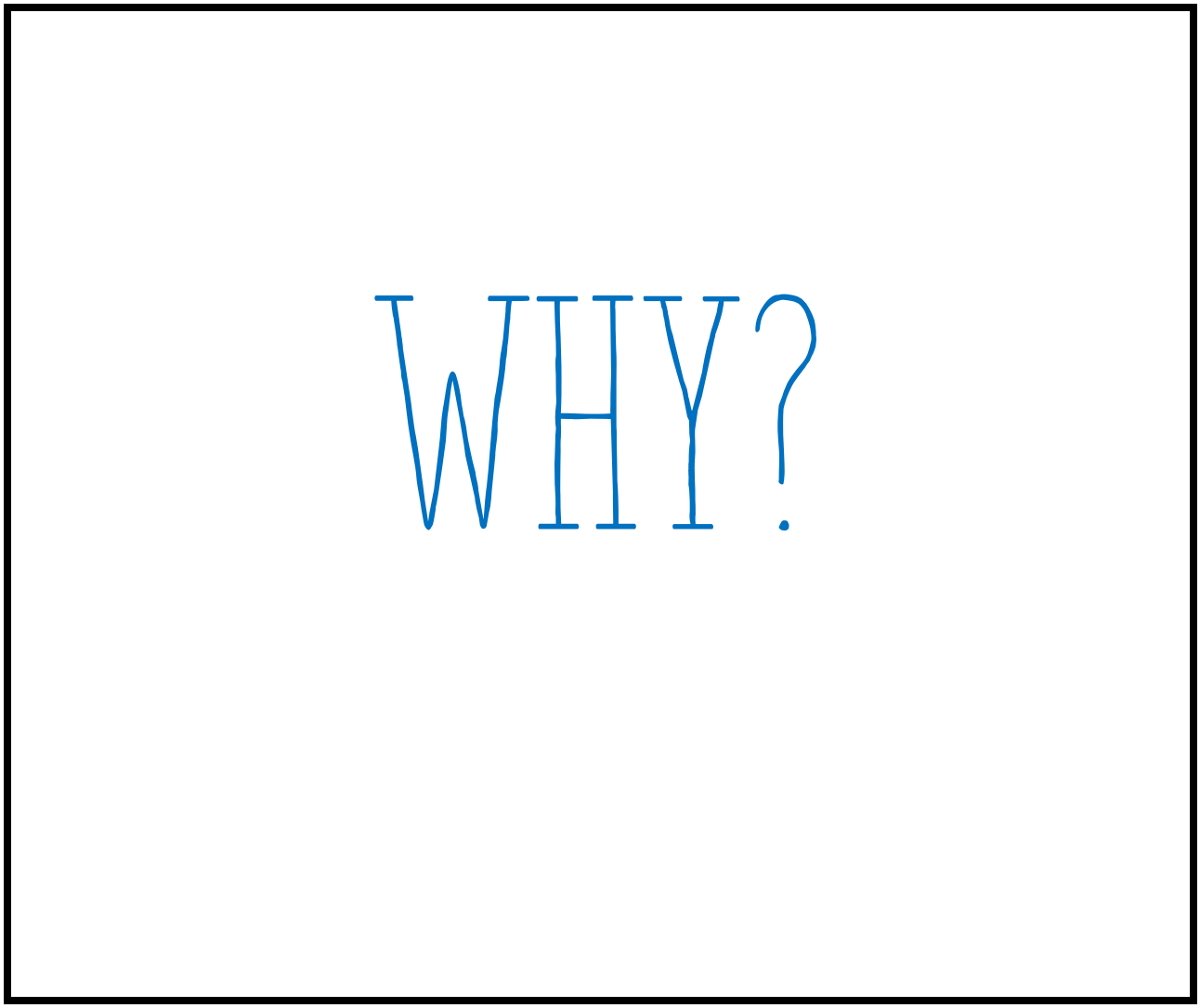
Even though D and L-limonene are mirror images, they smell different. This is because smell receptors in our nose only bind to one type of molecule. Molecules that are slightly different do not bind to the same receptor.


WHAT?


SMELL
SENSORS
TASTE SENSORS
TONGUE


WHO?

L-limonene is found in dill, caraway, fennel, carrots, and other related plants.


WHY?

Unlike D-limonene, L-limonene has a bitter smell. It repels pests, keeping the flowers and seeds safe. L-limonene is kept in the leaves, protecting the plant from losing its ability to produce energy from sunlight.

GUESS THAT SMELL!

Round 6

HINTS

-Hint 1: You wouldn't want to eat me, but you may eat the things that come out of me.

-Hint 2: Nobody wants me in their house, but I come in anyway

HINTS

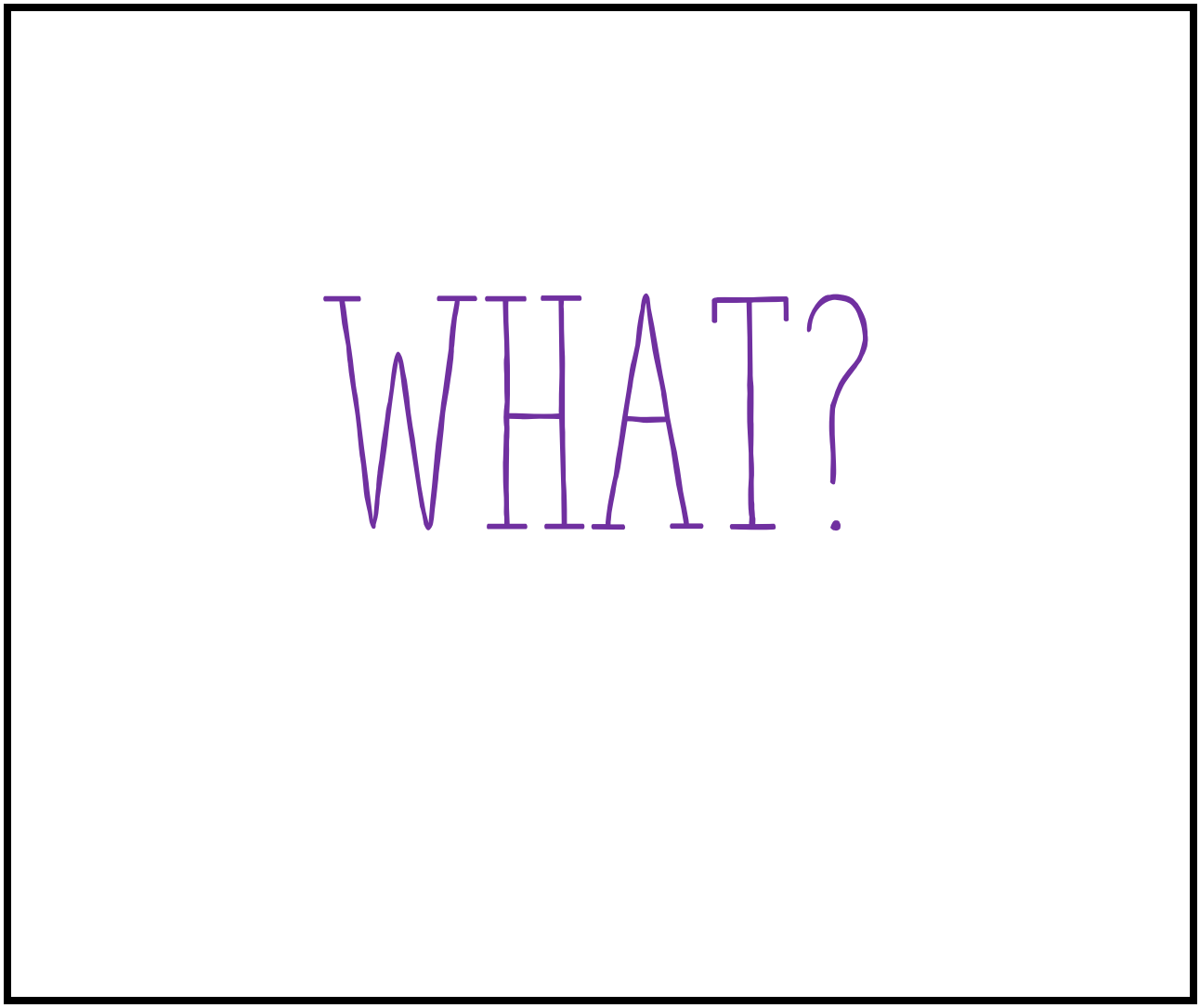
–Hint 4: I cover 7.5% of the Earth's surface, but you may still buy me in a store.

ANSWER

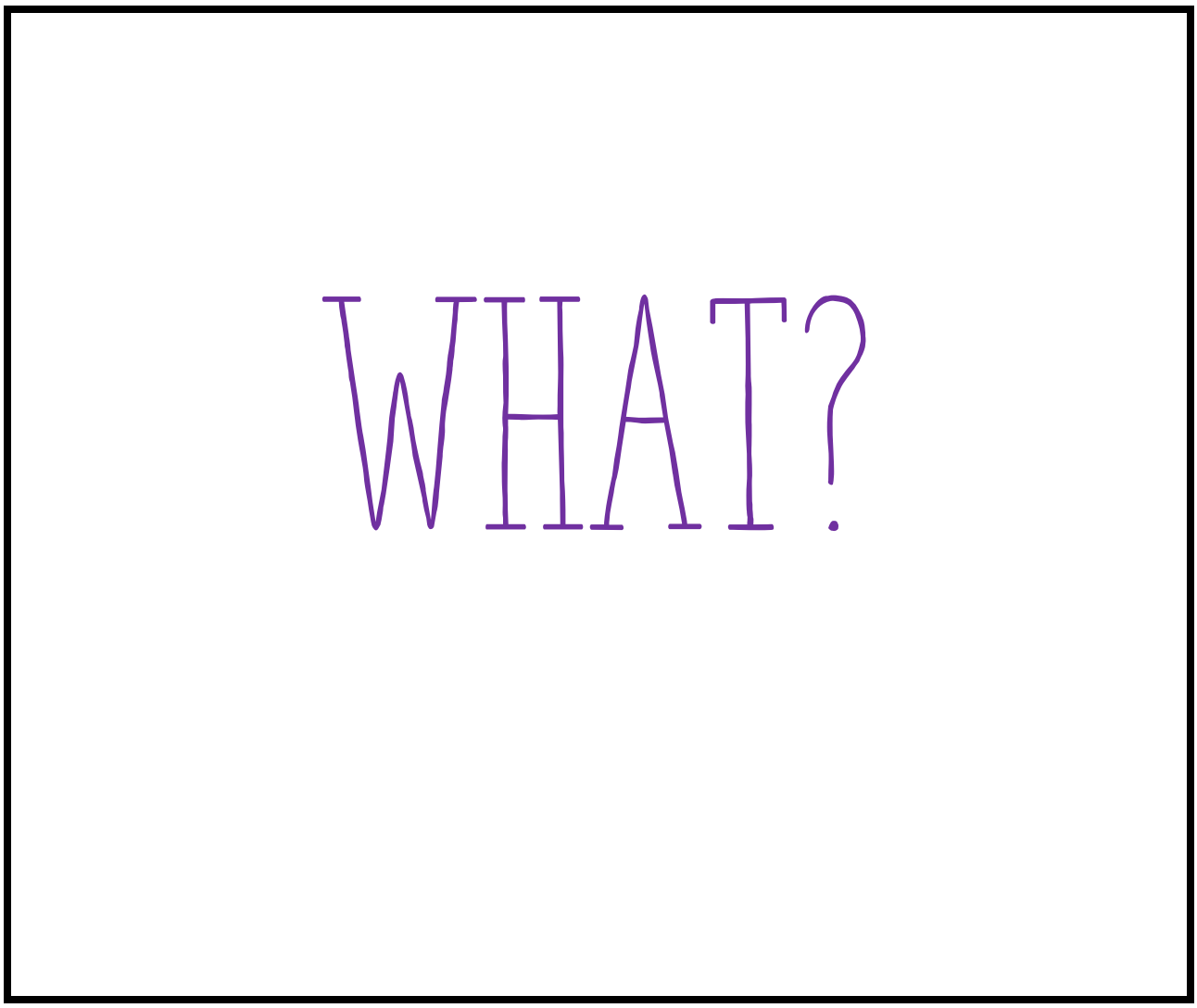
The answer is...

Dirt!

smells like... geosmin


WHAT?

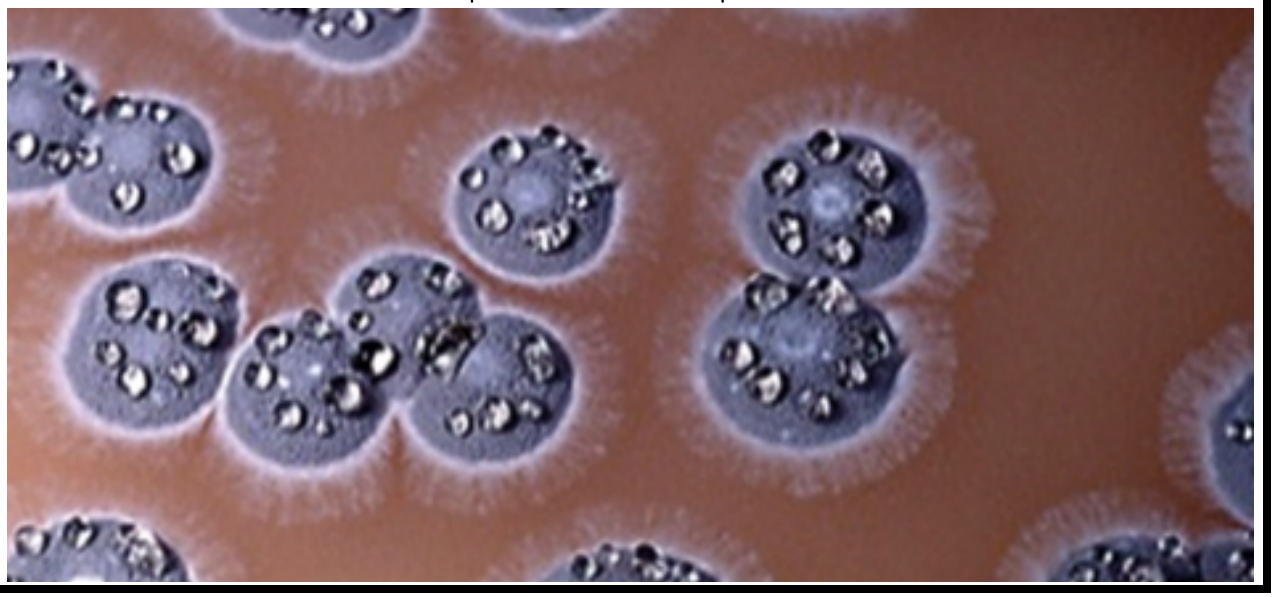
Geosmin is the compound responsible for the smell of dirt, as well as the smell of rain. As rain hits the dirt, the geosmin molecules are released and we can smell them.

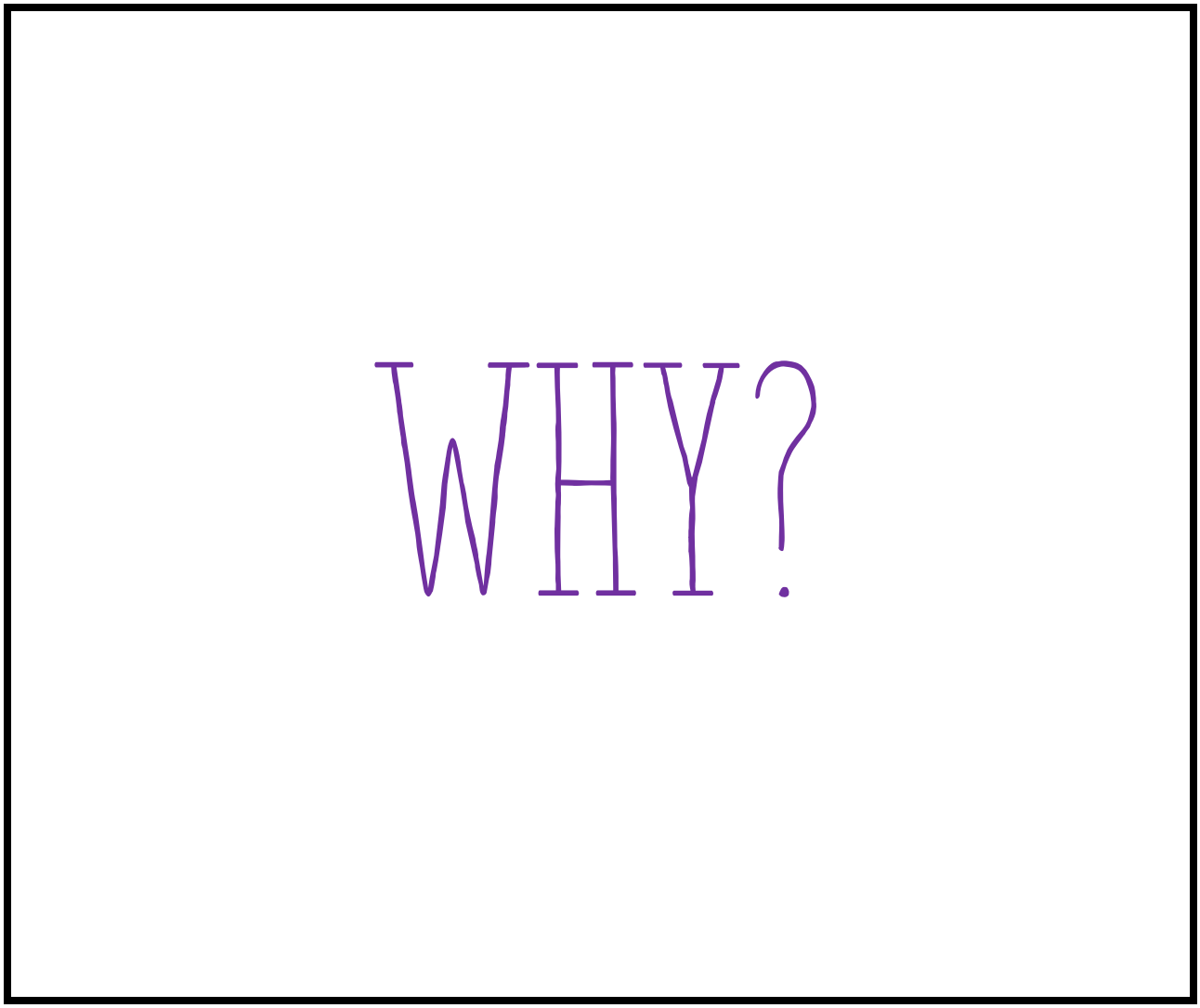

WHAT?

Geosmin can also be found in most waterways and is filtered out of drinking water because of its taste, which humans associate with something dirty.

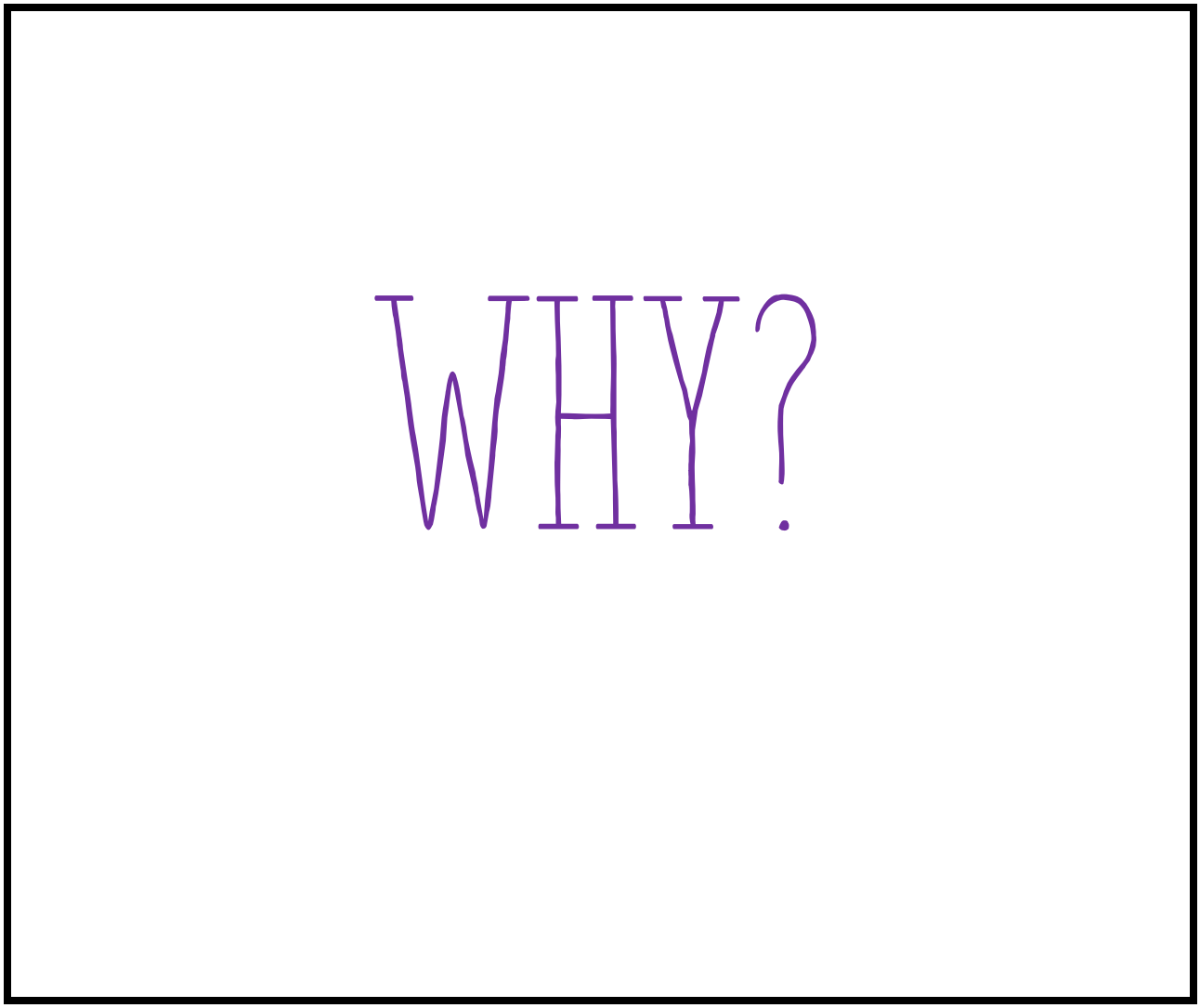
WHO?

Geosmin is produced by soil bacteria. It is also found in plants, fungi, and animals that pick it up from the dirt.

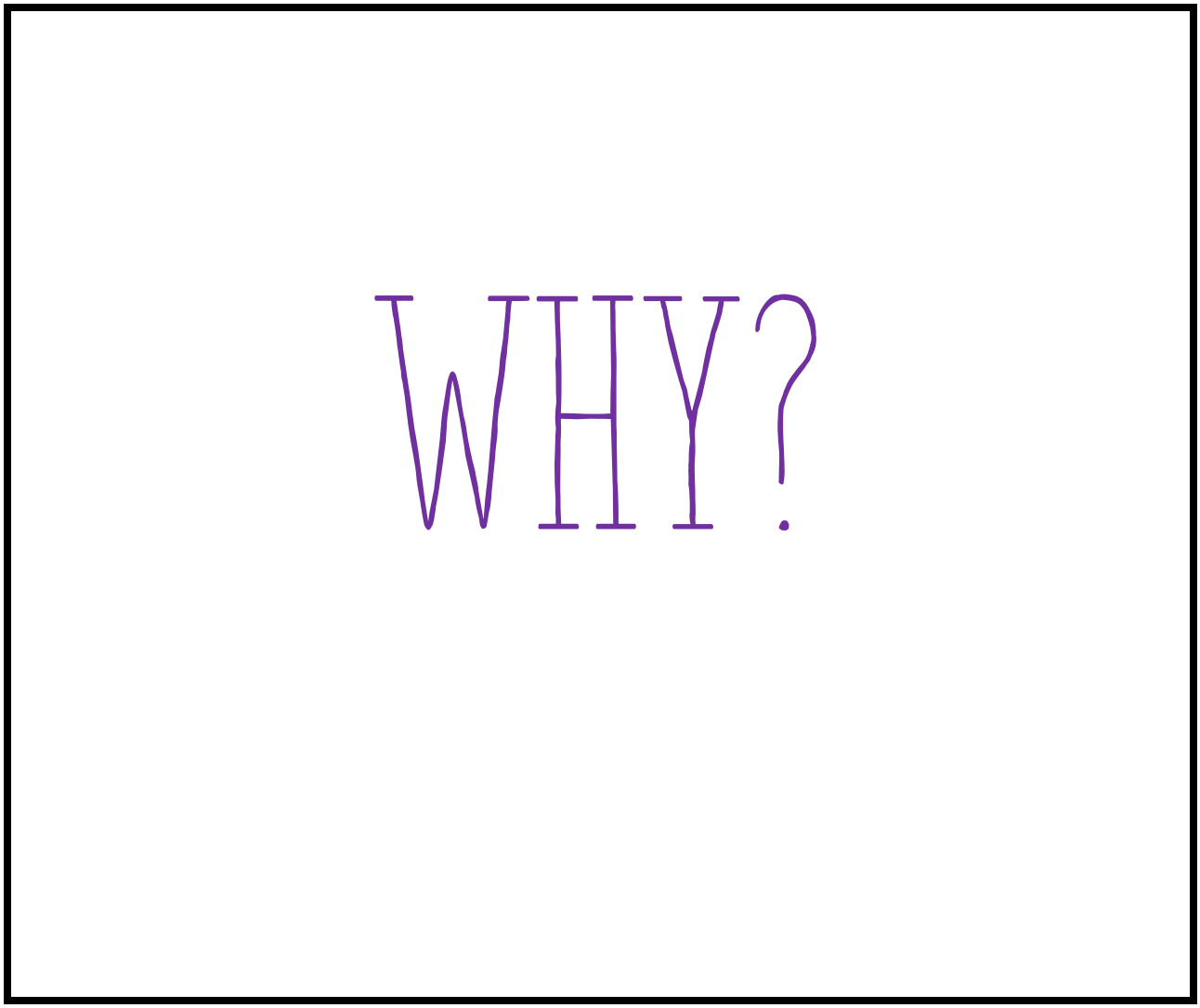



WHY?

Because bacteria are too small to be seen, many things, including humans, eat them or breathe them in without realizing it, making us sick.


WHY?

These bacteria do not want to be eaten and killed while we digest them. Because we can't see them, they emit an odor so we know that they're there, which is beneficial for both species.


WHY?

Soil bacteria and humans have "coevolved", which means we evolved together. When they evolved to produce the smell, we had to evolve to smell it and think of it as gross. This keeps both species safe from each other.