

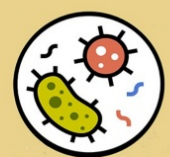
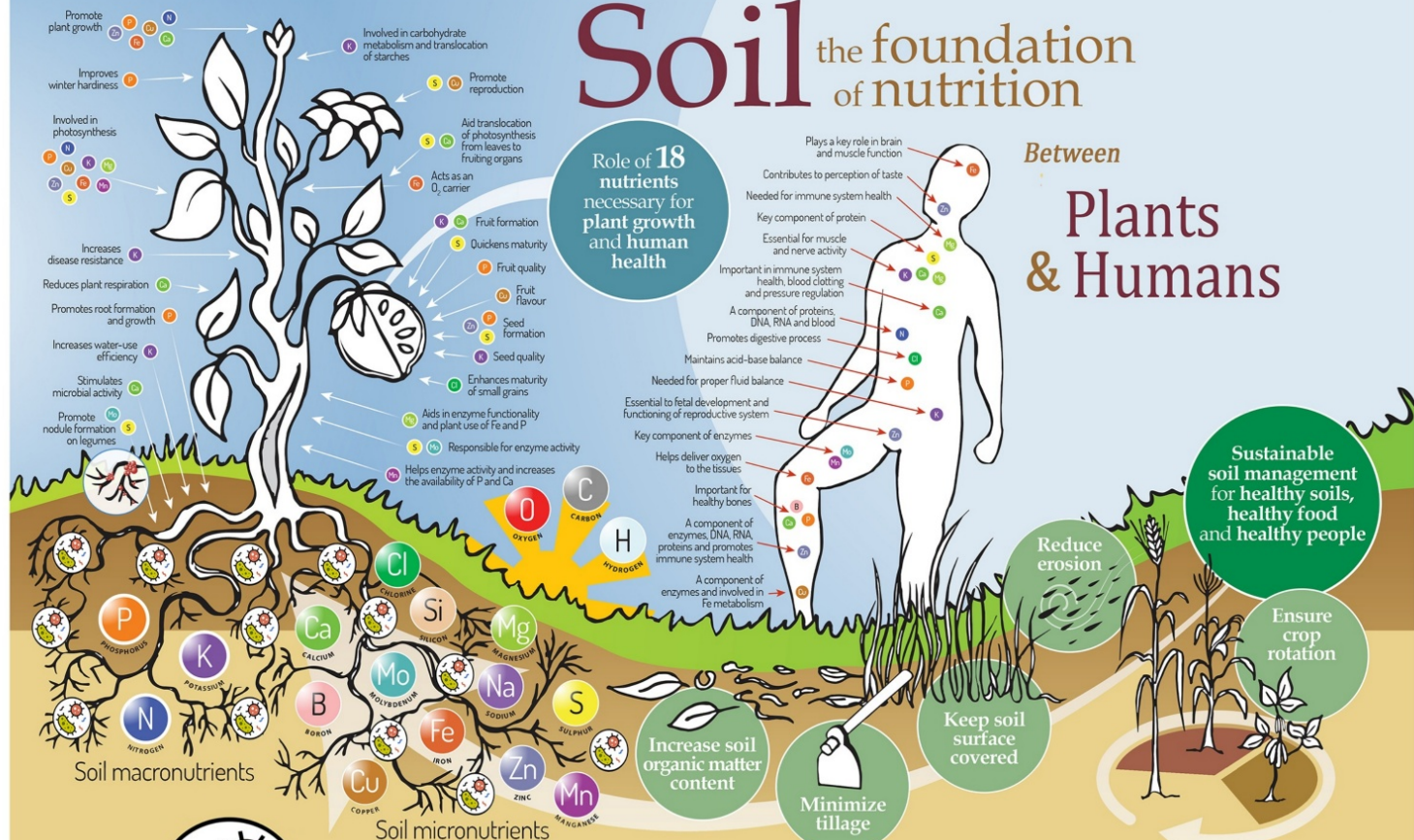




Soil the foundation of nutrition

Between Plants & Humans

Role of 18 nutrients necessary for plant growth and human health

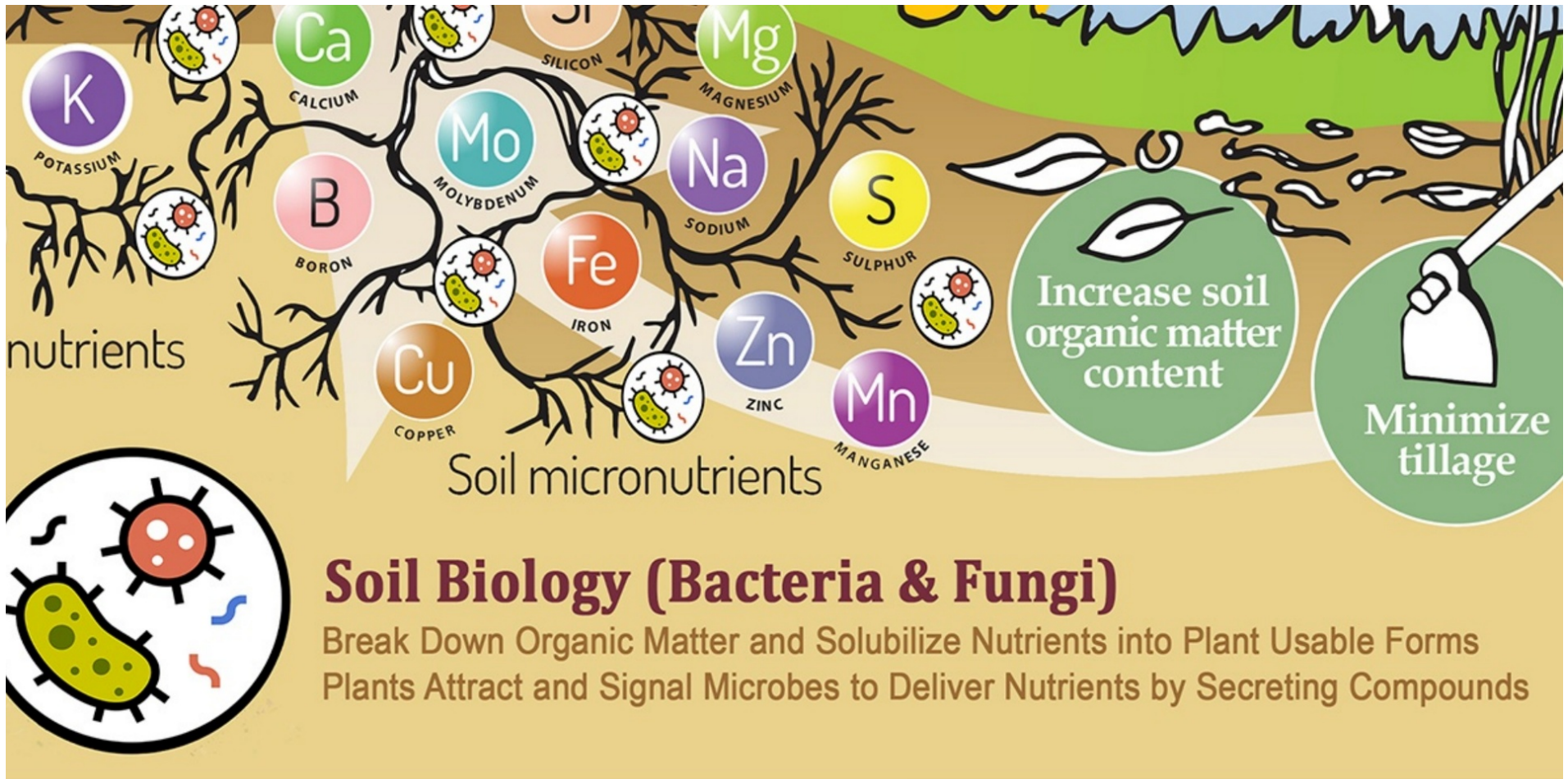


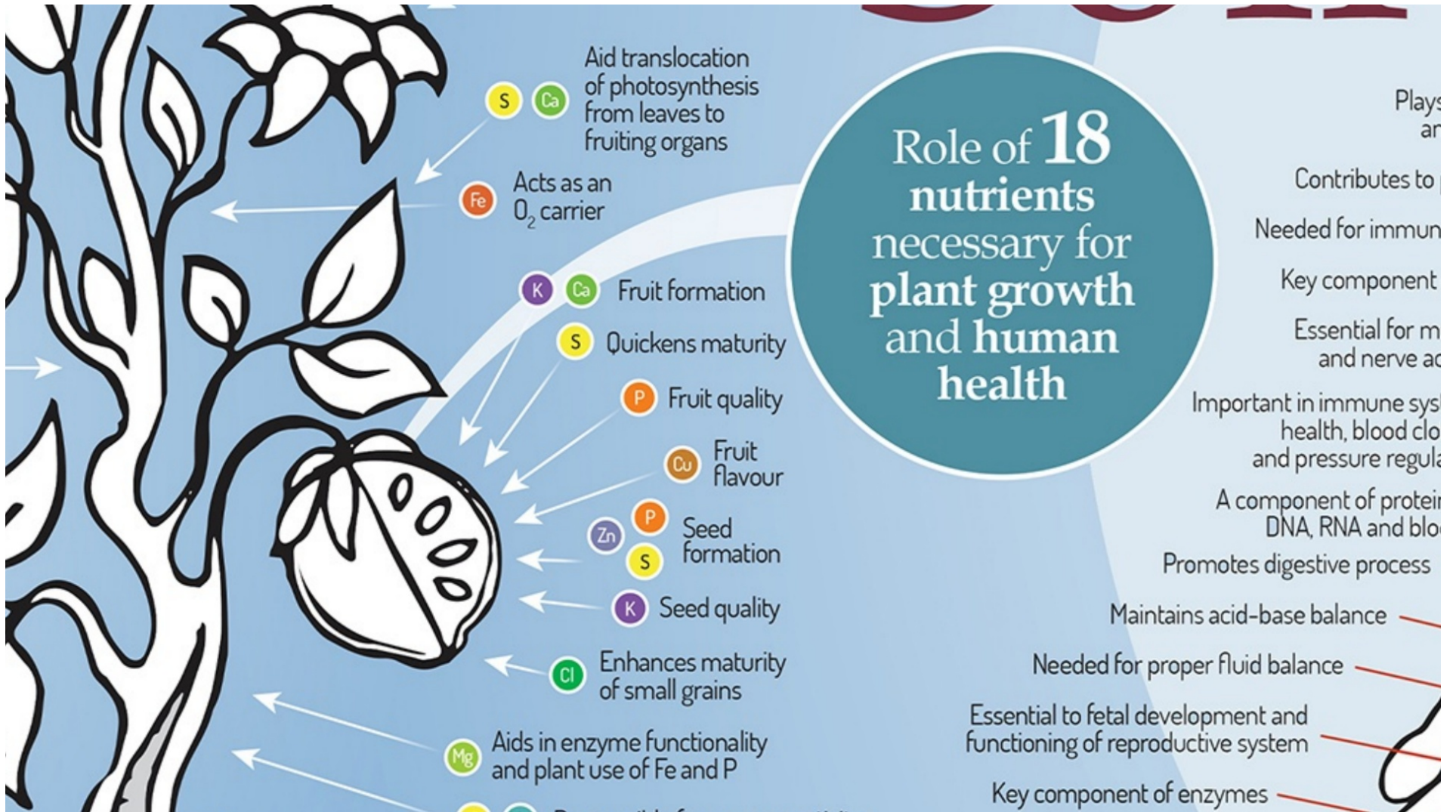
Soil Biology (Bacteria & Fungi)
 Break Down Organic Matter and Solubilize Nutrients into Plant Usable Forms
 Plants Attract and Signal Microbes to Deliver Nutrients by Secreting Compounds



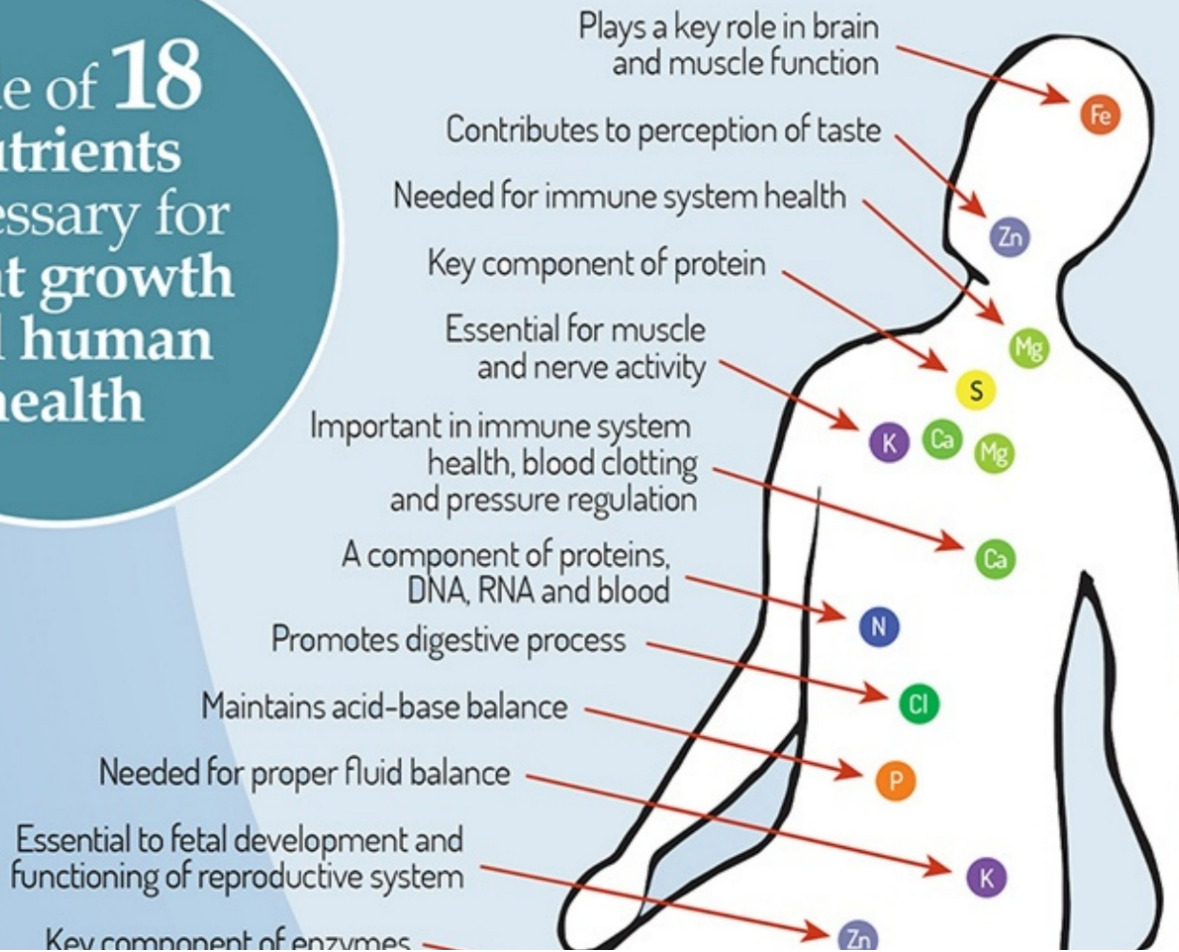
Sustainable soil management for healthy soils, healthy food and healthy people



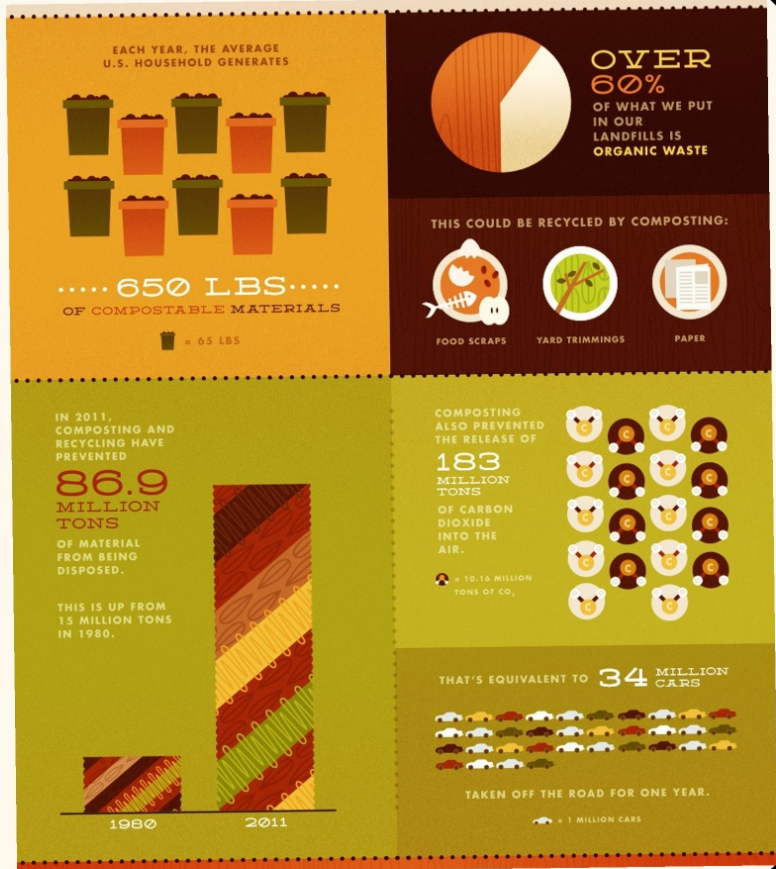




Role of **18** nutrients necessary for plant growth and human health




Between
Plant & Human

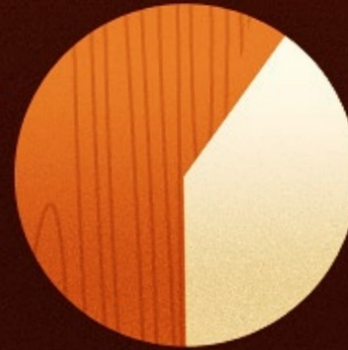


EACH YEAR, THE AVERAGE
U.S. HOUSEHOLD GENERATES



..... 650 LBS.....
OF COMPOSTABLE MATERIALS

 = 65 LBS



**OVER
60%**
OF WHAT WE PUT
IN OUR
LANDFILLS IS
ORGANIC WASTE

THIS COULD BE RECYCLED BY COMPOSTING:



FOOD SCRAPS



YARD TRIMMINGS



PAPER

IN 2011,
COMPOSTING AND
RECYCLING HAVE
PREVENTED

86.9
MILLION
TONS

OF MATERIAL
FROM BEING
DISPOSED.


THIS IS UP FROM
15 MILLION TONS
IN 1980.



COMPOSTING
ALSO PREVENTED
THE RELEASE OF

183
MILLION
TONS

OF CARBON
DIOXIDE
INTO THE
AIR.

 = 10.16 MILLION
TONS OF CO₂



THAT'S EQUIVALENT TO **34** MILLION
CARS



TAKEN OFF THE ROAD FOR ONE YEAR.

 = 1 MILLION CARS



KEEP SOIL COVERED



MAINTAIN LIVING ROOT YEAR ROUND



MINIMIZE SOIL DISTURBANCE

REGENERATIVE AGRICULTURE



INTEGRATE LIVESTOCK



MAXIMIZE CROP DIVERSITY

1346337711





The 1-2-3 Punch

Knocking Out Our Pollinators



1 PESTICIDES



In 2000, LESS THAN **5%** OF SOYBEAN ACRES and LESS THAN **30%** OF CORN ACRES were treated with a PESTICIDE.

TODAY **80%** of Soybean and **40%** of Corn ARE TREATED

Even Sub-lethal doses of PESTICIDES can affect foraging and nesting behaviors, often preventing pollination

Between 2008 and 2013 BEE ABUNDANCE declined about **23%**



WHAT'S THE IMPACT? It takes about **1,875** FLOWER VISITS to raise one mason bee.

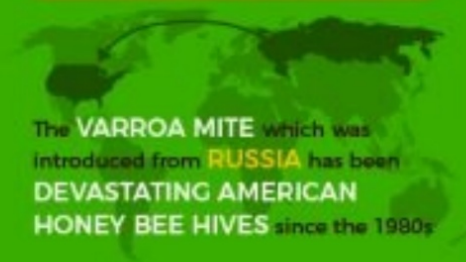


2 HABITAT LOSS



HERBICIDES also kill plants that pollinators use for forage

3 PESTS & DISEASE



The VARROA MITE which was introduced from **RUSSIA** has been DEVASTATING AMERICAN HONEY BEE HIVES since the 1980s



Varroa mites weaken bees by **SUCKING THEIR BLOOD** and **PASSING DISEASES**

Varroa mites **CRIPPLE ADULTS** and **KILL LARVAE**, causing the colony or population **TO COLLAPSE.**





Gardens that Benefit Wildlife and People

Native plants, eco-friendly gardening practices provide natural sources of the four elements of habitat:

Oaks support over 500 species of butterflies and moths and feed and shelter other wildlife.



food



water





cover



raising young

National Wildlife Federation's Certified Wildlife Habitats® include these elements and can support 2X the amount of wildlife.

Songbird babies rely on thousands of caterpillars and other insects supplied by native plants. 

Roughly 30% of native bee species are pollen specialists that restrict their diets to specific native plants. 

Conventional
1 million acres
suburban deve

The monarch butte
native milkweed, l

Lawns use 9 billion
nationwide per da


and People
ing practices
r elements of habitat:



ing young

Wildlife Habitats® include
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Songbird babies rely
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insects supplied by
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Roughly 30% of native
bee species are pollen
specialists that restrict
their diets to specific
native plants. 



Conventional Landscapes
1 million acres of wildlife habitat are lost to
suburban development annually.

The monarch butterfly, which relies on
native milkweed, has declined by 90%.

Lawns use 9 billion gallons of water
nationwide per day.

*Non-native trees
and turf lawns don't
support wildlife.*



ECOSYSTEMS are like amazing
"MACHINES" that work better when
you add more parts (species)!

The more **BIODIVERSITY**
an ecosystem has, the more stable and
productive it is.

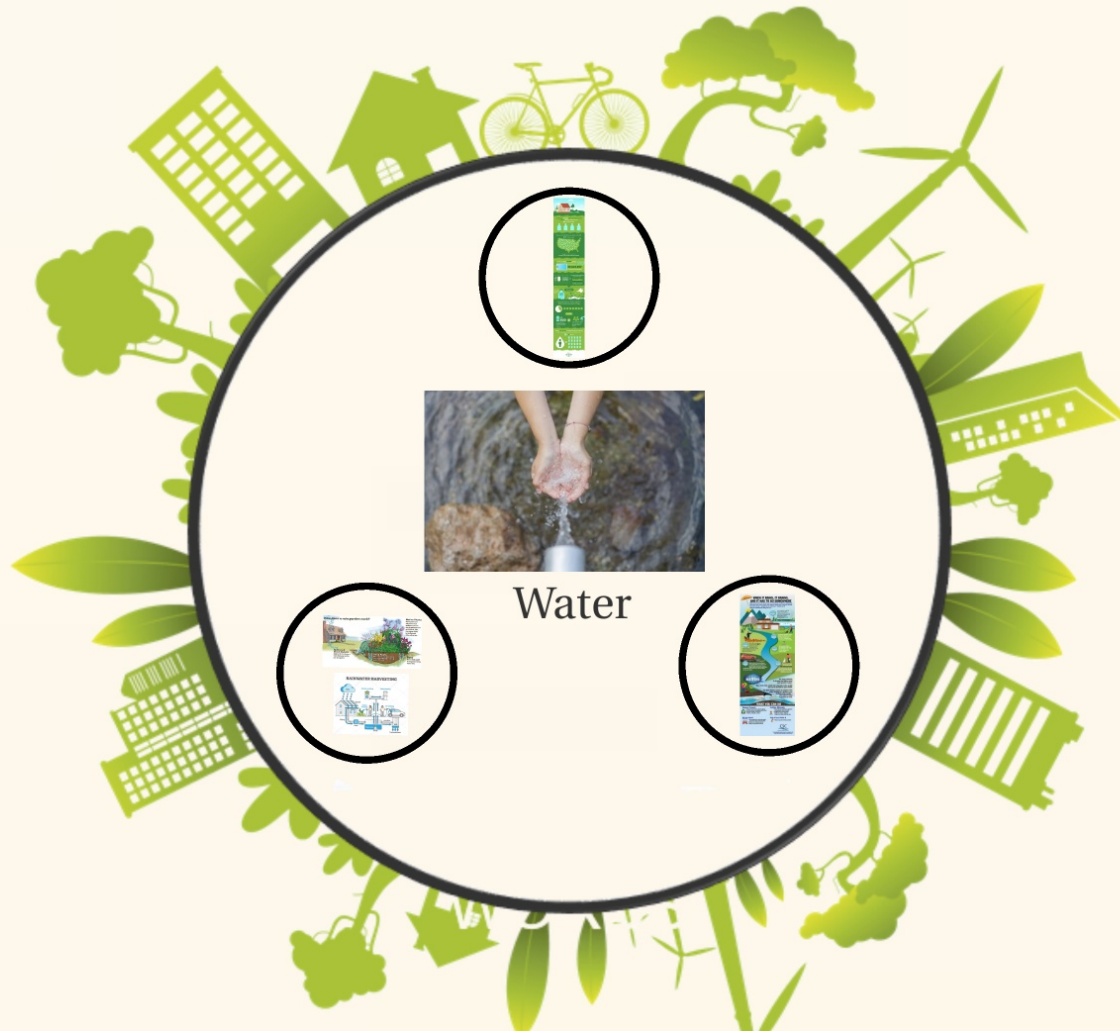
This is what provides the
ECOSYSTEM SERVICES
WE ALL NEED TO SURVIVE
(clean air, clean water, pollination, etc.).

**PLANTING NATIVE
REGENERATES BIODIVERSITY**

We all depend on it!









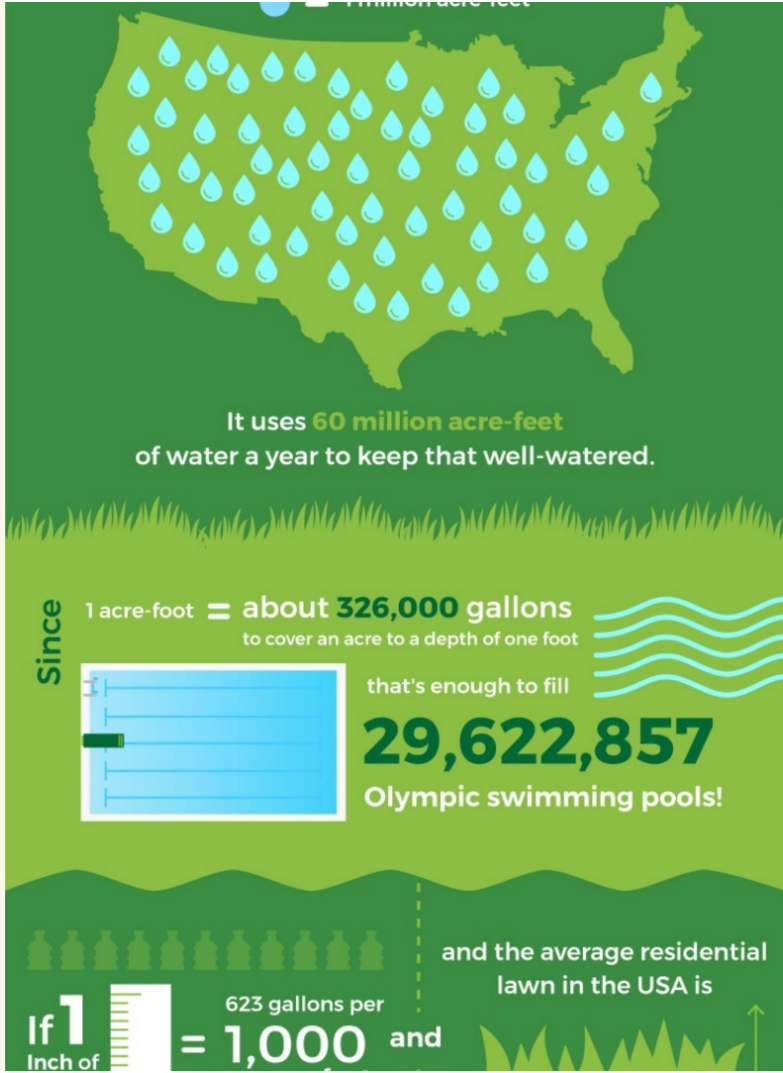
The USA uses **3.9 trillion** gallons of water per month
or about **322 billion** gallons per day.

 = 1 Trillion Gallon



There are 40 to 50 million acres of lawn in the USA.

The image features a central green lawn area with a house and trees in the background. The text is centered on the lawn. A legend shows a small white water bottle icon followed by an equals sign and the text '1 Trillion Gallon'. Below this, four larger cyan water bottle icons are arranged in a row. The bottom of the lawn area contains the text 'There are 40 to 50 million acres of lawn in the USA.'





constantly for 4 days or
taking more than 800
showers

take 1 year's worth of
showers.

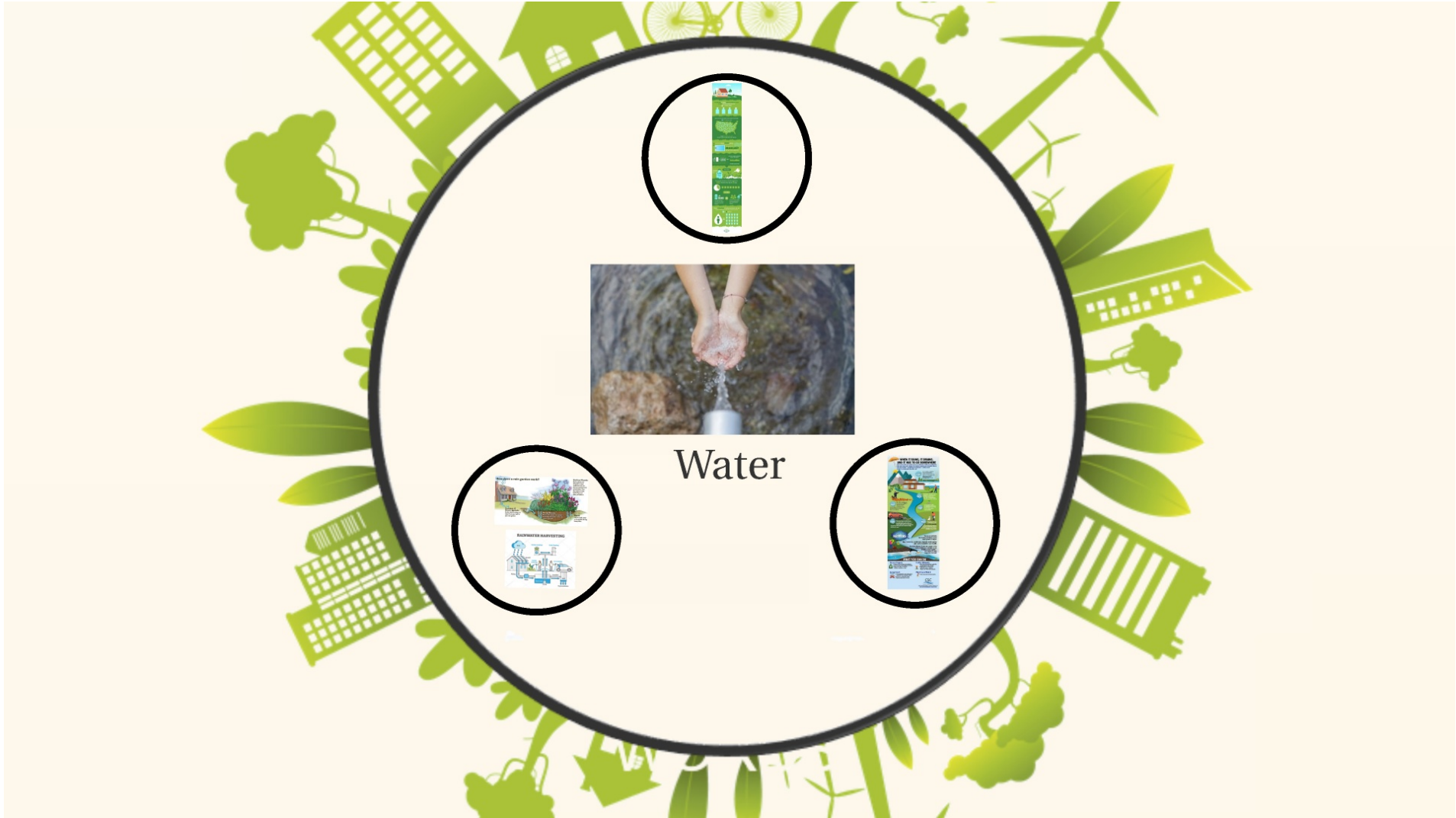
About **200 gallons** of water per person, per day
needed to maintain our nation's lawn surface for one year.

 = **10 gallons**



=





AND IT HAS TO GO SOMEWHERE

Water from inside our homes goes to a wastewater facility for purification. But water from roofs, streets, and outdoor spigots goes untreated directly into storm drains – straight to our waterways – picking up all kinds of contaminants along the way!

DID YOU KNOW

Excess nutrients, specifically nitrogen and phosphorus, pollute stormwater run-off from urban areas, contributing to the **third greatest cause of lake deterioration in the US.**

DID YOU KNOW

The amount of phosphorus in grass clippings from mowing your lawn just once can produce up to **100 lbs.** of unwanted algae if it ends up in our lakes and ponds.

DID YOU KNOW

Leaf "litter" and landscape trash accounts for **56%** of phosphorus in urban

Just one pound of fertilizer



mention clogging storm drains, causing potential flooding and increasing debris in our waterways.



DID YOU KNOW When you wash your car in the driveway, you're washing about **120 gallons** of grime-filled water downstream. The soap, together with the dirt, grease and grime flows untreated into nearby storm drains, which runs directly into lakes and streams.

DID YOU KNOW lawn can equate to **34.2 lbs.** of excess algae growth in streams and lakes.



DID YOU KNOW If dog owners don't clean up after their pooches, **390 million pounds** of poop can wash into our waterways every year just in Colorado! Dog waste contains 10% phosphates and 2% nitrates, contributing to algae growth.

WHY IT MATTERS



Too many nutrients in streams and lakes cause rapid growth of algae.

Algae looks bad, smells bad, degrades water quality and can be harmful to your health.

As algae decays, it uses up oxygen in the water, leading to a decline in our drinking water quality – and makes it more expensive to treat.

WHAT YOU CAN DO

Dispose Properly



- Compost or bag your leaves and lawn clippings
- Don't blow leaves or lawn clippings into the street
- Sweep up any spills or overspray of fertilizers on sidewalks or streets

Fertilize Efficiently



- Always follow the manufacturer's application recommendations. More isn't better!
- Fertilizing in the early fall promotes healthy root systems – leading to stronger, more resilient lawns and plants

Be Car Smart



- Use a commercial car wash, where water is recycled and sent to treatment facilities
- Wash your car on the lawn or gravel
- Dump your soapy bucket in the sink

Pick It Up & Pitch It



- Clean up dog waste and dispose properly

CSC

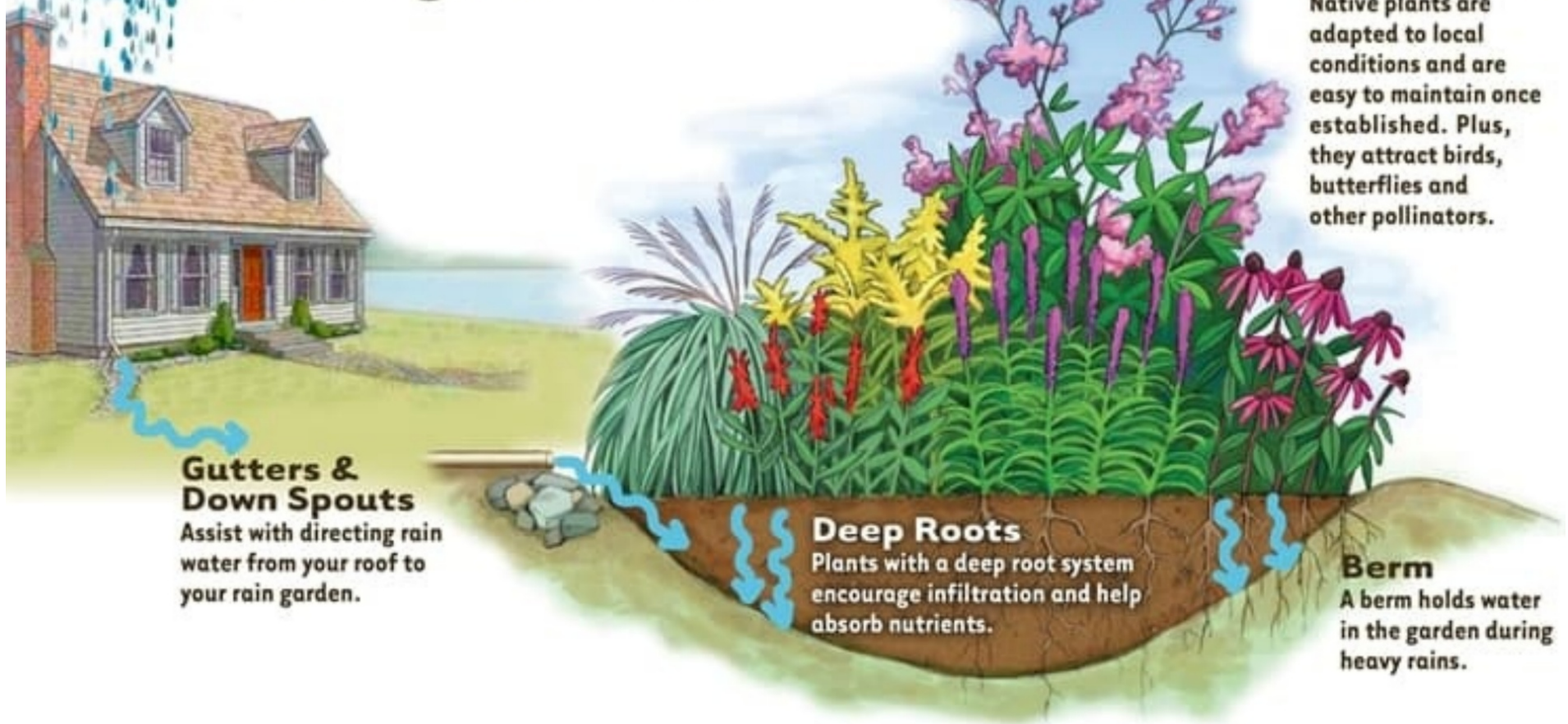


COLORADO STORMWATER COUNCIL

For more information and tips to preserve our waterways, visit
colorado-stormwater-council.org



How does a rain garden work?



Gutters & Down Spouts

Assist with directing rain water from your roof to your rain garden.

Deep Roots

Plants with a deep root system encourage infiltration and help absorb nutrients.

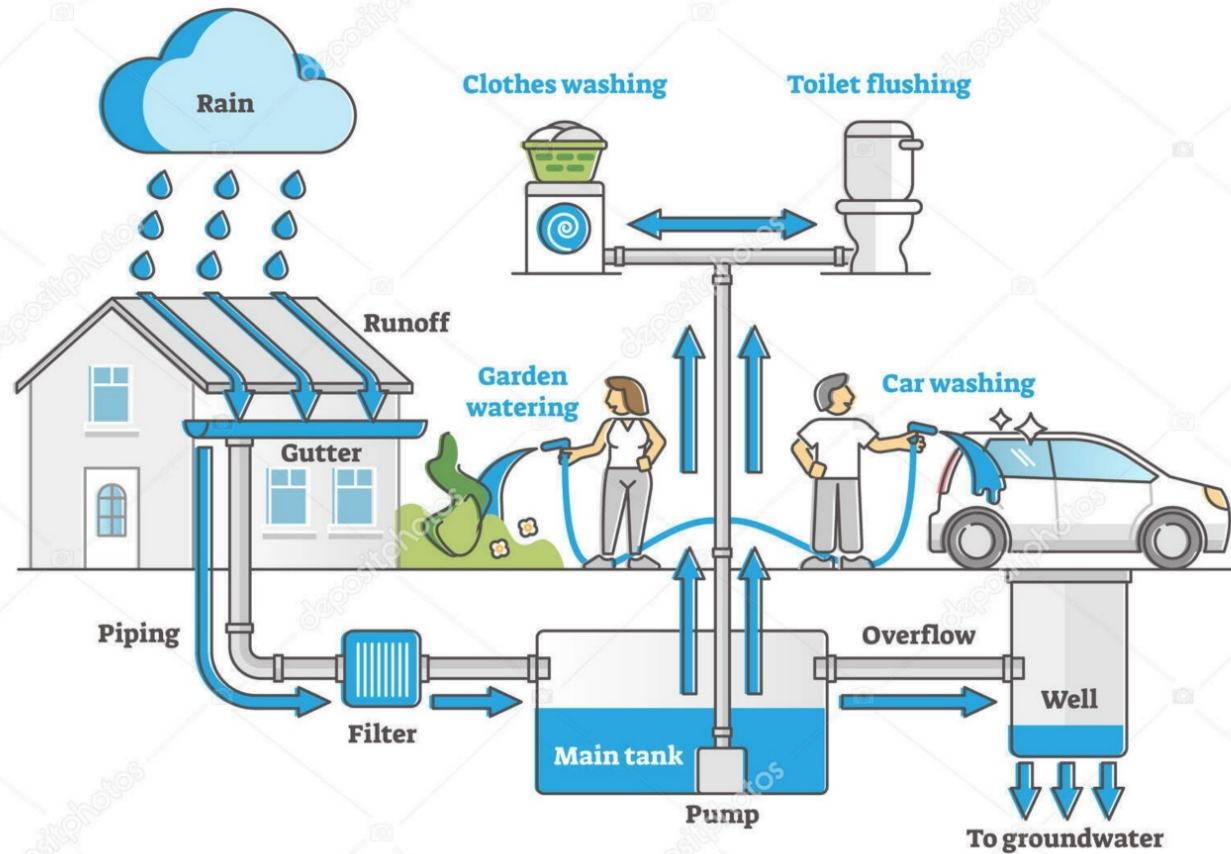
Berm

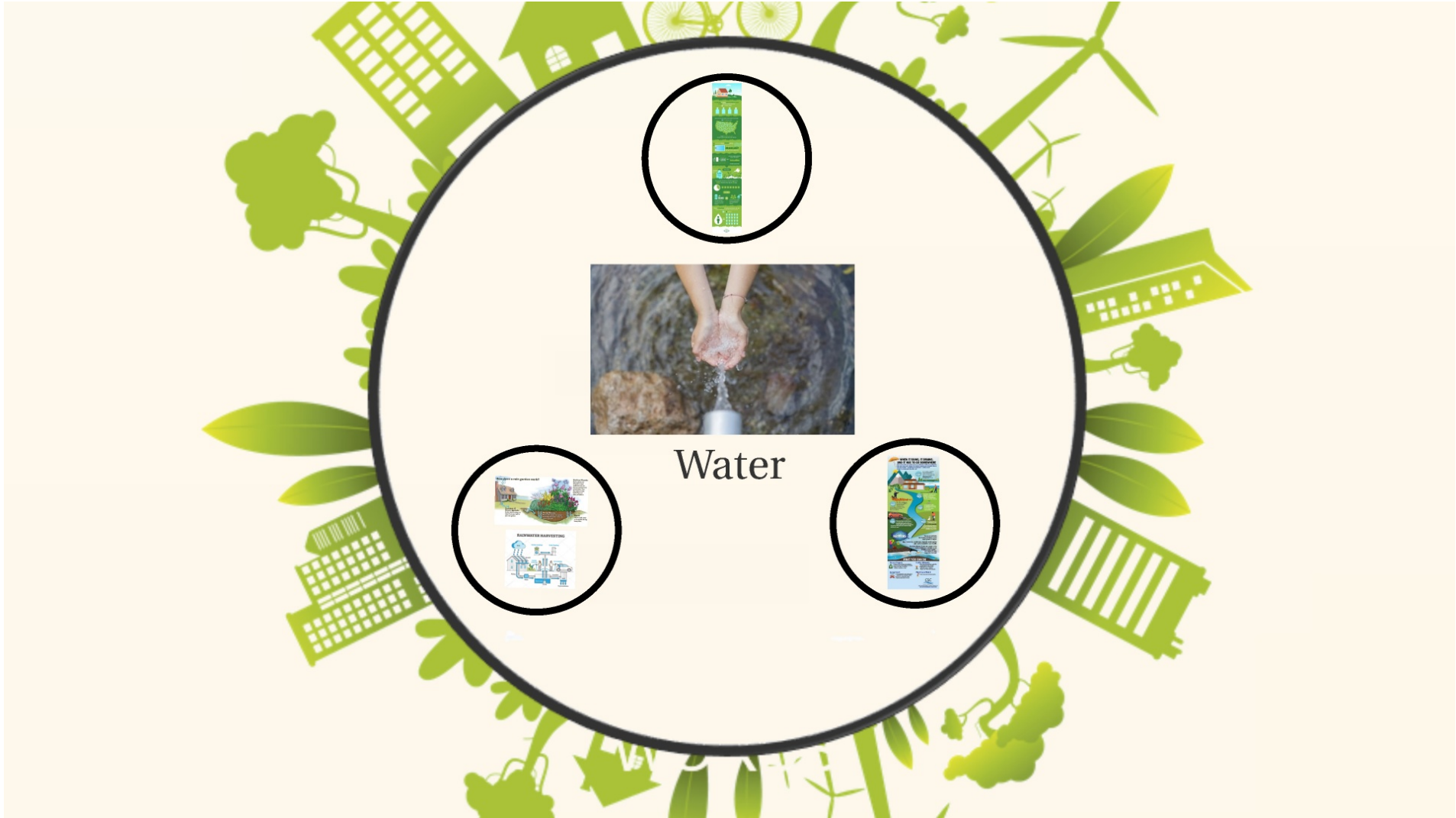
A berm holds water in the garden during heavy rains.

Native Plants

Native plants are adapted to local conditions and are easy to maintain once established. Plus, they attract birds, butterflies and other pollinators.

RAINWATER HARVESTING







THE HEALTH BENEFITS OF GARDENING

Stress Relief



Gardening can help reduce the level of stress hormone Cortisol

Immunity Booster



Direct exposure to dirt and plants can help boost your immune system

Work Out



3 hours of moderate gardening could equal a 1 hour gym session

Bacteria Friends



Soil contains a natural antidepressant that can make us happier

Green Diet



Those who grow veggies are more conscious about having a healthy diet

Brain Health



One study revealed that daily gardening can reduce risk of dementia by 36%

CREATED BY
ORGANICLESSON.COM

ncbi.nlm.nih.gov/pubmed/20522508
ncbi.nlm.nih.gov/pubmed/16411871
calorieclub.com
hortmag.com

ORGANIC vs. non-ORGANIC

ORGANIC

mimics nature

PROVIDES PLANT NUTRIENTS THROUGH HEALTHY SOIL

HEALTHY PLANTS PROVIDE HEALTH TO HUMANS



FOCUS ON "FINDING" NATURAL HEALTH IN WHOLE FOODS

SOLVES PROBLEMS WITHOUT VIOLATING NATURE



NON-ORGANIC

attempts to "improve" nature

PROVIDES PLANT NUTRIENTS THROUGH CHEMICAL FERTILIZERS



HEALTHY FOOD IS SEEN AS NICE UNIFORM SHAPES & COLOURS

DEPENDS ON OVER-REFINING & PROCESSING



SOLVES PROBLEMS BY "FORMULAS"



#ALWAYSORGANIC

REDUCE STRESS

According to the researchers, time spent in natural settings can help:

- Speed up **mental fatigue recovery**
- Slow down **heart rate and anxiety**
- Reduce **blood pressure.**

INCREASE MEMORY RETENTION

2 Researchers discovered that when subjects walked through green spaces — such as an arboretum — compared to high-traffic urban areas, they were able to **focus better and concentrate** on tests of their working memory.

ELEVATED INTELLECT

3 **Architecture** that incorporates the geometry of natural elements enhances quality of life and can produce a healing effect.

DECREASE SYMPTOMS OF DEPRESSION

4 After subjects took a walk in a natural environment compared to a walk in an urban environment, researchers discovered:

- An increase in subjects' **moods**
- Fewer incidents of **depressive symptoms**
- Increased **memory span**
- Decreased symptoms of **anxiety**

GREATER QUALITY OF LIFE

7 **Psychological well-being improved** amongst those who interacted with nature, and subjects reported greater feelings of:

- Positivity
- Hopefulness
- Comfort
- Relaxation
- Overall happiness and satisfaction of life

BOOST CREATIVITY

Researchers reported subjects who took nature walks or



4































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