
BRINGING IT HOME



A GOOD WATER TOOLKIT
by The Ecology Center

The Ecology Center, in San Juan Capistrano, is an exciting regional education hub that engages individuals, families, and students in fun, hands-on activities that teach practical, environmental solutions at the household and community level.

Through a variety of programming offerings including unique hands-on field trips, skills-based workshops, lectures, special events and tours, The Ecology Center brings the community together to inspire and create a cultural movement toward a healthy and abundant future for all.

The Center highlights empowering and cutting-edge environmental perspectives that can be applied to the way we live our lives everyday, making it possible for us to coexist with a thriving environment. Individual actions can transform our community, and you can start with actions like the ones you'll find in this Good Water Toolkit.



Visit us online!

theecologycenter.org



Call us!

949.443.4223



Write us a letter, or come say hello in person!

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POWERED BY



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Environmental Sustainability Grant



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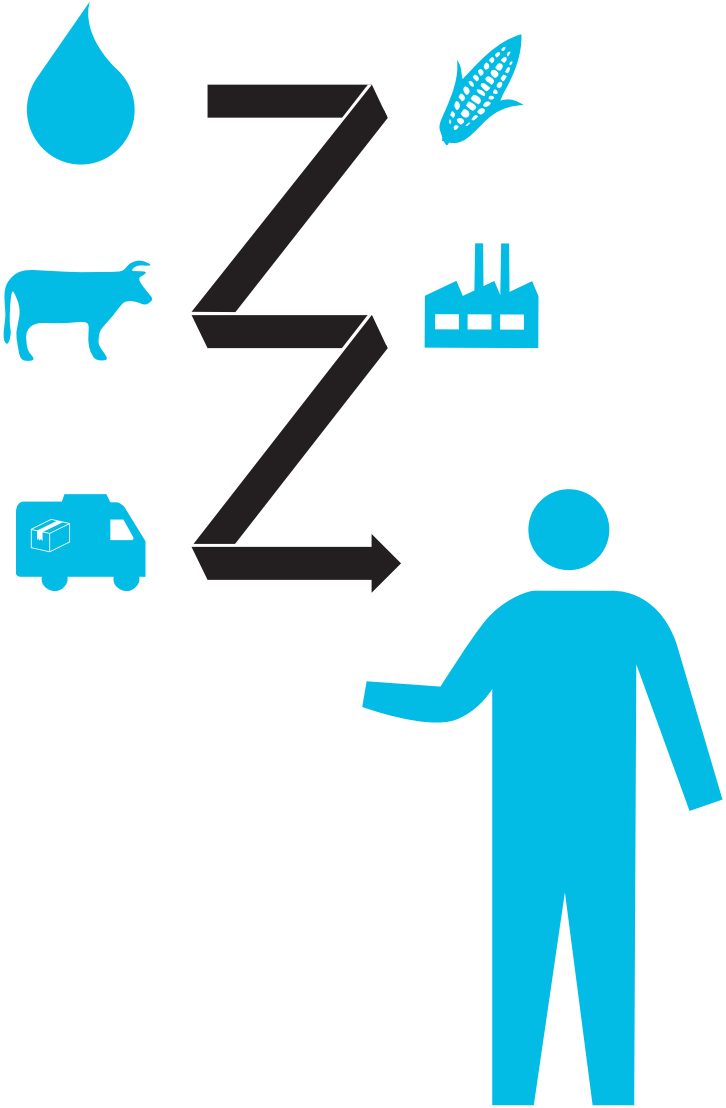
VOCABULARY WORDS

Water Footprint • Direct Water Use
Indirect Water Use • Greywater

FOCUS QUESTIONS

These questions can be answered using what you've learned in this booklet. Answer the questions on a separate piece of paper with 1-2 sentences.

1. Decode the water usage symbols for a hamburger (page 6), use the symbol key on page 7.
2. Decode the water usage symbols for a pb&j (page 6), use the symbol key on page 7.
3. Describe the differences between making a hamburger v. pb&j.



ALL ABOUT WATER FOOTPRINTING

What is a water footprint? A water footprint is the total amount of freshwater required to make the goods and deliver the services we consume everyday! It is a way to measure how much water each of us uses on a daily basis.

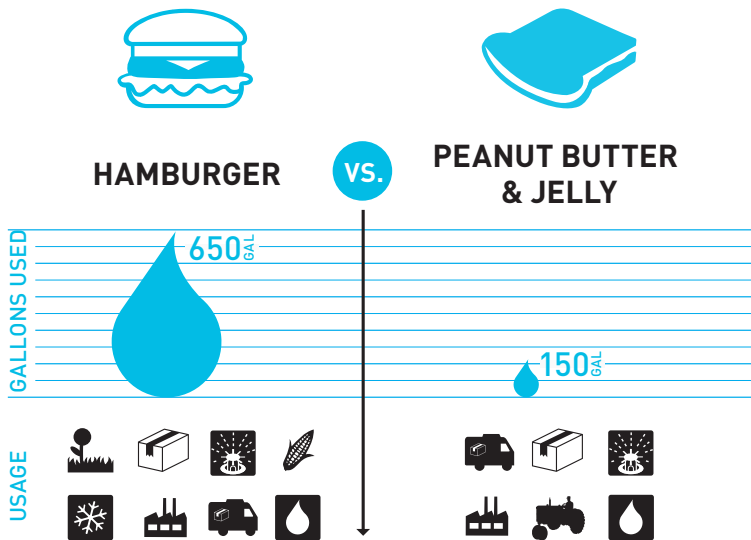
How do we measure our water footprint? To measure our water footprint, we add two types of water use: direct and indirect.

Direct Use: AKA Visible water -Water usage you can see makes up a small part of your water footprint. Examples include: the water used for brushing teeth, flushing the toilet, drinking and washing hands, fruits and veggies.

Indirect Use: AKA Invisible water -Water usage that you don't see, used to make the goods and deliver the services you use, is the largest part of your water footprint. Examples include: the water used to process, package and transport goods.

To conserve water, we must reduce our water footprint. How? By making wise choices about the things we buy, use, eat, and do everyday. Invisible water is the real water waster let's stop feeding this giant water hog!

CASE STUDY: HAMBURGER vs PB&J



It takes a lot of water to produce, package, and transport the food we eat.

HAMBURGER + WATER - 660 gallons/burger

Beef - 1,799 gallons/pound

Lettuce - 10 gallons/pound

Tomato - 8 gallons/pound

Wheat Bun - 13 gallons/2 slices

Did you know? The amount of water used to produce beef is larger than any other animal. Almost 99% of that water is used for feed.



PB & J + WATER - 150 gallons/sandwich

Wheat Bread - 13 gallons/2 slices

Peanuts - 330 gallon/pound

Strawberries - 13 gallons pound

Did you know? It takes 132 gallons of water to produce 1 pound of wheat use to make bread.

HAMBURGER OR PB & J?

When trying to conserve water, it is better to eat calories, protein and fat from fruits, vegetables and wheat than from animal products, especially beef. Swapping meat for veggie saves hundreds of gallons!

GRAPHICS KEY



Grazing



Irrigation



Transport



Feed



Packaging



Cooling



Production



Water

WATER FOOTPRINTING CHALLENGE!

Vacation time! You are going on a camping trip with your family, but before heading off into the woods, you'll need some supplies!

You will be given \$100 H₂O dollars to spend. These H₂O dollars represent the amount of water needed to make and deliver each item.

You need to purchase one item from the following categories with your H₂O dollars. The amount of H₂O dollars you have leftover will determine your camping destination, so make smart choices -with water in mind! Now, grab your supplies and get packing!



CLOTHING



FOOD



WATER



ACTIVITIES



ENERGY

CAMPING SUPPLIES



Organic Cotton T-Shirt\$10

Conventional T-Shirt\$20



Local/Organic Food\$5

Subway Sandwich + Chips.....\$10



Reusable Bottle\$0

12pk Plastic Water Bottles.....\$5



Hiking Boots\$15

Handheld Electric Game\$25



Campfire (for heat).....\$5

RV Generator (for electric heater)\$40

TOTAL: _____

Flip the page to find out your camping destination →

WATER FOOTPRINTING CHALLENGE!

Calculate Your Use

How much did you spend? \$ _____

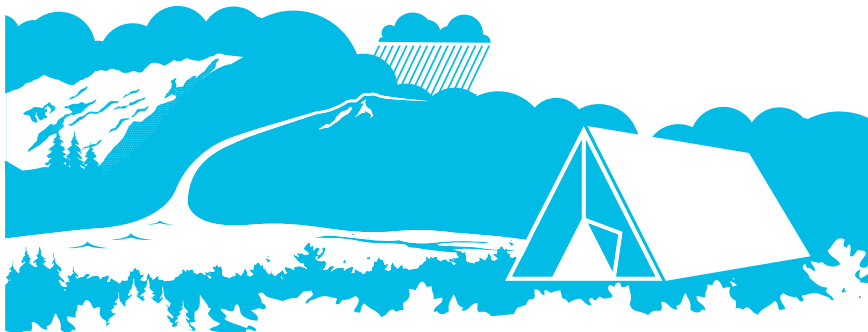
How many H₂O Dollars do you have left? \$ _____

With your leftover H₂O Dollars, purchase your destination.

- \$65 - \$60 Camp at the Beach
- \$55 - \$50 Camp in a City Park
- \$45 - \$40 Camp in a Parking Lot
- \$35 - \$00 Camp in a Landfill

Trip Earned:

Did you spend your H₂O Dollars wisely? Are you upset with your camping destination? If so, rethink your choices and get the trip you really want!



WATER + MY DAY

Keep a Water Journal: For 48 hours, track and record your personal water usage during these daily activities.

Using Less: What are some ways you can conserve during each of these daily activities?

Showering _____

Brushing Teeth _____

Washing Hands _____

Using the Toilet _____

Watering the Garden _____

Using the Lights _____

WATER USE CALCULATION

Shower for ___ minutes x 4 gallons per minute = ___ gallons

Brush teeth ___ minutes x 3 gallons per minute = ___ gallons

Wash hands ___ minutes x 3 gallons per minute = ___ gallons

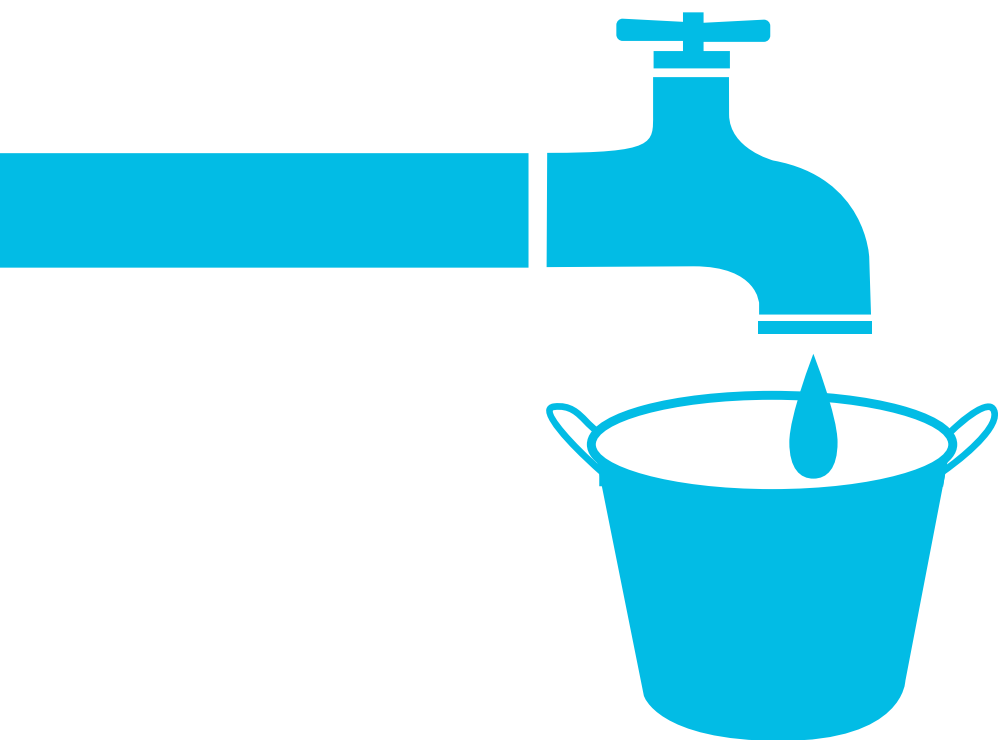
Going to the toilet ___ flushes x 6 gallons per flush = ___ gallons

Watering the lawn for ___ minutes x 7 gallons per minute = ___ gallons

Leaving the lights on ___ bulbs x 1 gallon per hour x ___ hours = ___ gallons

TOTAL _____ Gallons

HARVESTING GREYWATER: THE BUCKET CHALLENGE



THE BUCKET CHALLENGE

COST
\$10

TIME
1 week

TOOLS & MATERIALS:

A bucket!

What is greywater? Greywater is any water leftover from your daily household chores (laundry, dishes, and showering). This water can be reused to water your garden, and gardens love greywater!

Recycle water, one bucket at a time! Here's how all you need is a bucket and some know-how.

GRAB IT! Get a bucket.

COLLECT IT!

- While you wash fruits and vegetables under the tap.
- Collect cold water while waiting for the shower to heat up.
- While you rinse dishes instead of using the tap.
- Hand wash clothes. Soak in your bucket with a few drops of biodegradable detergent.

USE IT! To water your garden or a fruit tree.

RECORD IT! Use the next page to keep a record of the number of buckets you filled and how you used them.

END-OF-THE-WEEK RESULTS:

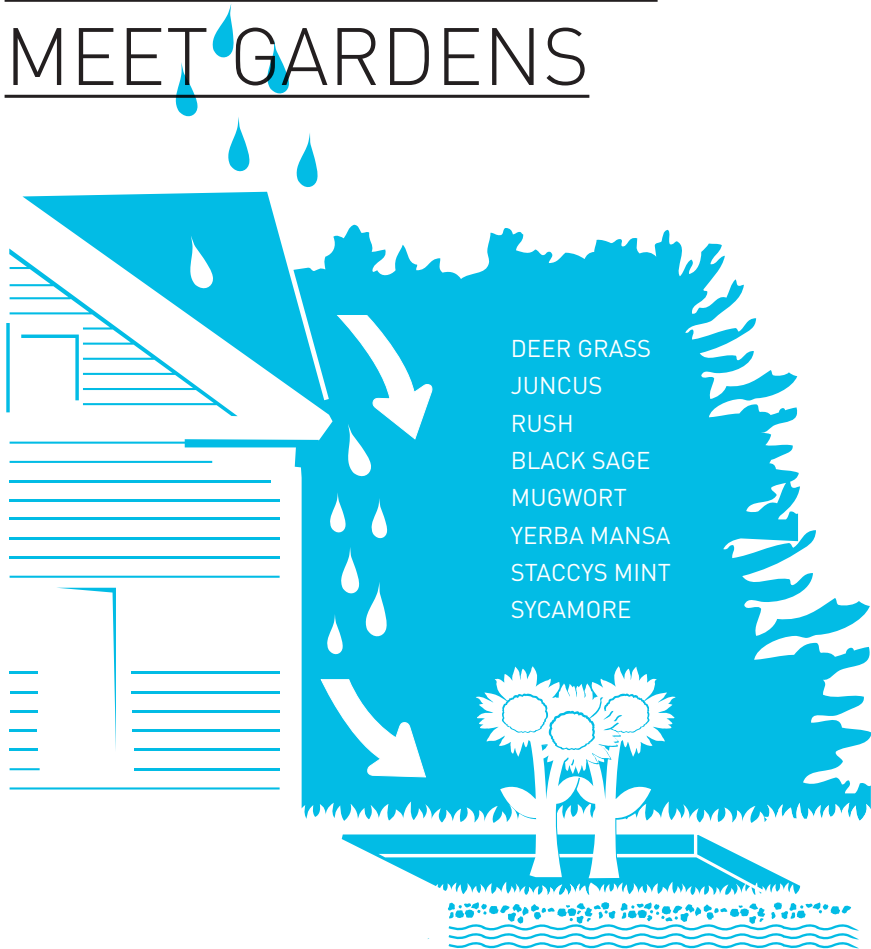
1. How many buckets of water did you re-use this week? _____
2. How many gallons of water did you save? _____
3. Imagine you continued using a bucket for one year? How many gallons could you save? _____

SIMPLE CALCULATION

gallons saved in one week x 52 weeks = # of gallons saved in a year

TOTAL _____ Gallons

WHERE GUTTERS MEET GARDENS



DEER GRASS
JUNCUS
RUSH
BLACK SAGE
MUGWORT
YERBA MANSA
STACCYS MINT
SYCAMORE

DESIGNING A RAIN GARDEN

COST
\$75

TIME
1 rainy day for planning
2hrs for planting

TOOLS & MATERIALS

grid paper + tracing paper (included), shovel, gardening spade, plants, organic mulch

A rain garden is a simple garden design that collects run-off to feed plants instead of pollute our watershed.

OBSERVE! On a rainy day, observe how water falls off your roof and naturally flows through your yard. The areas where the streams meet up and create larger streams are the areas you'll want to consider for your rain garden's location.

MAP! On your grid paper, draw the outline of your building and garden area. Lay your tracing paper on top, and use your blue pencils to mark places that get a lot of rainfall. This way you'll remember exactly where to plant on a sunny day!

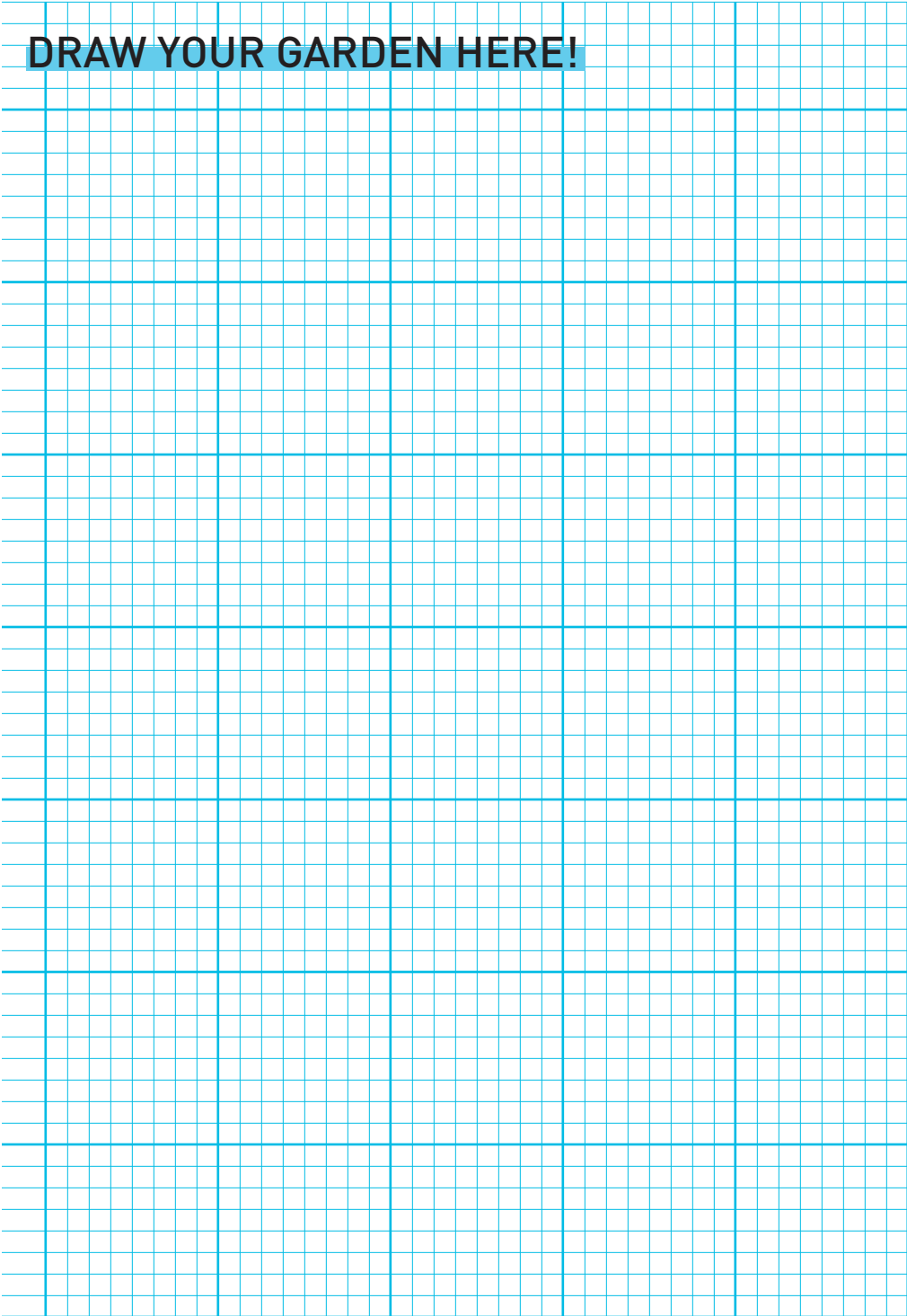
PLAN! Select a location and prepare the area for planting your rain garden. Start simple, dig a shallow depression around a single existing tree can be a good start.

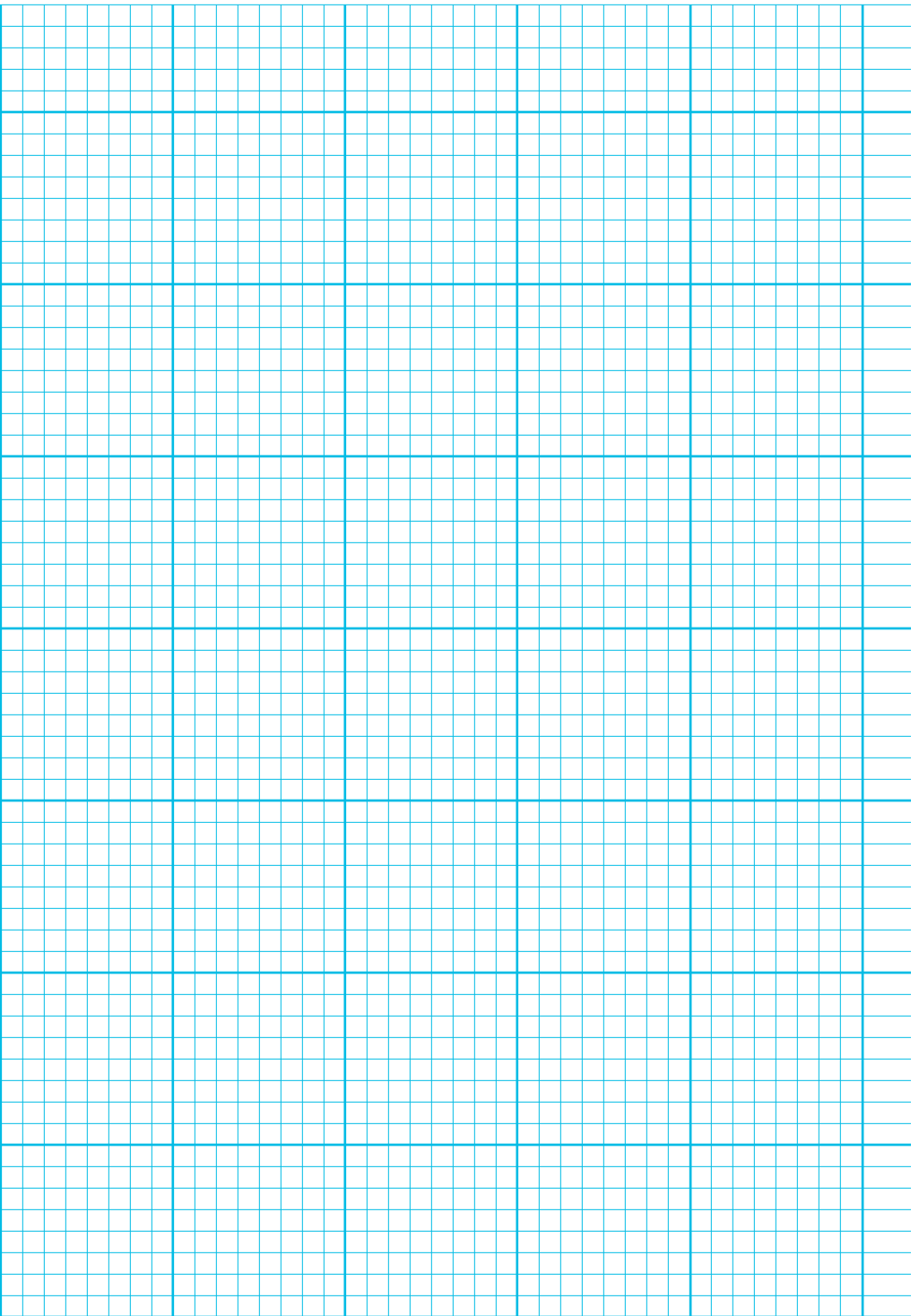
GO NATIVE! Choose natives, or plants common to your local climate. Plants with deep root systems will absorb stormwater best. Native perennials and shrubs are often ideal choices.

DIG IN! Plant your rain garden, and look forward to reducing the pollution reaching nearby waterways by as much as 30%!

Don't forget to apply mulch to your rain garden. A couple of inches of wood chips will help absorb stormwater, while keeping moisture in and weeds down.

DRAW YOUR GARDEN HERE!





START SAVING NOW!
PLEDGE TO MAKE A DIFFERENCE
EVERY DROP COUNTS!

Creating a healthy and abundant future for our community is possible! With every pledge you make to reduce your water footprint and protect your watershed, we all take one step closer towards a world with a fresh, clean and abundant supply of water.

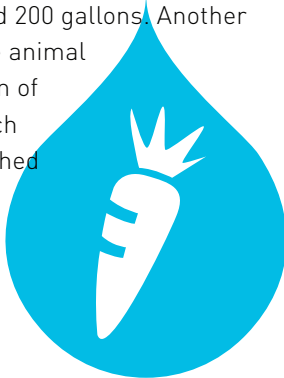
EAT VEGGIE
INSTEAD OF
MEAT ONCE
A WEEK

SAVES **500** GAL./MEAL **08**

COST: \$5

TIME: 30 minutes/1 meal

It takes nearly 650 gallons of water to raise, process, and transport the meat for just one burger. Compare that meal to a veggie one - requiring around 200 gallons. Another upside is reducing the animal and chemical pollution of meat production, which ends up in our watershed and eventually, the ocean. Go veggie at least once a week and you'll feel better all around.



I HEREBY PLEDGE TO
CONSERVE WATER BY
SUBSTITUTING
VEGGIES FOR MEAT
ONCE A WEEK:

(signed)

(date)