

URBAN GARDENERS

THE KEY TO A HEALTHIER FUTURE

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IDENTIFYING THE PROBLEM

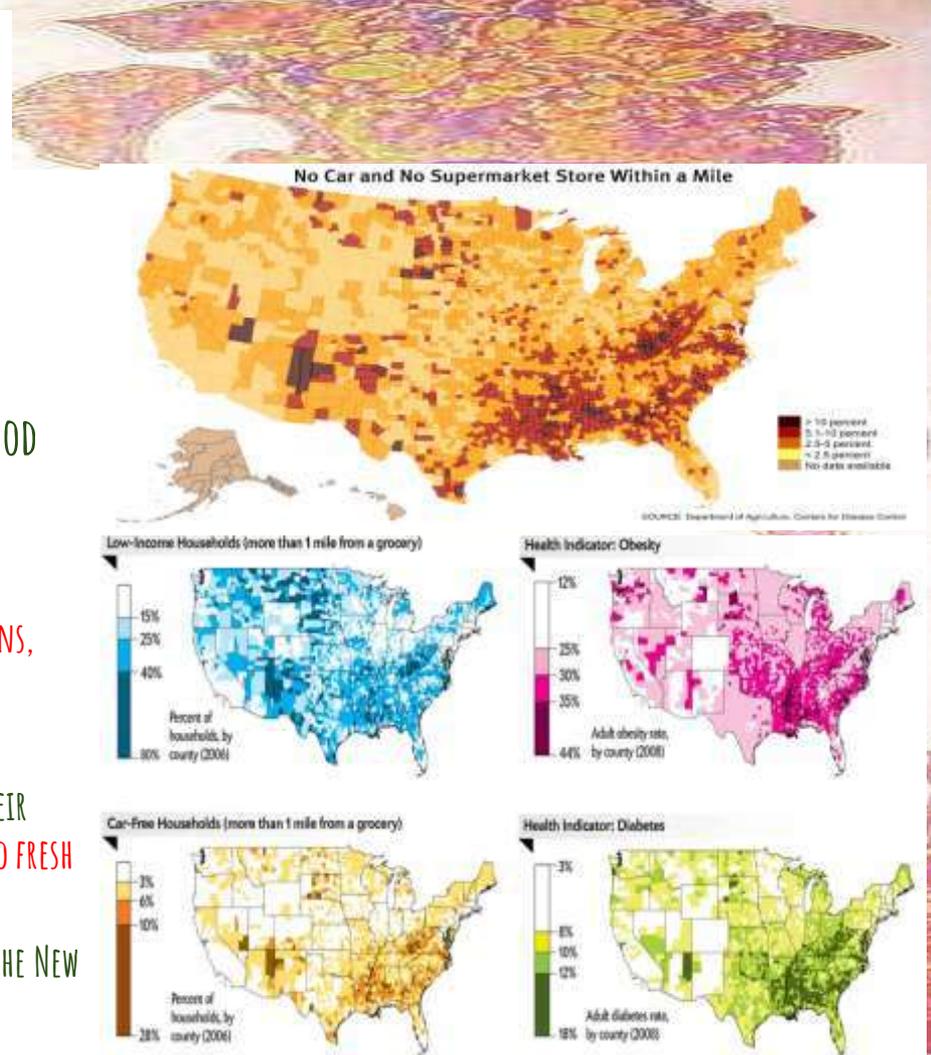
- ★ FOOD DESERTS ARE A LOCAL AND GLOBAL EPIDEMIC.
- ★ FOOD DESERTS CAN BE DESCRIBED AS GEOGRAPHIC AREAS WHERE RESIDENTS' ACCESS TO AFFORDABLE, HEALTHY FOOD OPTIONS.
- ★ AN ESTIMATED 750,000 NEW YORK CITY RESIDENTS LIVE IN FOOD DESERTS, WHILE ABOUT THREE MILLION PEOPLE LIVE IN PLACES WHERE STORES THAT SELL FRESH PRODUCE ARE FEW OR FAR AWAY.

- "THEY HAVE BECOME A BREEDING GROUND FOR THESE FAST-FOOD CHAINS, WHICH INCLUDES EAST NEW YORK, WHERE HE GREW UP."

- COUNCIL MEMBER RAFAEL L. ESPINAL OF DISTRICT 37,

- "MANY PEOPLE IN LOW-INCOME NEIGHBORHOODS ARE SPENDING THEIR FOOD BUDGET AT DISCOUNT STORES OR PHARMACIES WHERE THERE IS NO FRESH PRODUCE,"

- AMANDA BURDEN, THE CITY'S PLANNING DIRECTOR TOLD THE NEW YORK TIMES



THE SOLUTION AND PROPOSALS

★ PUTTING SMALL HYDROPONIC FARMS IN SCHOOLS.

- PLYMOUTH, WIS. (AP) — STUDENTS AT A PRIVATE SCHOOL IN EASTERN WISCONSIN ARE GROWING THEIR OWN FOOD FOR LUNCH IN THE SCHOOL'S CAFETERIA.
- USING URBAN FARM FOR SERVICE-LEARNING. THROUGH HYDROPONICS, STUDENTS GROW PRODUCE YEAR-ROUND, WHICH HELPS FEED PEOPLE AT THE SCHOOL AS WELL AS COMMUNITY MEMBERS.

★ TURNING THIS INTO A CLASS TO FOSTER FUTURE HYDROPIC FAMERS

- CREATING FARMS FORMS A NEW EDUCATION AND TURNS THE HYDROPIC SCHOOL FARMS INTO HEALTHY FOOD AND EDUCATION
- SCHOOLS HAVE BEGAN TO TEACH HYDROPICS IN THE CLASSROOM TO MIDDLE AND HIGH SCHOOL KIDS
 - BEDFORD STUYVESANT NEW BEGINNINGS CHARTER SCHOOL, BROOKLYN, NEW YORK
 - MAIZE HIGH SCHOOL, WICHITA, KANSAS
 - ALEA HIGH SCHOOL, ALEA, HAWAII



INTRODUCTION TO HYDROPONICS

★ URBAN GARDENING

- URBAN AGRICULTURE IS FARMING OR GARDENING THAT OCCURS WITHIN AN URBAN SETTING. DUE TO ITS ENVIRONMENTAL AND SPACIOUS LIMITATION URBAN FARMING IS TYPICALLY MORE DECORATIVE AND CREATIVE THAN REGULAR AGRICULTURE.

★ VERTICAL FARMING

- GROWING PLANTS AND PRODUCE IN A VERTICAL ORIENTATION, MAXIMIZING THE USE OF THE LOCATION'S SQUARE FOOTAGE
- USUALLY IT PRODUCES CABBAGE, LETTUCE AND LEAFY GREENS

★ HYDROPONICS

- BENEFITS
 - QUALITY
 - CUTS DOWN ON TRANSPORTATION COSTS
 - NO PESTICIDES
 - LESS LABOR
 - SPACE
 - 20% LESS SPACE FOR GROWING
 - CROPS GROW FASTER IN HYDROPONIC CULTURE THAN IN A SOIL BASED GROWING MEDIUM
 - RESOURCES
 - 20 TIMES LESS WATER THAN SOIL BASED GARDENING
- EXCEPTION OF HYDROPONICS
 - CLEANING
 - CLOGS



PHOTO COURTESY OF GREEN WORLD USA

THE COMMUNITIES

★ HYDROPONICS IN MANHATTAN

○ THE GREEN BOX HYDROPONIC

■ STORES

- "IS THE ONLY HYDROPONIC AND URBAN GARDENING SUPPLY STORE IN THE HEART OF NEW YORK CITY CARRYING LEADING BRANDS, THE GREEN BOX AIMS TO ALWAYS OFFER CUSTOMERS VALUABLE CONSULTATION, A WELCOMING ATMOSPHERE, AND COMPETITIVE PRICE POINTS"

○ FARM.ONE

- LARGEST VERTICAL FARM IN MANHATTAN, GROWING HUNDREDS OF RARE HERBS, EDIBLE FLOWERS AND MICROGREENS FOR THE BEST CHEFS IN NEW YORK

■ HYDROPONICS FOR KIDS

- A FUN AND INTERACTIVE OPPORTUNITY FOR KIDS TO EXPERIENCE FARMING, HYDROPONICS, AND EMERGING TECHNOLOGY. DESIGNED TO STIMULATE INTEREST IN FOOD SOURCING AND SUSTAINABILITY WHILE LEARNING TO APPRECIATE NEW FLAVORS AND CULINARY POSSIBILITIES.

○ THE HYDROPONIC GARDEN: THE INSTITUTE OF CULINARY EDUCATION

- "AT ICE, WE'RE MAKING "FARM-TO-CLASSROOM" CUISINE THE STANDARD FOR CULINARY EDUCATION. ICE'S INDOOR HYDROPONIC GARDEN HAS GROWN OVER 250 CROP VARIETIES TO DATE, PRODUCING RARE FLAVORS FROM AROUND THE WORLD IN A STATE-OF-THE-ART, CONTROLLED ENVIRONMENT"

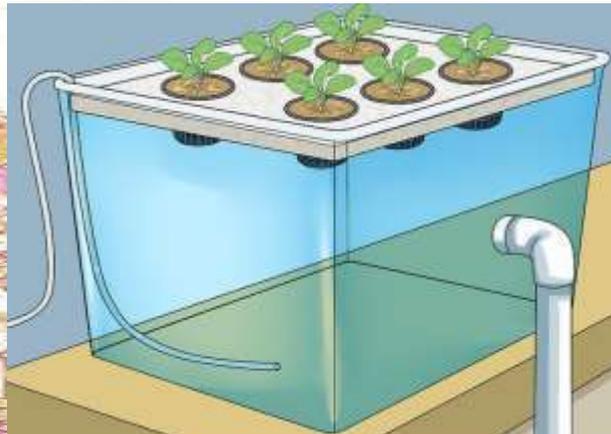
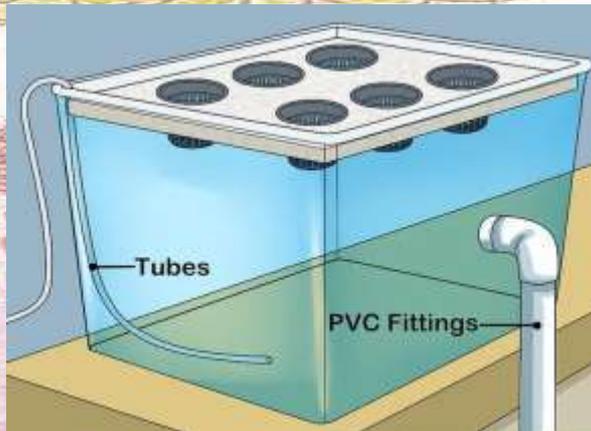
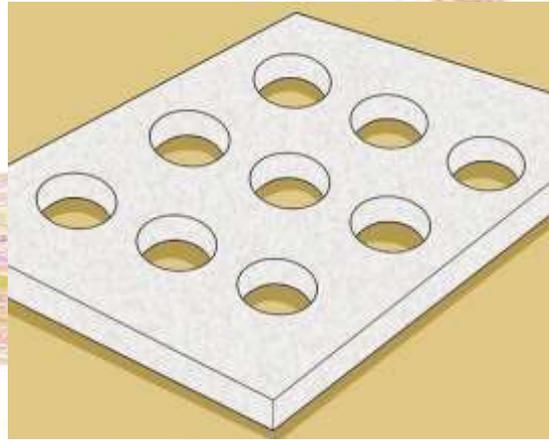
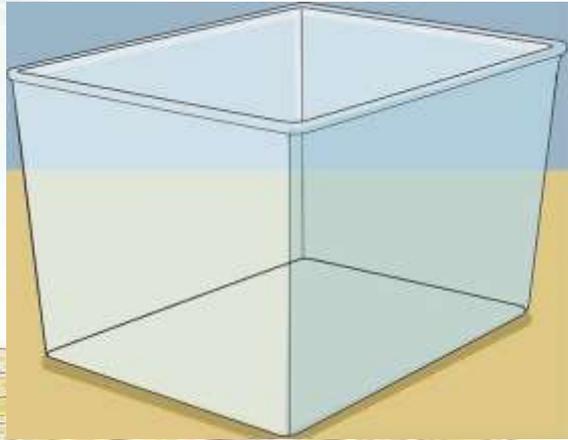


MODELS

- ★ There are **no limitation** to the styles of hydroponic systems
 - They are purely up to the creativity of the maker
- ★ Here are a few examples of expensive models priced at \$200 and inexpensive models made out of water bottles that can be hung in the window of a classroom.



ELECTRONIC DEMONSTRATION



IN CLASS PHYSICAL DEMONSTRATION

★ I BUILT MY OWN MODEL WITH THE GOAL OF MAKING A LARGE SCALE SYSTEM WITH LITTLE MONEY

★ THIS DEMONSTRATION SHOWS HOW A CLASS COULD MAKE THIS TYPE OF MODEL AND I INCLUDED A ITEMIZED LIST

- LESS THAN 20 MINUTES TO BUILD
- \$28 OR LESS TO BUILD
 - SOME OF THE MATERIALS ARE COMMON ITEMS THAT CAN BE FOUND ITEMS SO SOME PRICES ARE APPROXIMATE
 - THIS IS A SYSTABLE FACT BECAUSE OF THE REUSABLE ITEMS



\$8.79



0.37



\$2.57

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