

#2020JMGNLT

2020 National JMG Leader Training

Texas A&M University, Feb. 24-Feb. 26, 2020

Please complete survey at  
[www.JMGkids.us/2020NLTresources](http://www.JMGkids.us/2020NLTresources)

2020 JMG NLT Pre-Conference Survey

2020 National JMG Leader Training

Texas A&M University, Feb. 24-Feb. 26, 2020

2020 JMG National Leader Training

Junior Master Gardener<sup>®</sup>  
growing good kids<sup>™</sup>

An international youth garden program  
of the cooperative Extension network.

**2020 JMG:**

- 20<sup>th</sup> Anniversary
- JMG in all 50 States, 10 countries
- 38 State Partners
- 4 International Partners

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## Partnerships:

- Borlaug Institute Intl. Agriculture
  - American Horticultural Society
  - Nursery/Landscape Associations
  - Keep America Beautiful
  - State Departments of Agriculture & USDA
  - State Master Gardener Programs
  - National 4-H Program
- 2020 JMG National Leader Training



# Junior Master Gardener


**Our Mission:** Growing good kids by igniting a passion for learning, success, and service through a unique gardening education.

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## Igniting a passion for learning

"It enhances the student and teacher learning process...serves as a **catalyst for student interest in science.**"

IMG Group leader response  
National IMG Leader Survey



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## Igniting a passion for success

For **all** students

The JMG program currently serves students in school settings with over



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## Igniting a passion for success

"The high school students gain a better understanding of the concept being taught...**they enjoy teaching horticulture and environmental science and have learned a greater respect for the teaching profession.**"

High School Teacher



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## Igniting a passion for success

**Recognition certifications for kids**





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## Igniting a passion for service

The children are learning far more than what the ground can produce... **they are learning to be active participants in their community to help their fellow man.**



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**This training conference will equip you to:**

- effectively lead proven, research-based JMG lessons
- prepare JMG teacher/leader training events for their local communities
- enroll & register children in the JMG program
- organize and engage youth in career exploration and service learning activities
- involve local schools, county Extension office, volunteers and parents with JMG programs

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**National JMG Office:**

- Assist states in starting JMG program
- Assist or conduct leader trainings
- Assist in pursuing financial support through sponsorships and grants
- Maintain national JMG database & website
- Publish and distribute curriculum
- Protect trademarks and program quality

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**Dream Big!**

If you are not the lead dog, the scenery never changes!



*Together, we can all make the commitment and leave a legacy growing good kids!*

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growing good kids<sup>sm</sup>

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**JMG Class/Group Registration**

**The JMG group/class:**

- Public school
- Private/charter schools/home schools
- 4-H Clubs, Boy/Girl Scouts
- after school programs, YMCA
- Public and botanical gardens

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**JMG Registration:**

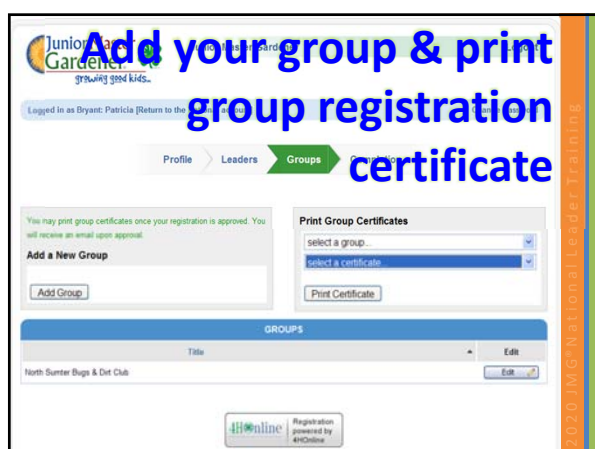
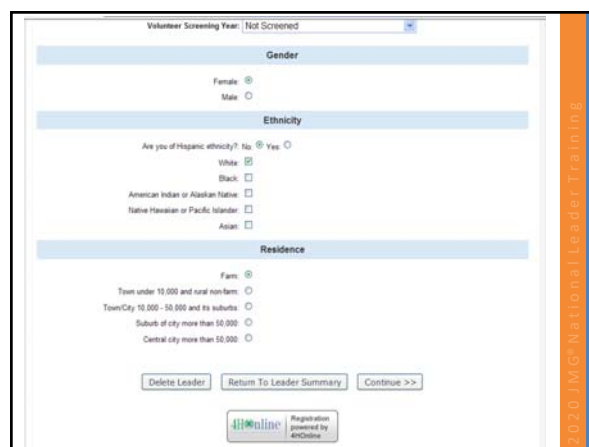
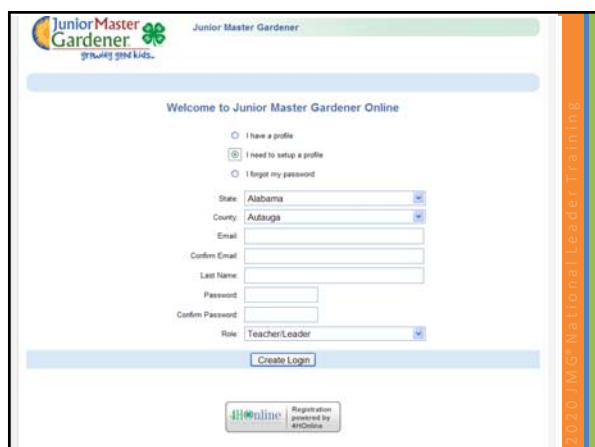
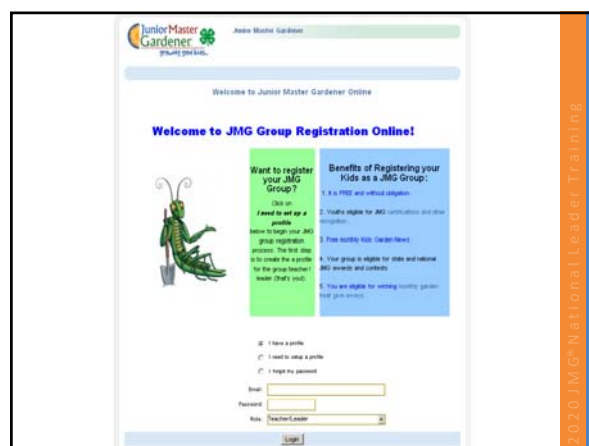
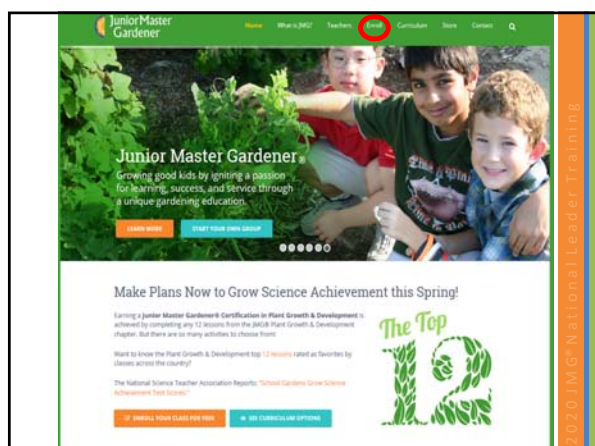
- Minimum of 5 youths
- One or more adult teacher/leader(s)
- Suitable meeting facilities
- An official group name

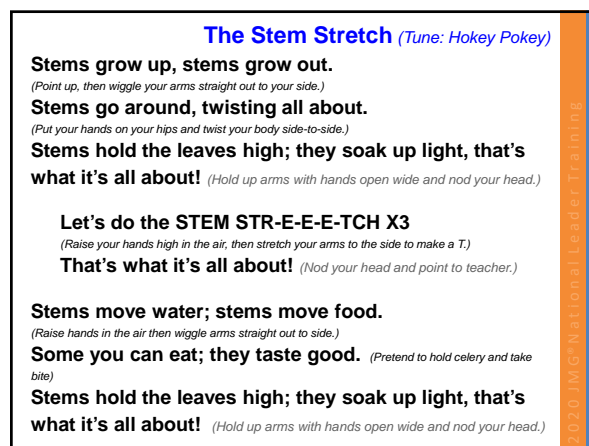
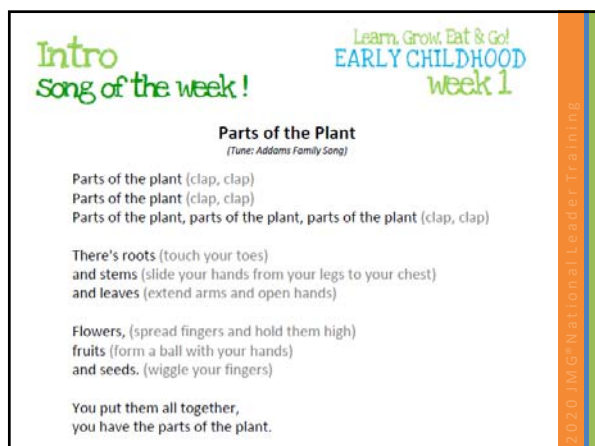
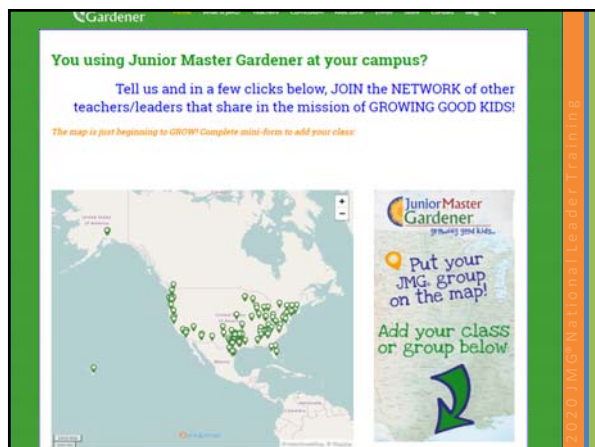
**Register even if...**

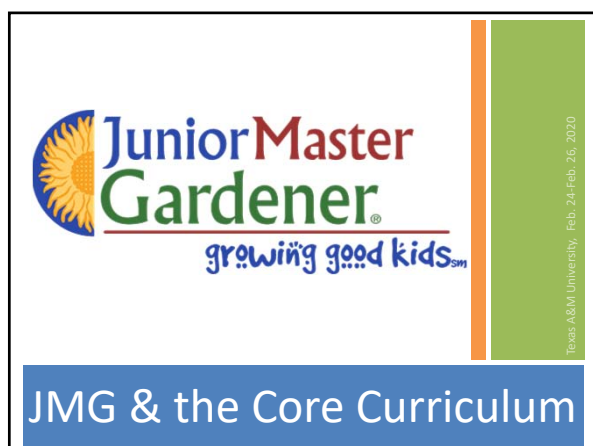


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## JMG Teacher/Leader Guide



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## The JMG® Teacher/Leader's Guide

- Introduction and management guide
- Chapter group activities
- Community Service Projects/Leadership
- Helpful appendices



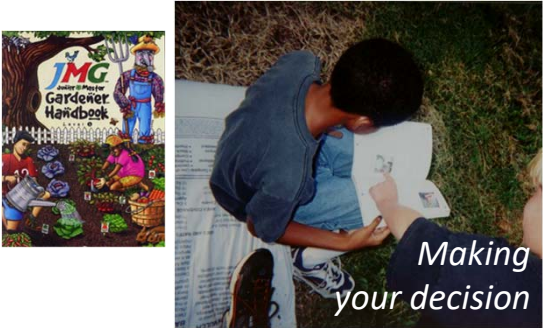
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## Go and Do It !!!



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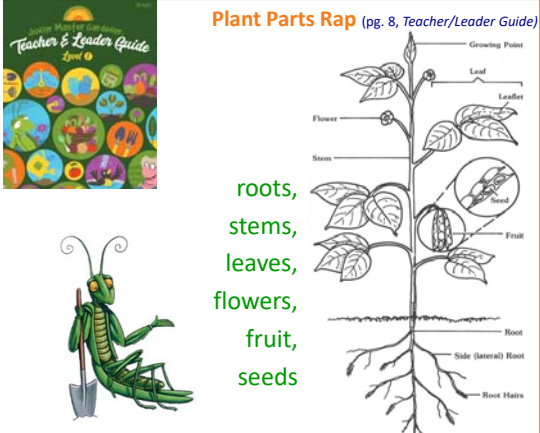
## JMG® Youth Handbook



Making your decision

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## Plant Parts Rap (pg. 8, Teacher/Leader Guide)



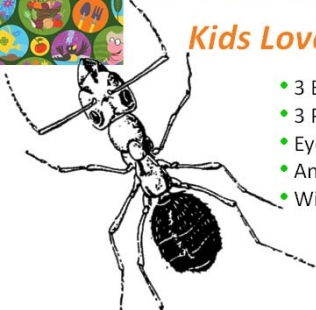
roots,  
stems,  
leaves,  
flowers,  
fruit,  
seeds

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## Teaching Children About Insects

### Kids Love Bugs!

- 3 Body Regions
- 3 Pair of Legs
- Eyes
- Antennae
- Wings or no wings



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## Teaching Children About Insects

**Complete Metamorphosis:** egg, larva, pupa, adult



An adult insect lays its eggs in a protected place where the hatching larvae can easily find food. When the larvae hatch, they are eating machines! As a larva grows, it sheds its skin several times because its skeleton is on the outside of its body and cannot expand and grow with it. When it has reached full size as a larva, it is ready for the next stage, called the pupa (plural: pupae). The larva may form a cocoon, or chrysalis. Inside the cocoon, the insect's body changes form and is transformed into the adult form. Then the adult insect breaks out of the cocoon and mates. The cycle starts over again.

**Incomplete Metamorphosis:** egg, nymph, adult



There are several types of incomplete metamorphosis. Insects that undergo incomplete metamorphosis may change features somewhat as they grow, may change very little except for the addition of such features as wings or new organs, or may not change at all. Some insects with this type of metamorphosis may live part of their lives underwater as aquatic insects.

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## Grow Cards (pg. 63, Teacher/Leader Guide)

- Fund raiser
- Mothers day cards
- Thank you notes



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## Service Learning & Leadership Development


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## JMG® Certification for Youths

- Certified Junior Master Gardener®
- Golden Ray Series Certification

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**Complete 1 group activity per teaching concept**

**Complete 1 individual activity per teaching concept**

**Complete 1 service learning/leadership project**

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## Recognizing your kids...

Profile Leaders Groups **Completion**

Select a Group: Hot Hedgehogs

First Name:

Last Name:

Print: ☐

Add Attendee

Attendees

Print:  First Name Last Name Edit

Certificates

Completion Certificates

Level 1 Certified Junior Master Gardener

A Level 1 Certified Junior Master Gardener

Print Certificate

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Logged in as Bryant: Patricia (Return to the National account) [Change Password](#)

Profile > Leaders > Groups > **Completion**

Select a Group: North Sumter Bugs & Dirt Club

First Name:   
Last Name:   
Print: ☐

[Add Attendees](#)

**Attendees**

Print	First Name	Last Name	Edit
<input type="checkbox"/>	Patricia	Bryant	<a href="#">Edit</a>

**Certificates**

**Completion Certificates**

Golden Ray Series Certifications

Level 1 Certified Junior Master Gardener

Golden Ray Series Certifications

Level 2 Junior Master Gardener Certifications

[Print Certificate](#)

## Certified Junior Master Gardeners®



### How is the Program Used?

Pick and choose some JMG activities for your youth to try.

**JMG Recognition Opportunities.**

Recognition Medals

JMG Certifications

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## Activity Session

**Secret Smells** (pg. 79, Teacher/Leader Guide)



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**Access to JMG curricula:**  
**?UPDATE**  
**AgriLife Bookstore delivery!**  
**Additional conference**  
**Bookstore orders must be**  
**placed by 2pm, Feb. 28**

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**Junior Master Gardener®**  
growing good kids.™

Texas A&M University, Feb. 24-Feb. 26, 2020

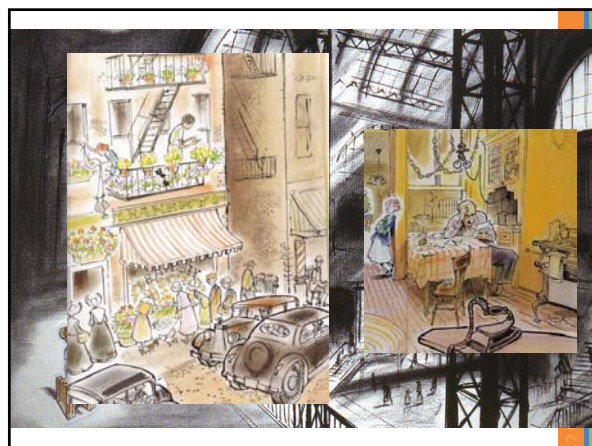
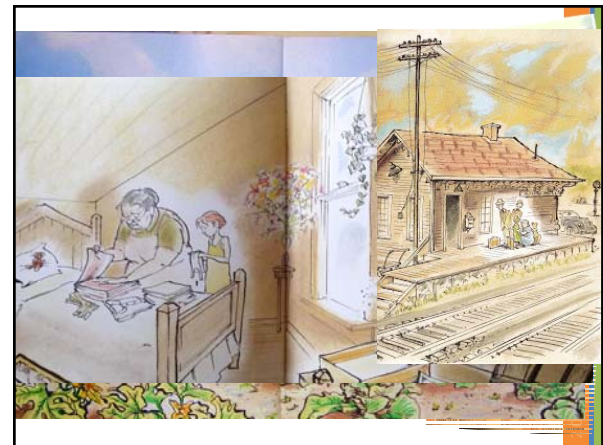
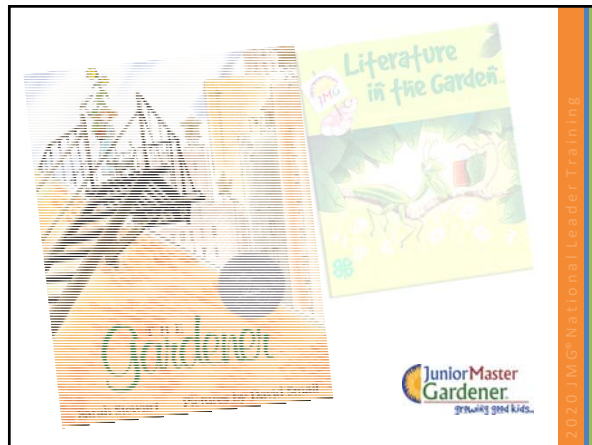
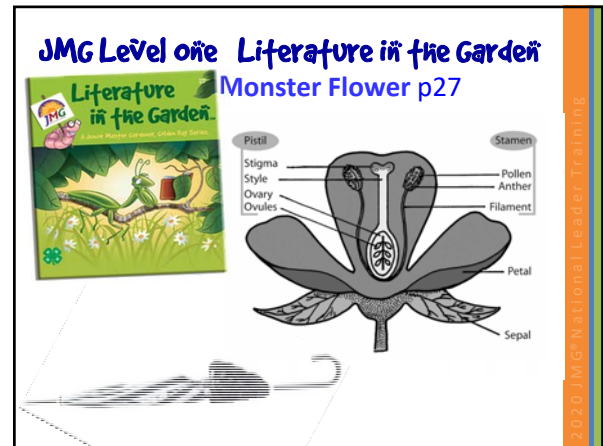
**Golden Ray Series**

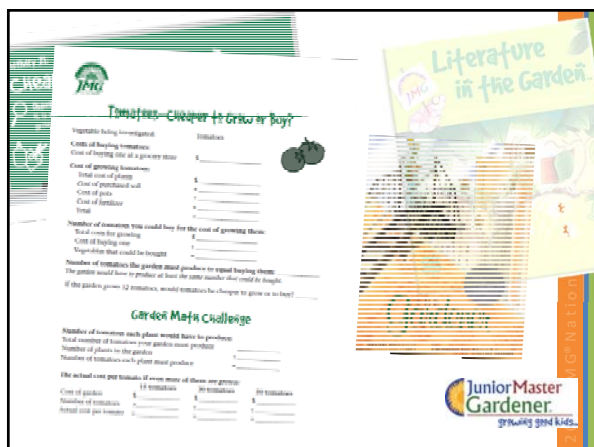














**Junior Master Gardener®  
Golden Ray Series**  
thematic Level One Curricula

**Wildlife Gardener!**

**teaching concepts:**

- Habitat Gardening Basics
- Essential Elements
- Birds
- Mammals
- Insects
- Reptiles and Amphibians
- Wildlife Habitat Sites

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**Wildlife Gardener!**

**A la Carte Garden, pg. 137**

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**Teaching Concept 2**

**Activity 22: Cookie Key**

Identify the different types of insects and their parts.

1. This cookie is soft..... fig bar  
2. This cookie is hard..... Go to 2  
3. This cookie has chocolate in or on it..... Go to 3  
4. This cookie has chocolate pieces..... chocolate chip cookie  
5. This cookie has filling..... chocolate sandwich cookie  
6. This cookie is shaped like an animal..... animal cookie  
7. This cookie is not shaped like an animal..... Go to 5  
8. This cookie has a hole in the middle..... Go to 6  
9. This cookie does not have a hole in the middle..... ginger snap  
10. This cookie tastes like lemon..... lemon cookie  
11. This cookie tastes like butter..... butter cookie

The following are easy to "key out":  
Ladybugs, Grasshoppers, Potterflies, Ants, Crickets, Flies, Stink bugs, Aphids

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**Wildlife Gardener!**

**Far Out Feeder, p55**

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**Wildlife Gardener!**

**Ties that Coil, pg. 106**

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**How do my kids become  
Certified Wildlife Gardeners<sup>sm</sup>?**

Youths can earn certification as a  
**Wildlife Gardener<sup>sm</sup>** by completing:

- A. at least 12 activities
- B. 1 Life Skills/Career Exploration activity
- C. establish a Certified Schoolyard Habitat or other service-learning project

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## Junior Master Gardener® Golden Ray Series

*thematic Level One Curricula*

**stand-alone curriculum:**

- Literature in the Garden
- Wildlife Gardener

**chapters/themes:**

- Plant Growth & Development
- Soils & Water
- Insects & Plant Diseases
- Ecology & Environmental Hort
- Landscape Horticulture
- Fruit & Nutrition
- Vegetables & Herbs
- Life Skills & Career Exploration
- **multi:** Growing a Vegetable Garden

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### Activity 27: Ladybug Lunchline

**Objectives:** Determine the creative effect of ladybugs to the garden.

**Time:** 30-45 minutes

**Materials:** 1 clear film canister with lid, plastic quart jar with lid, rubber band, string, hole punch, glue, markers, crayons.

**NOTE:** Before beginning, do a little bit of research to find the three most common garden insects for your area. You can find that information by contacting your local Extension office, a local garden center, or searching with a neighborhood garden resource materials, online sources and resource lists at [www.jmgkids.org](http://www.jmgkids.org).

Ladybugs are considered beneficial insects; they eat insects that are harmful to our garden plants like aphids, mealybugs and scales. Explain the concept of beneficial insects to the gardeners. Show images of your community's common garden pests. Discuss the fact that many people dislike insects and the word "bug" makes most people think of creepy, crawly, disgusting bugs. Point out that many, many insects, the ladybugs are beneficial. In fact, tiny ladybugs can eat up to 40 aphids per day—which is a lot considering the size of a ladybug! Have students create a representative daily count over a two-week period of the number of aphids a ladybug could consume. (over 1,400 aphids, 2,100, 3,150, 4,200, etc.)

**Boy Sockers**

The white translucent film and the string can be used to create the socker.

Tell the children that they beneficial insects.

Have each person make a following these steps:

1. Punch one hole about 1/2 inch from the side of a film canister hole puncher hole across from the top.
2. Place a 1 inch piece of grass over one of the holes and insert a 3-4 inch piece of string in the hole. The grass acts as a very important filter.

## Wildlife Gardener™

*A collaborative effort of the National Junior Master Gardeners Program and the National Wildlife Federation.*

## Activity Session

### Lady Bug Lunchline Wildlife Gardener (pg. 82)

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### Mini Insect Collection

1. Fill your canister and place it in a sunny window. This will attract the ladybugs to be collected in the collection canister along.

2. Remove the canister from the sunny window and place it in a shaded area. The ladybugs will move to the shaded area and stay there for a few days.

3. Place the canister in a sunny window again. The ladybugs will move back to the sunny window and stay there for a few days.

4. Repeat steps 1-3 for a total of 10 days. The ladybugs will stay in the canister for a total of 10 days.

5. Release the ladybugs back into the garden. The ladybugs will stay in the garden for a total of 10 days.

6. The ladybugs will stay in the garden for a total of 10 days.

7. The ladybugs will stay in the garden for a total of 10 days.

8. The ladybugs will stay in the garden for a total of 10 days.

9. The ladybugs will stay in the garden for a total of 10 days.

10. The ladybugs will stay in the garden for a total of 10 days.



## OPERATION THISTLE: *Seeds of Despair*

Beyond the buckling cement of a  
long-forgotten industrial park, in the deep  
shadows of a polluted swamp, *a weed grew.*

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A mutating, prickly, twisted little thistle  
with a twisted plan...

Almost no light penetrated this place and  
everything grew black, cold and slimy...

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cold and slimy,  
**except the thistle.**

He grew more intelligent,  
more cunning.

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No longer content to go unnoticed,  
the time had come  
**for Dr. Thistle's plan to grow...**

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## Operation Thistle: Seeds of Despair Plant Growth and Development



### teaching concepts:

Importance and Uses of Plants  
Plant Classification  
Plant Parts  
Plant Needs  
Plant Processes  
Plant Growth  
Seed Propagation  
Vegetative Propagation

## Operation Thistle: STUDENT PAGES

MISSION BRIEF MISSION OPTIONS

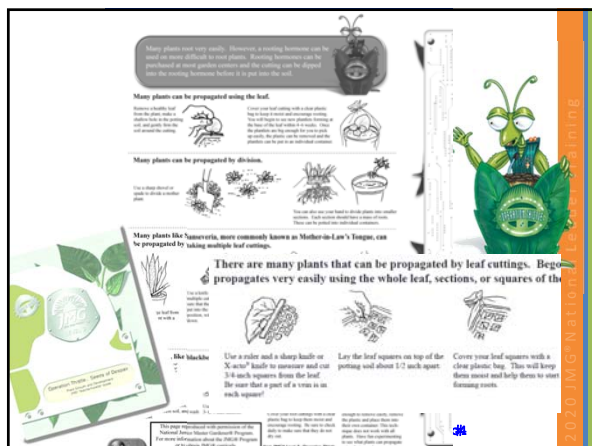


## Operation WATER: Thistle Goes Underground Plant Growth and Development



### teaching concepts:

Soil Color, Texture, & Structure  
Nutrients  
Soil Improvement  
Soil Conservation  
Water Cycle and You  
Water Movement  
Watersheds, Wetlands & Aquifers  
Water Conservation

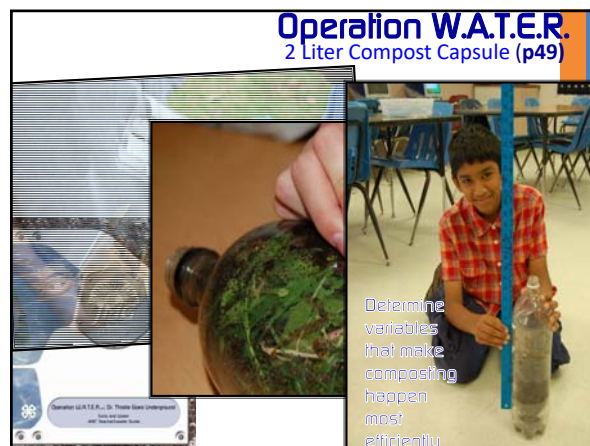


## Operation Thistle Six Week Propagation Production Venture (pg 106)



Plants grow funds with a class run business





## JMG Level Two *certifications:*

To earn certification groups/students must complete at least:

- 1 group activity per learning concept
- 1 individual activity per learning concept
- 1 life skill and career exploration activity
- 1 service-learning project

**Complete form online to access certificates:**

[illegible]

# Activity Session

## Reverse Soil Erosion Challenge


(pg. 153, *Operation W.A.T.E.R.*)



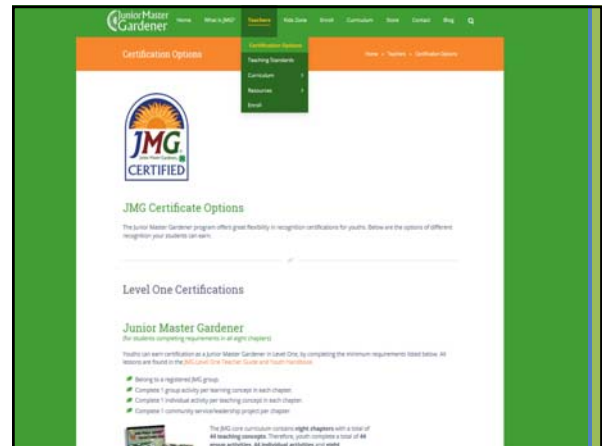
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## Operation W.A.T.E.R.

### Reverse Soil Erosion Challenge (p 153)



Students are challenged to demonstrate the *opposite* of soil erosion?



## PARENT ENGAGEMENT

- strategic collaboration
- family events
- effective communication
- proven resources
- social media, templates



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## 5 things to know:

- 4 week, linear curriculum
- for 4-5 year old students
- based on LGEG foundation
- “I could do that!”
- parent engagement



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## CURRICULUM TIMELINE:

### Pilot feedback

- 80+ pilot teachers, across 20+ states (TX, VA, NE, LA, ID, WV, FL, NV, AZ, WV, MA, IL, GA, PA, KY, VA, HI, NC, WY, OK)

### Reviewer Feedback

- Early childhood/nutrition/youth gardening
  - TAMU, Nebraska, University of Nevada,
  - Michigan State, NC State, University of Kentucky
- Fall Production, Winter Publication, Spring Availability



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## Activity Session

### Stem Stretch

(Early Childhood Learn, Grow, Eat & Go!)



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Who are your kids?  
Where are they at?

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Research & Evaluation



## Is there a network to support?

Examples of networks that support JMG programs in the United States:

- Network of educators/volunteers in place – EFNEP, SNAP-Ed, and adult Master Gardener volunteer programs
- Local farmers market and farm to school programs
- State and local health organizations and agencies
- State and local education organizations
- Chef Associations
- Community volunteer organizations



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## National Interest

- USDA – Farm to Cafeteria
- Increase in sales of vegetable transplants through nurseries
- Concept of “local-vores”
- Organically grown
- Food labeling
- Personal relationship with food
- Food as health



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**Does gardening work?**

**What does the research say?**



## Previous JMG Research

- Increased interest in science
- More positive attitudes and knowledge and fruits and vegetables
- Youth more enthusiastic about learning
- Improved science academic test scores
- Youth enjoyed gardening and sharing what they learned with others
- Increased personal responsibility and self esteem
- Many teacher want more gardening education to gain confidence



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## Gardening and Experiential Nutrition Education in Schools

*A Promising Approach:*

- *Students studying nutrition in classroom while growing vegetables outdoors increased nutrition knowledge and preference for vegetables.*

(Morris, Neustadter, Zidenberg-Cherr, 2001 and Morris, Zidenberg-Cherr, 2002)

- *Children who plant and harvest their own vegetables are more likely to eat them.*

(Morris, 2002; Foerster, et al, 1998; Morris, et al, 2001, Morris and Zidenberg-Cherr, 2002)



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## Gardening and Experiential Nutrition Education in Schools

*A Promising Approach:*

- Nutrition Education plus gardening was found as an effective strategy for **improving in school consumption of fruit and vegetables** during school lunch times.

(Parmer et al., 2009)

- Evidence of promising gains in fruit and vegetables interest and knowledge, but limited evidence-based, peer-reviewed research evaluating gardening programs on nutritional outcomes.

(Robinson-O'Brian, 2009)



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### Summary of key research areas:

**Personal, social, physical, and moral development including self-concept, self-esteem, and motivation** (Bowker & Tearle, 2007; Dirks & Orvis, 2005; Hendren, 1998; O'Brien & Shoemaker, 2006; Robinson & Zajicek, 2005; Sheffield, 1992; Simone, 2003)

**Positive environmental attitude and empathy** (Berenguer, 2007; Dirks & Orvis, 2005; Skelly & Zajicek, 1998; Waliczek & Zajicek, 1999)

**Increased food literacy and healthy eating habits** (Canaris, 1995; Koch, Waliczek, & Zajicek, 2006; Lineberger & Zajicek, 2000; Morris, Neustadter, & Zidenberg-Cherr, 2001; Parmer, Salisbury-Glennon, Shannon, & Struempfer, 2009; P. J. Morgan et al., 2010)

### Summary of key research areas:

**School bonding, parental involvement, and formation of community** (Brink & Yost, 2004; Brunotts, 1998; Cutter-Mackenzie, 2009; Mayer-Smith, Bartosh, & Peterat, 2009; Waliczek, Logan, & Zajicek, 2003) (p. 212).

**Curricula connections made with school gardens enhanced academic achievement** (Berezowitz, Yoder & Schoeller, 2015; Williams and Dixon, 2013)

**Extension professionals and volunteers support through providing horticulture, nutrition, food safety and instruction** (Black, Haynes, Schrock, Duerfeldt, & Litchfield, 2016; Dzubak, Shaw, Strohbehn & Naeve, 2016)



Journal of Agricultural Education, 59(2), 143-166 <https://doi.org/10.5032/jae.2018.02143>  
Journal of Agricultural Education 143 Volume 59, Issue 2, 2018 Outcome Framework for School Garden Program Development and Evaluation: A Delphi Approach John M. Diaz1, Laura A. Warner2 & Susan T. Webb3

### Development & evaluation programs to optimize impact and sustainability

- Delphi technique – solicit, collate, and direct responses to achieve consensus among group of experts.
- Identify the most meaningful outcomes (short, medium and long term)
- Develop comprehensive set of indicators and integrate needs into framework
- 3 rounds of questions/responses – from 74 experts all across USA
- Teachers- all levels, university/Extension, state agency, non-profit, volunteer

- **Short term** – school gardens should increase knowledge of food systems of healthy eating while nurturing a love of gardening among students
- **Medium-term** – school gardens should promote connection to nature, more engaged students, and sharing of gardening information
- **Long-term** – school gardens should result in better outdoor environments improved access to healthy produce and sustained school gardening programs



Information from this article can assist with components to *maximize outcomes, create best practices, when and how to evaluate, framework to assist with grant writing and build sustainable programs.*

### Research Project: Texas Grow! Eat! Go! Expansion/Implementation/Research Study Project



More about health/nutrition research during  
Learn, Grow, Eat & GO! presentations

## Resources for Research

[www.jmgkids.us/research](http://www.jmgkids.us/research)





 [www.twitter.com/jmgkids](http://www.twitter.com/jmgkids)   
 [www.facebook.com/jmgkids](https://www.facebook.com/jmgkids)   
 [www.pinterest.com/jmgkids](http://www.pinterest.com/jmgkids)   
 [www.instagram.com/jmgkids](https://www.instagram.com/jmgkids)   
[www.JMGkids.us](http://www.JMGkids.us)

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**3 concurrent  
GROW SESSIONS this  
afternoon:**  
**GROW SESSION A (1:00-2:10)**  
**GROW SESSION B (2:25-3:35)**  
**GROW SESSION C (3:50-5:00)**

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