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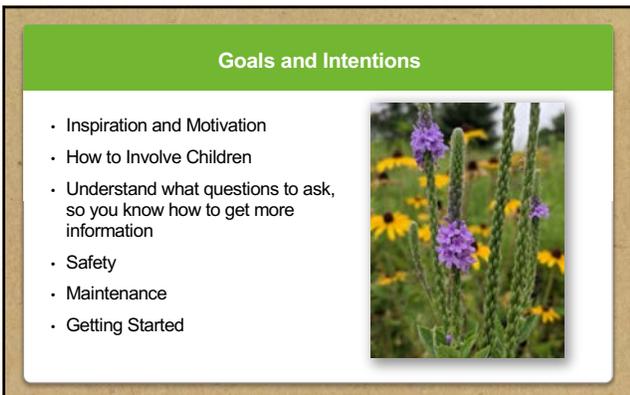
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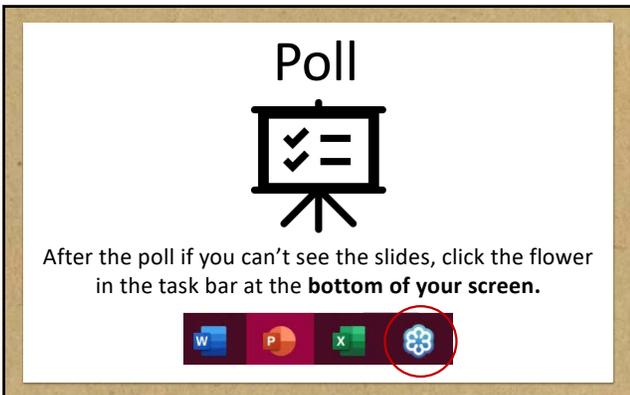
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**The Value of Time in Nature**

- Facilitates Social Development and Well-Being
- Improves Physical Fitness
- Supports Creativity and Imaginative Play
- Inspires Collaborative Play
- Reduces Violence and Bullying
- Reduces Stress
- Creates Empathy for Plants and Animals



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**Post-Occupancy Study  
Nature-Based Outdoor Classrooms**



Plantings in the outdoor classroom, "...supported a number of positive behavioral and emotional outcomes. These include self-calming, solitary experiences... help in recovery from overwhelming sensory stimuli, and a strong connection to a special place."

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Benefits of Adding Plants

- Plants are ever changing, dynamic elements
- Environmental Kinship is based on the understanding that everything in the natural world is interrelated and that humans are a part of this as cohabiters. [www.environmentalkinship.org](http://www.environmentalkinship.org)
- The “work” that plants do




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The work plants do

- Screening views
- Windbreak
- Ecological value
- Providing Loose Parts
- Nooks and Cozy Spots
- Shade/comfort
- Gives definition to “areas”
- Increases beauty




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Involving Children




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### Involving Children

- Real work
- Research and decision making
- Citizen Science




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### Real Work

- Maintenance and caretaking
  - Planting
  - Mulching
  - Sweeping
  - Watering
- Proper tools/storage
- Sense of ownership
- Acts of Service




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**Research and Decision Making**

- Observe sun and shade throughout the day
- A pre-selected choice
- Discover together
- Keep it simple
- Sense of ownership



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**Citizen Science**

- iNaturalist
- Monarch Way Station Program
- The Great Backyard Bird Count



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**Poll**



After the poll if you can't see the slides, click the flower in the task bar at the **bottom of your screen**.



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**Addressing Safety Concerns**

- Visibility
- Toxicity
- Bees and stinging insects
- Tree Safety

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**Visibility**

- Perimeter vs. internal plantings
  - Maintain sight lines
- Plant height
  - max. height +/- 30"
- Plant density
  - Thin it out
  - Limb it up

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### Plant Toxicity

- Begin with Research
  - Universities and extension offices
  - Federal government agencies, such as the USDA
  - Botanical gardens and other research-focused institutions
- Understand "Toxicity"
  - What part is toxic?
  - What is the reaction?




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### Plant Toxicity



- Other considerations
  - Age-group
  - Location
  - Supervision
- Be prepared
  - Keep list of plant names

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### Bees and Stinging Insects



- "Bee" cool, the children are watching
- Keep pollinator attractors in one area- or plant pollinators outside fenced area
- Non-flowering plants or plants that flower in early spring, late fall or at night
- Plants with trumpet/bell shaped flowers, red flowers (supposedly)
- Know your first-aid protocol
- Known allergies- check epi-pen expiration

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**Tree Safety**

- Working with an arborist
  - Evaluate tree health
  - Remove dead branches
  - High-winds
- Tree climbing
  - Dr. Carla Gull



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**Plant Selection and Design**

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**Plant Selection Considerations**



- Size (visibility)
- Toxicity
- Low maintenance
- Growth rate
- Sun/water requirements
- Non-invasive
- A mix of plant qualities
  - Four-season plants
  - "sensory" plants

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### Qualities of Plants

- Color (flower color and leaf color)
- Form
- Size
- Texture
- Bloom Time
- Leaf size and shape
- Density branches/leaves
- Seed Pods




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### Native vs. Non-Native

- Right plant, right place
- Cultivars of Native Plants
- More important: Non-invasive
- Benefits of native plants
  - Typically quicker to establish
  - Supports biodiverse ecosystem (birds, insects, soil, microbes)
  - Often more drought-tolerant, low-maintenance




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### Getting Help

- How to find the "plant people" in your town
  - University extension/master gardener
  - Garden clubs/native plant societies
  - Nature centers/botanical gardens
  - Facebook Groups
- Managing donations
- Working with volunteers




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**Trees and Shade**

- Tree sizes: caliper, container size, height
- Deciduous trees (summer shade/ winter sun)
- Timing: Plant trees after leaves drop in fall or before they leaf out in spring



*Photo courtesy of Johnson's Nursery*

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**Trees and Shade**

- Consider cost of 10'x10' shade structure against cost of tree with 10' canopy.
- Big Tree, instant shade
- Small tree, establishes more quickly and catches up after a few years, depending



*Photo courtesy of Trees on Wheels*

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**Protecting Plants**

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Protecting Plants

- Large/mature size going in
- Reconsider “herbaceous perennials” in vulnerable areas
- Edging
  - Hard edging
  - Avoid plastic/metal
  - Watch for trip hazards
- Mulching
  - Distinguishes plant bed




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Protecting Plants

- Mounding
- Caging and staking
- Lawn service/ maintenance staff
- Involving Children
  - Ownership
  - Naming/Gifting as caretaking
  - Give the plant a story




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Protecting Plants

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**It doesn't need to be perfect**

- Good enough is good enough
- Start small
- Schedules and documentation will make it easier
- Healthy soil makes healthy plants
- What do you have to lose?
- Be excited about what does happen, not disappointed about what doesn't



Photo courtesy of AZ Plant Lady

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**New plant bed: Starting from scratch**

- “Organic” bed shape: Use landscape spray or hose to mark out
- Remove existing vegetation
  - Avoid chemicals
  - Minimize tilling (“garden weasel” cultivator to break up soil)
  - Shovel, garden hoe or sod cutter
  - Sheet mulching (the best!)




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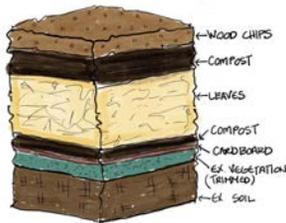
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**Sheet mulching: Good enough**

- Think a season ahead- best done in fall for spring planting
- Cut grass/weeds down (shorter the better)
- Lay down cardboard or thick layers of newspaper /overlapping edges (cut around sprinkler heads)
- Layer compost, grass clippings, fall leaves, wood mulch on top




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**Building Healthy Soil**

- No chemicals, no tilling
- Compost, compost, compost!
- Grass clippings (let it sit a bit)
- Fall leaves
- Food waste (consider purchasing an enclosed bin or tumbler)
- Worm bins (fun indoors and out)
- Where to find compost: Check with your local waste management department




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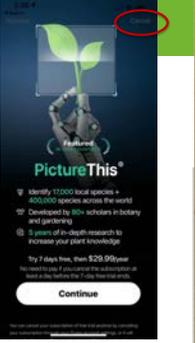
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### Rehabbing existing plant beds

- Identify existing plants
  - Picture This!
  - iNaturalist (Seek by iNaturalist)
- Overgrown plants: Thin them out, limb them up, cut them back
- Pull weeds
  - What is a weed?
- Add compost, 2-3 inches, mix in to underlying soil
- 2-3 inch layer of mulch, around by not touching existing plants



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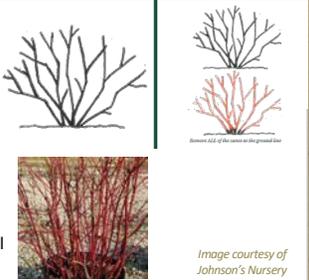
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### Overgrown Shrubs

- Rejuvenation pruning
  - Multi-stem "shrubby" plants
  - Not suitable for single trunk, tree-like shrubs or evergreens
  - Might affect spring blooms
  - Moderately healthy
  - Cut down 6–12" above soil



*Image courtesy of Johnson's Nursery*

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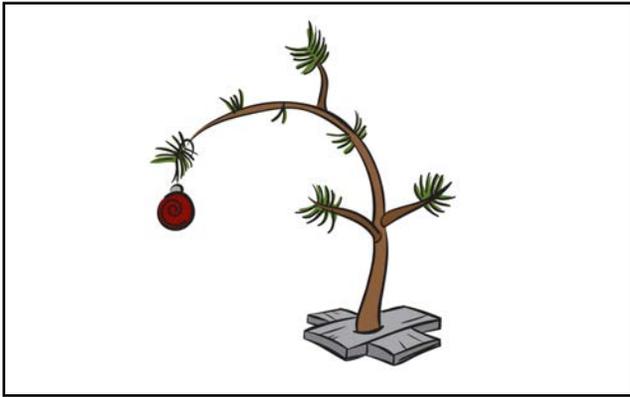
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**What about grass?**



- Right grass, right place
  - Shade tolerant vs. full sun
  - Turf-type fescue
  - Low mow/no mow
- Compaction/foot traffic
  - Aeration
  - Organic matter (compost)
- Sod, plugs or overseed
  - Timing (early fall or early spring)

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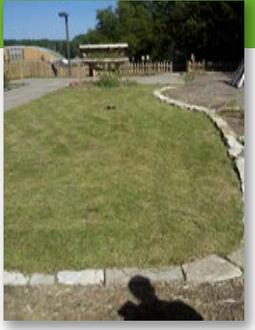
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**What about grass?**

- Too much shade is too much shade
- Edging
- Mounds (erosion, bare spots)
- Lawn service
  - Organic options
  - No herbicide applications



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**Break it down and break it down some more**

- Start small
- Section it out
- One section per classroom/one section per week
- Daily/Weekly/Seasonally
- Documentation with notes- this is what we did, this is what happened
- Develop systems

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**Watering Strategies**

- Water access
  - Quality Hoses ("contractor" grade)
  - Heavy-duty hose reel
  - Hose splitter
  - Hose Bib Extender
  - Cistern/reservoir
  - Rainwater harvesting

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**Thank You!**

- Johnson's Nursery in Menomonee Falls, WI
- Noelle Johnson, AZ Plant Lady
- Alex Correll, Trees on Wheels
- Gavin Ludovici
- Kirsten Haugen
- Stacy Hawthorne
- Kaley Cooper
- Fran Simon and Andrea Goggins

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