NSDAR Educational Resources Committee

"Habitats/Ecosystems"

Contributor: Nancy Honea **Grade Level:** K-5th

1. **Identify the standards to be addressed:**
   K.3;K.4;K.5 2.7; 3.5 Life sciences and Ecosystems; Interactions; What do living things need to survive.

2. **Statement of the objective and lesson outcomes:**
   Students will investigate the needs of native backyard animals. Students will also investigate how the animals provide for their needs. Students will create items that will be used to help provide basic needs of those animals.

3. **Materials, resources, and technology to be used by teacher/students**:
   The mini unit instruction is guided by a power point so instructors will need access to a computer. Students will be creating items for habitat needs so the instructor will also need to gather some items for those challenges. Please see individual lesson plans.

4. **Introduction of the topic**:
   Please see individual lesson plans.

5. **Procedure for instruction**:
   Please see attached lesson plans.

6. **Lesson closure**:
   Please see attached lesson plans.

7. **Assessment of Understanding:**
   Please see attached lesson plans.

Habitats

Goal: Student will gain an understanding of the essentials of their backyard animals' habitats as well as those ecosystems through investigating, discovering, connecting and creating nesting bags, bird feeders, seed paper, mason bee nurseries, and toad abodes.

Session #1. Intro to club—What is a habitat-- making a habitat journal

Investigate:

Promote curiosity about habitats through powerpoint and habitat game. Intro facts and information about habitats furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity while working with their learning partner. Discussion of information will expand the knowledge base of the partner team. The "Today's Challenge" will be given to the student.

"Today's Challenge"---- Create a Cover for their Habitat Journal using only materials from a recycling tub and a nature tub. At the end of the club the journal will be bound together to form a record of the student's activities and thinking during the club.

Connect:

The Learning partner team will brainstorm ideas, talk, discuss and draw out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

Session #2. A Place To Raise Their Young---- Build A Nest-----Make A Nesting Bag

Investigate:

Promote curiosity about birds and nests through powerpoint and pics. Intro facts and information about habitats –a place to raise their young furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity while working with their learning partner. Discussion of information will expand the knowledge base of the partner team. The "Today's Challenges" will be given to the student.

"Today's Challenges"---- (1) Make a nest using only materials from a nature tub. (2) Build A Nesting Bag

Connect:

The Learning partner team will brainstorm ideas, talk, discuss and draw out and plan possible outcomes for Challenge #1 in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model for challenge #1. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

_____ Repeat the steps and complete challenge #2---create a nesting bag that can be hung from tree or bush.

Session #3. Food To Eat---Create a bird feeder

Investigate:

Promote curiosity about foods that birds eat through powerpoint . Intro facts and information about habitats and their food furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity while working with their learning partner. Discussion of information will expand the knowledge base of the partner team. The "Today's Challenge" will be given to the student.

"Today's Challenge"---- Create a bird feeder using items from a recycling tub.

Connect:

The Learning partner team will brainstorm ideas, talk, discuss and draw out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

Session #4. Focus changes to Mason Bees ---- Food To Eat----Create Flower Seed Paper

Investigate:

Promote curiosity about mason bees through powerpoint. Intro facts and information about mason bees, furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity while working with their learning team. Discussion of information will expand the knowledge base of the team. The "Today's Challenge" will be given to the student.

"Today's Challenge"---- Create flower seed paper that can be planted to create flowers for bees.

Connect:

The Learning team will brainstorm ideas, talk, discuss and write out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first try.

Create:

The students will begin making their try at flower seed paper. Measuring and creating…… making adjustments, testing combinations, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their recipes and share hints for the best paper.

Session #5. A Place To Raise Their Young—Make A Mason Bee Nursery

Investigate:

Promote curiosity about mason bee nurseries through powerpoint/video. Intro facts and information about the nurseries furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity. Discussion of information will expand the knowledge base of the student. The "Today's Challenge" will be given to the student.

"Today's Challenge"----Create a Mason Bee Nursery

Connect:

The students will brainstorm ideas, talk, discuss and draw out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

Session #6. Shelter------ Rolly

Investigate:

Promote curiosity about rollies through powerpoint. Intro facts and information about habitats furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity while working with their learning partner. Discussion of information will expand the knowledge base of the partner team. The "Today's Challenge" will be given to the student.

"Today's Challenge"---- Create a shelter for rolly

Connect:

The Learning partner team will brainstorm ideas, talk, discuss and draw out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

Session #7. Shelter---- Frogs and Toads

Investigate:

Promote curiosity about frog and toads through powerpoint . Intro facts and information about habitats furthering their past knowledge and expose them to new information that they will use in working toward their final designs and projects.

Discover:

Explore new and old information through a knowledge mapping activity. Discussion of information will expand the knowledge base of the student. The "Today's Challenge" will be given to the student.

"Today's Challenge"---- Create a Toad Abode

Connect:

The Learning partner team will brainstorm ideas, talk, discuss and draw out and plan possible outcomes in their journal. This time will allow students to plan, attempt and prep for their first model.

Create:

The students will begin making their first model. Building and creating…… making adjustments, testing designs, asking questions, working through any problems they may come across.

Reflect:

Students will share and discuss creations with class. They can ask reflective questions, share successes as well as struggles. They will share their models and share plans for the construction of model.

HOME SWEET HOME

HABITAT

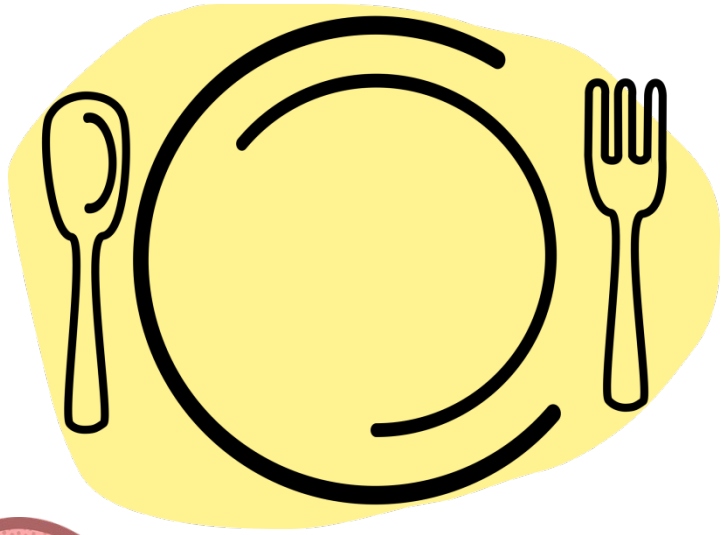
- the natural home or environment

of an animal, plant, or other organism.

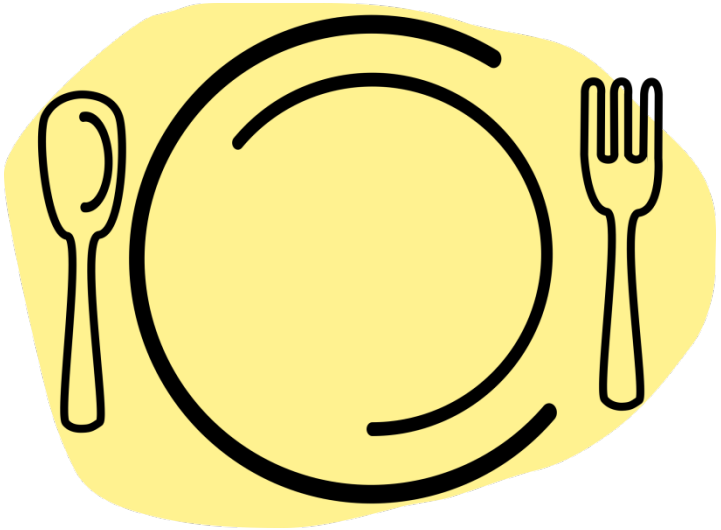
https://www.youtube.com/watch?v=Xj1ASC-TlsI

Animals & Habitats we'll be investigating

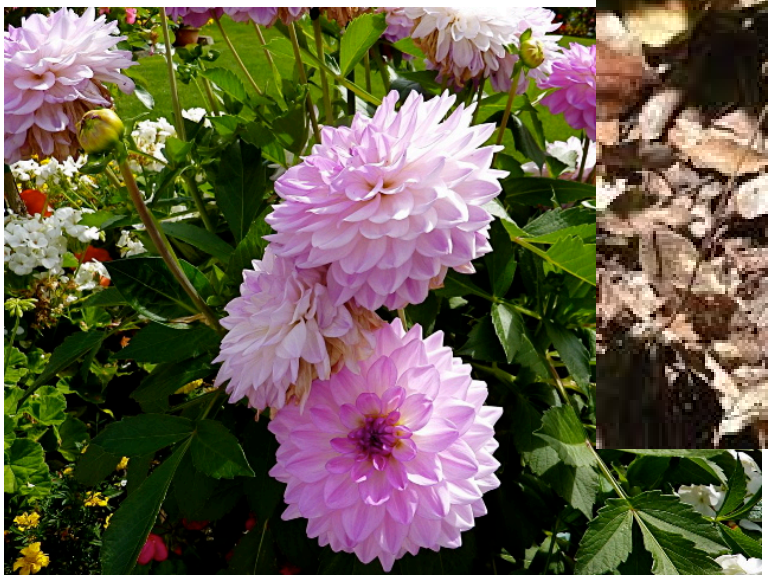
Needs



SHELTER

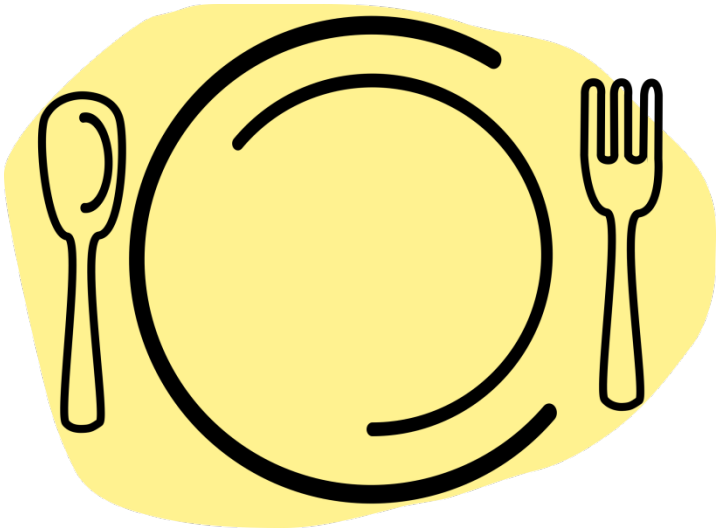


Food



WATER

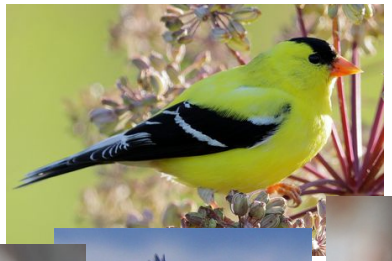
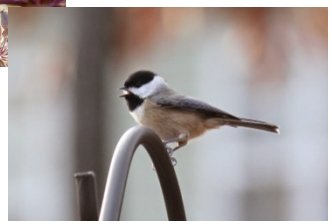
Birds

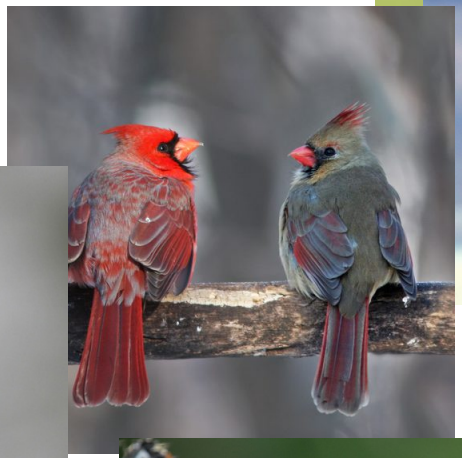


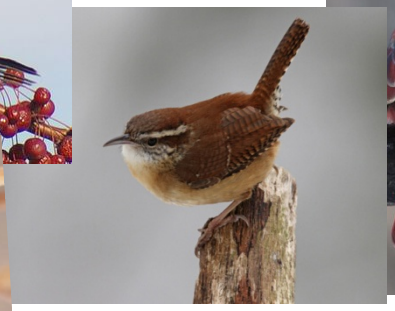
A Place To Raise Their Young

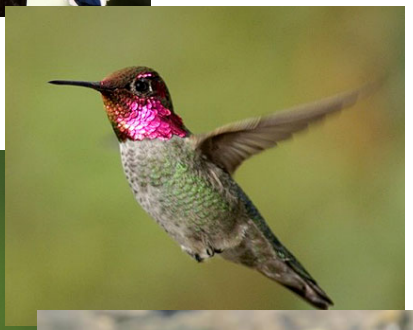
Nesting Bags

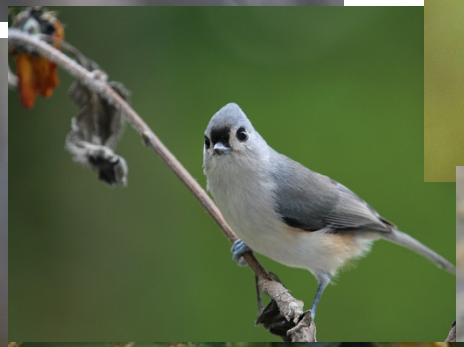
Birds in your back yard







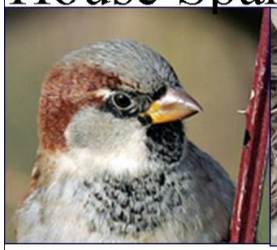



We are helping the birds in your habitat area.
We are making nesting bags for the birds that make a nest. Not all birds make nest. This is a Blue bird. This is one of the birds that like to nest in cavities.

Eastern Bluebird

Usually lays 3-6 short-oval, pale blue eggs about 18mm long. They usually find a natural cavity or nest box and build a loose cup from grasses and pine needles inside.

House Sparrow



Usually lays 3-7 oval, greenish white eggs with brown spots and can compete with blue-birds for nesting cavities. Their nests are typically messy and bulky with feathers and trash.

Tree Swallow

Usually lays 4-6 oval, white eggs about 18mm long. They find a natural cavity or nest box like the bluebird and build a nest from dried grasses and lots of feathers.








What do you notice about the nests?

Challenge #1

- Build a nest!
- Can you do it?

Not only do they build it – they have to gather all the supplies !

- We Can HELP !!!

Nesting Bags

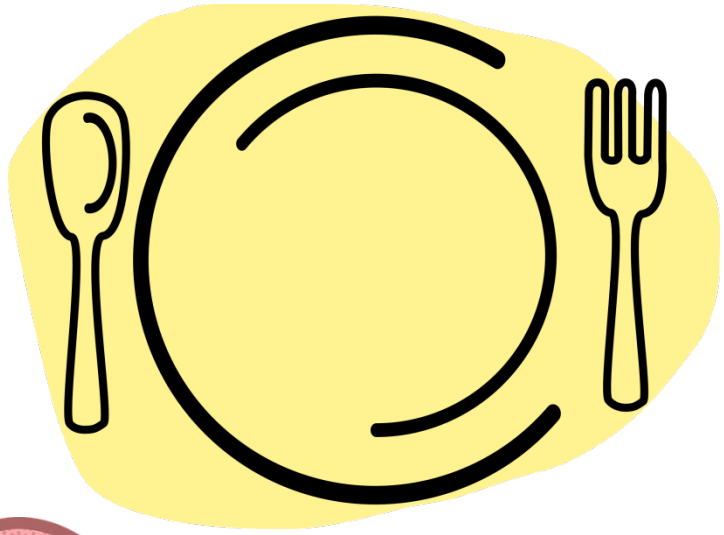
Think about Challenge #1

- What materials worked well?
- What materials didn't work well?

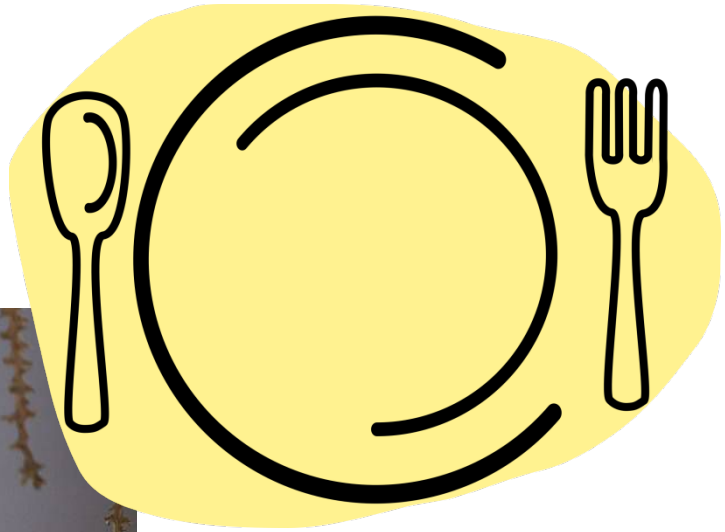
Challenge #2

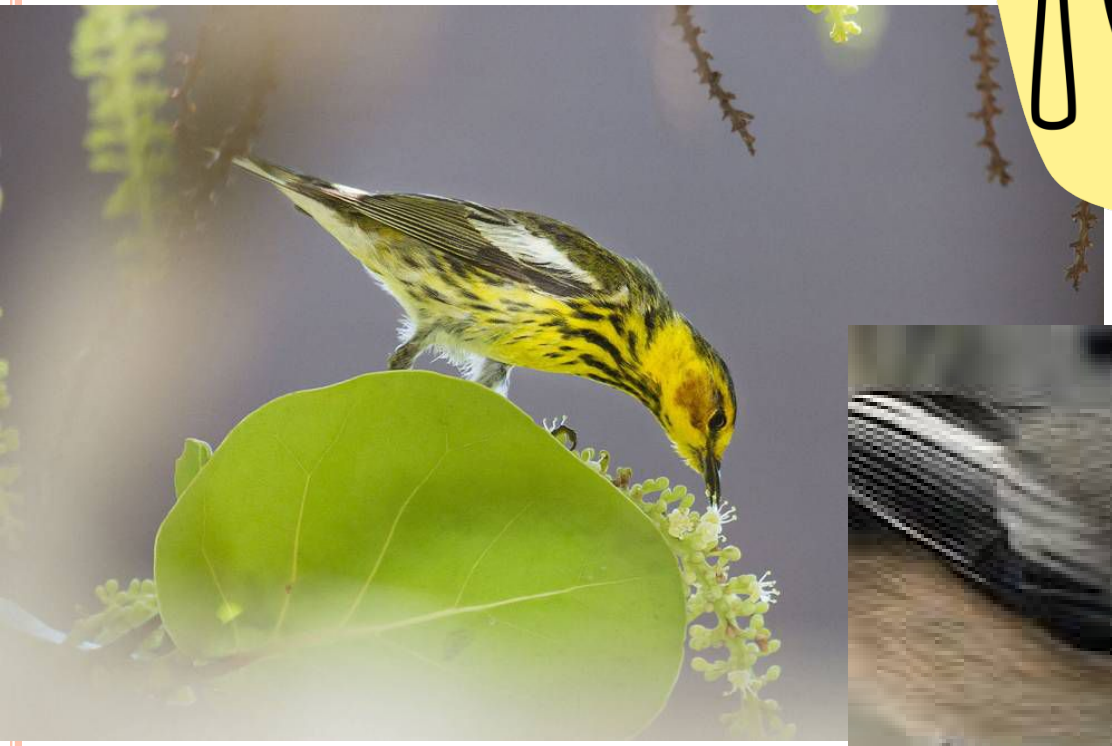
- **Build a Nesting Bag**

Needs

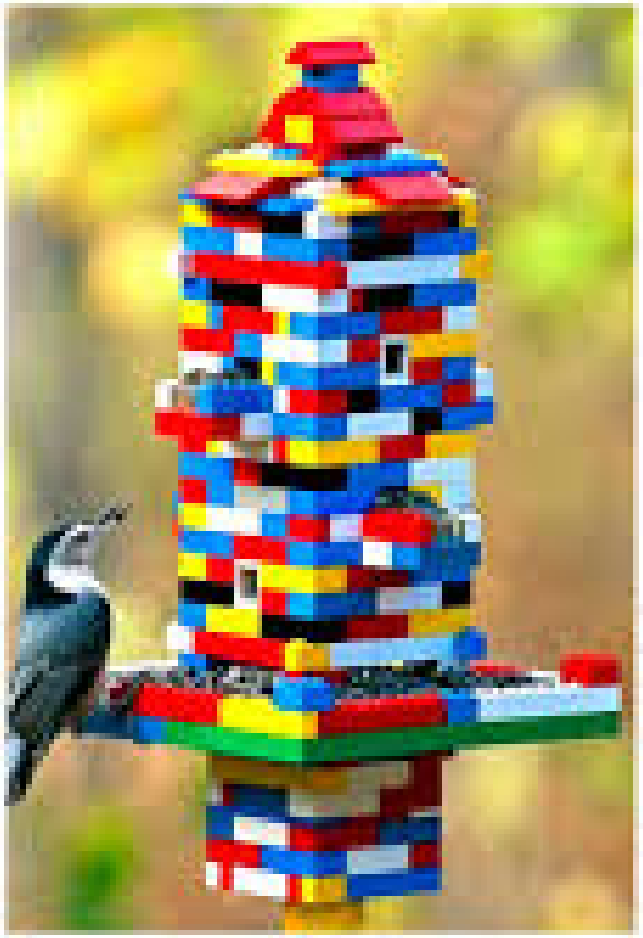


Food





We Can Help



WHAT RECYCLED MATERIALS CAN YOU USE?

What things do we need to keep in mind?


Birdy Official


© WildlifeGadgetman


Natural Beach Living

Feed the Birds

DIY Bird Feeder

Challenge #3

- **Make a Bird Feeder out of recycled materials.**

BENEFICIAL

Mason Bee

Food

Flowers Grow From Seed

- How can we help?
- For a Mason Bee to make your backyard its Habitat--- you must have all 5 needs meet.

- Today– we will make SEED PAPER

- Plant this SEED PAPER…. You will have

FOOD

Steps for making SEED PAPER

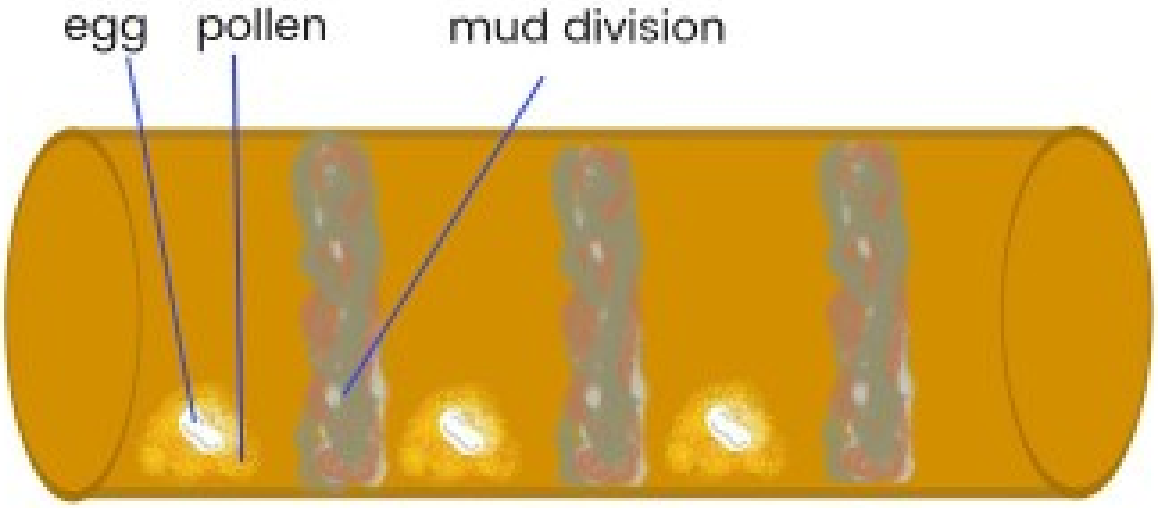
Challenge #4. SEED PAPER

1. Tear paper into small pieces- size of finger
2. Place a small amount of water in blender
3. Place a small pieces of paper in blender
4. Put lid on blender
5. Pulse the blender to puree the water & Paper

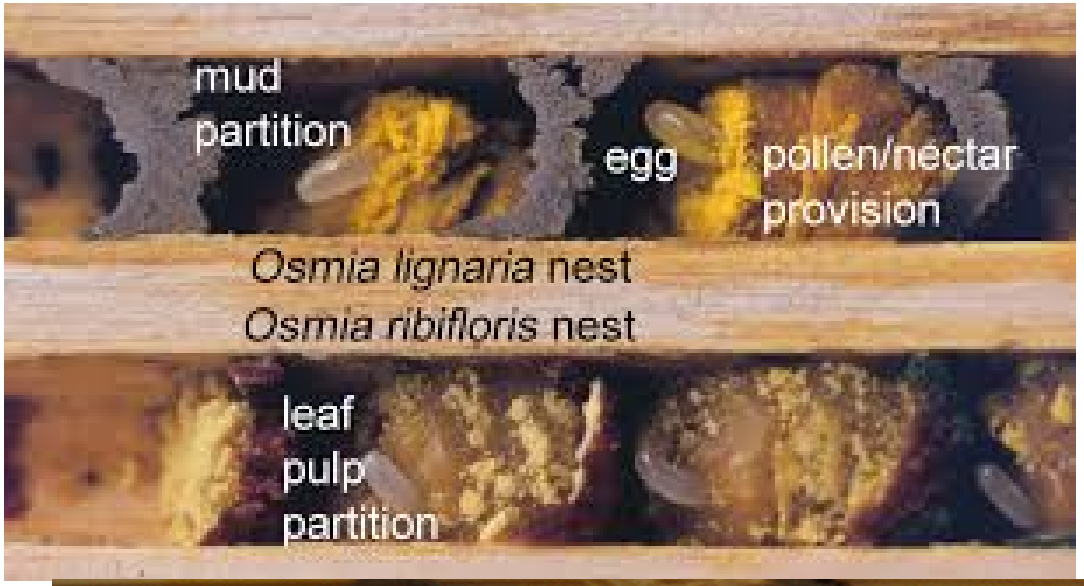
6. Place screen on/in tub- to catch water
7. Pour mixture onto screen- spread/ flatten out
8. Sprinkle seed all over mixture
9. Press seed into mixture with rags- Press out water
10. Flip screen- seed paper onto a piece of wax paper
11. Lay out to dry

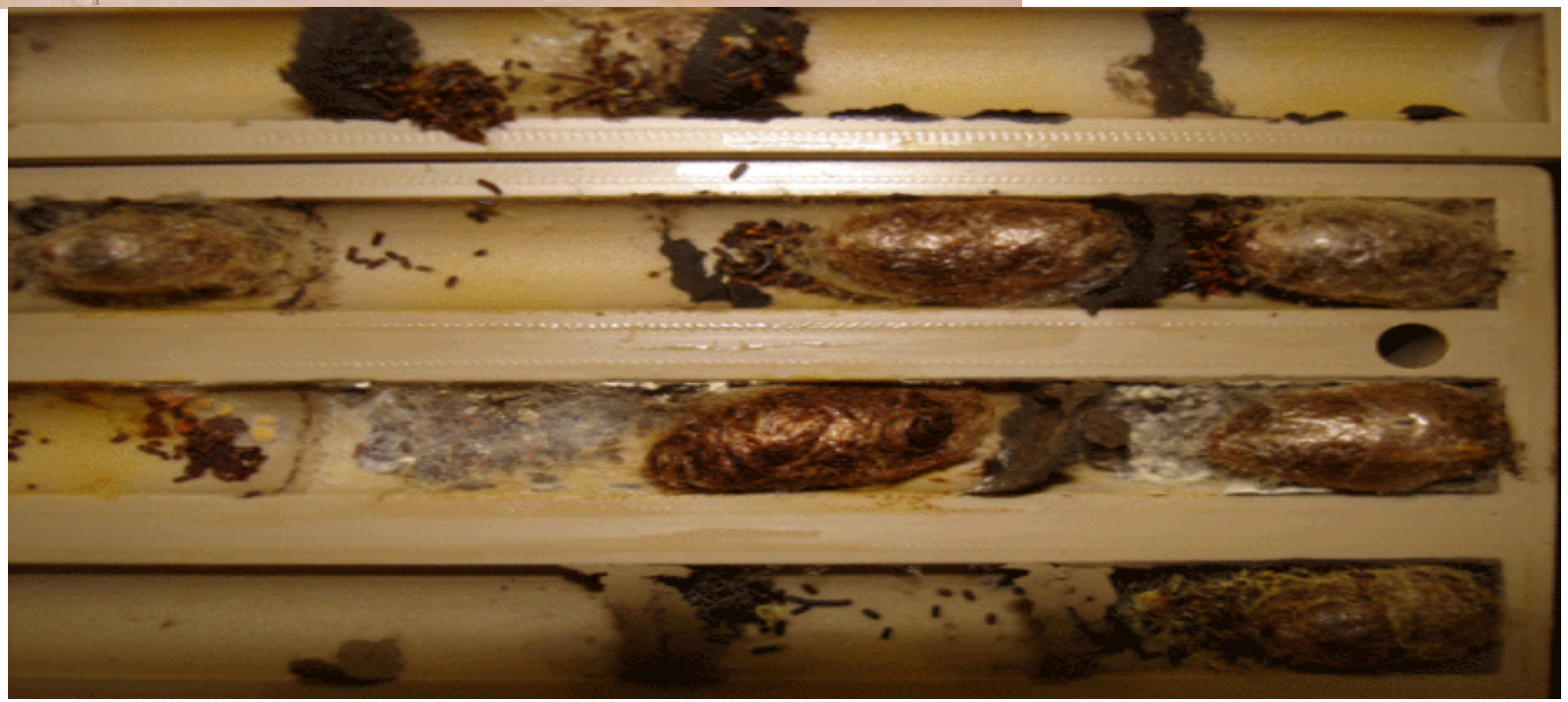
Mason Bee Homes

Mason Bee Egg Laying



Iron Oak Farm


mud
partition
egg
pollen/nectar
provision
Osmia lignaria nest
Osmia ribifloris nest
leaf
pulp
partition



What Do You Need?

A container &

Mason Bee Homes

Challenge # 5

- Make a Mason Bee Nursery out of recycled materials.

Roly Poly -- Pill Bugs

NOT A BUG ?

- They are not insects-- they are crustaceans.
- They must stay moist.

- The have live babies.
- They like it dark.
- They are great in a compost pile or leave pile.
- They are really good at turning wood and other plants into dirt!!!!!

- Let's add a **compost area** to our yards.

This is a small area where we put broken twigs, dead wood, leaves, any flowers that have died.

Plant material---- will rot----- decompose ----

turning into great dirt for our flowers, trees, shrubs.

Challenge # 6

- Make a Roly Poly shelter.
- Create a small compost area in your yard.

TOADS

Toads- Man's Best Friend

- Toads are not frogs. Frogs live their whole life in or near water. Toad just lay eggs in water and grow up in water….once they have their legs -they spend the rest of their life out of the water.

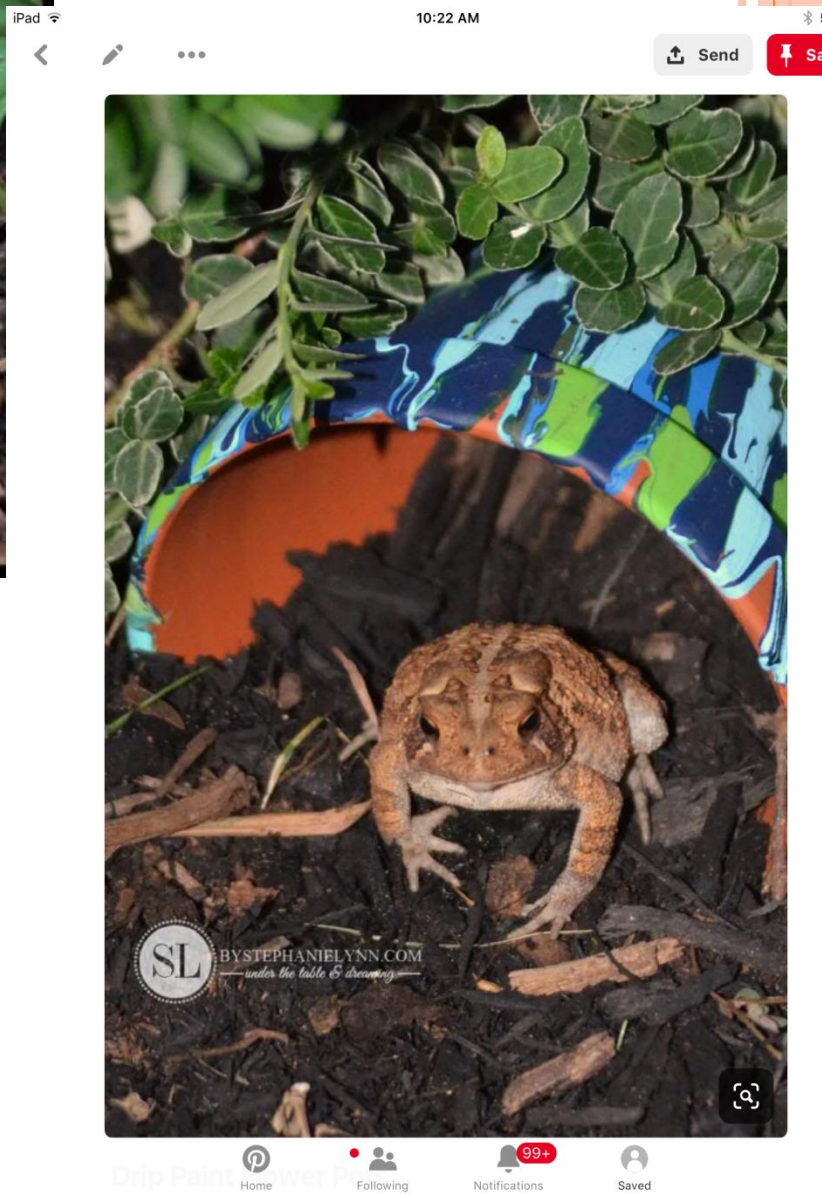
BEST FRIEND???

- They eat tons of insects!
- They keep our plants healthy.

Shelter– What do they need?

- They need shade. A place to get out of the sun.
- They need to stay moist.
- They like mud!
- They need some water to cool in and lay their eggs.
- They need lots of insects to eat!

TOAD ADOBES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Send
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under the table & dreaming
Home
Following
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Challenge #7

- Make a Toad Abode out of a clay pot.
- Create a Toad Habitat in your yard.