
THYME MACHINE
THE ADVENTURES OF
PLANT & FARMER NICK

Thank you!

I want to say a huge THANK YOU to my incredible project team. Everyone's creativity and dedication to fun, accessible plant education made this project what it is today, and I am so proud of the work we did together.

Fiskars: Sponsor and maker of the best plant and gardening tools around. They've been supporting Team Farmer Nick since the very beginning and I couldn't have done this without their support

Espoma: Sponsor and producer of the highest quality organic soils and plant food for your garden. Grateful to be supported by this incredible family-run business.

Nick Cutsumpas: Project Leader, Script Writer, Lovable Farmer, Brilliant Plant, and Mischievous Gnome

Coerriculums LLC: Curriculum and Creative Designer

Adam Coe: Creative Illustrator and Layout Designer

Spencer Vann: Creative Illustrator and Animator

Anna Dreslinski: Film Director

Szymon Dybowski: Filmmaker and Editor

We would also like to thank all of the family members, teachers, mentors, and everyone who inspired the joy of learning through experiments and nature. Teaching the next generation about the importance of plants and environmentalism is integral to the future of our planet, and it is an honor to do this work together.

Always be growing,
Nick

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Dear Little Human,

Welcome back to the Adventures of Plant & Farmer Nick. As you've probably noticed by now, I know a LOT about the botanical world (I am a plant after all) and I'm excited to teach you and Farmer Nick even more about how plants like me grow.

In last season's workbook, we learned all about soil, seeds, sun and water, but in this workbook, we are focusing on how little actions can make a BIG difference for your plants and the planet. We will compost, collect the rain, propagate cuttings, create a pollinator ecosystem and repurpose our way through the garden.

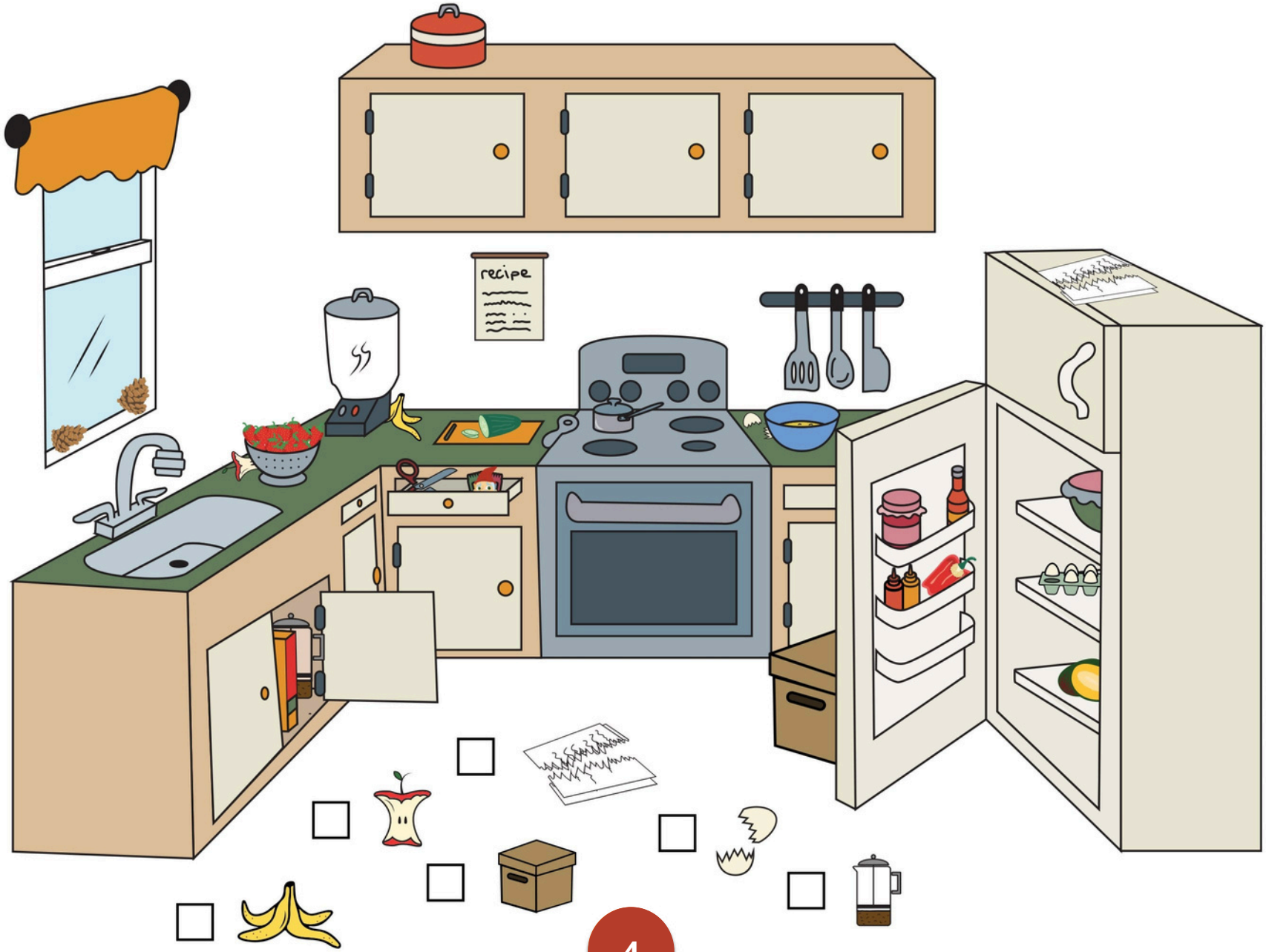
It's going to be quite the adventure, and the more we care about the plants in our gardens and homes, the better we can care for the BIG plant we all live on (also known as Earth). After completing this workbook, you'll also get another Plant Explorer Badge so work hard and let's get growing.

- Stay Green,
Plant

P.S. The Magical Garden Gnome has been causing a ruckus again! He's been using our Thyme Machine to hide in this workbook, so be on the lookout for him sneaking around.

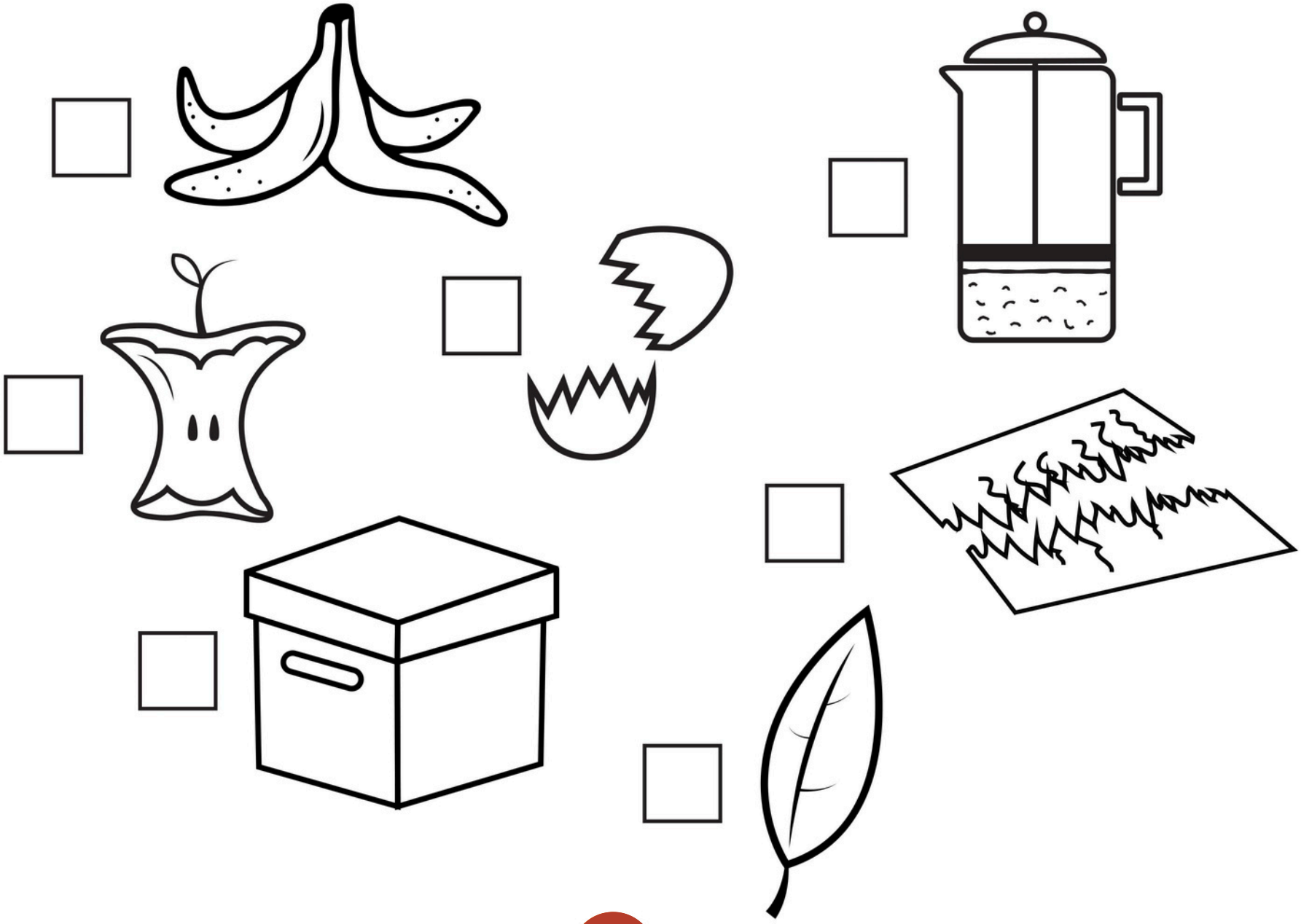
Spot the Compostable Items!

Name: _____



Composting Checklist:

Name: _____



Activity 1: Feed the Worms

Learning Skill

Determining what is compostable.

Time Alloted

10-15 minutes

Materials Needed

- Scissors
- Glue Stick
- Bag or Jar

Background Knowledge:

Vermicomposting is another kind of composting method that uses worms to help break down items into organic matter. The worms help accelerate the decomposition but require nice compostable items for them to eat. Compostable items such as brown (carbon rich) and green (nitrogen rich) ingredients! Brown ingredients can be items such as cardboard, newspaper, and pine cones! Green ingredients can be items such as fruit scraps, carrot tops, and lettuce leaves!

Questions to Ask:

1. What kinds of compostable material would be good for worms to eat?
2. What kinds of compostable material would not be good for worms to eat?
3. How do worms help our soil?

Directions:

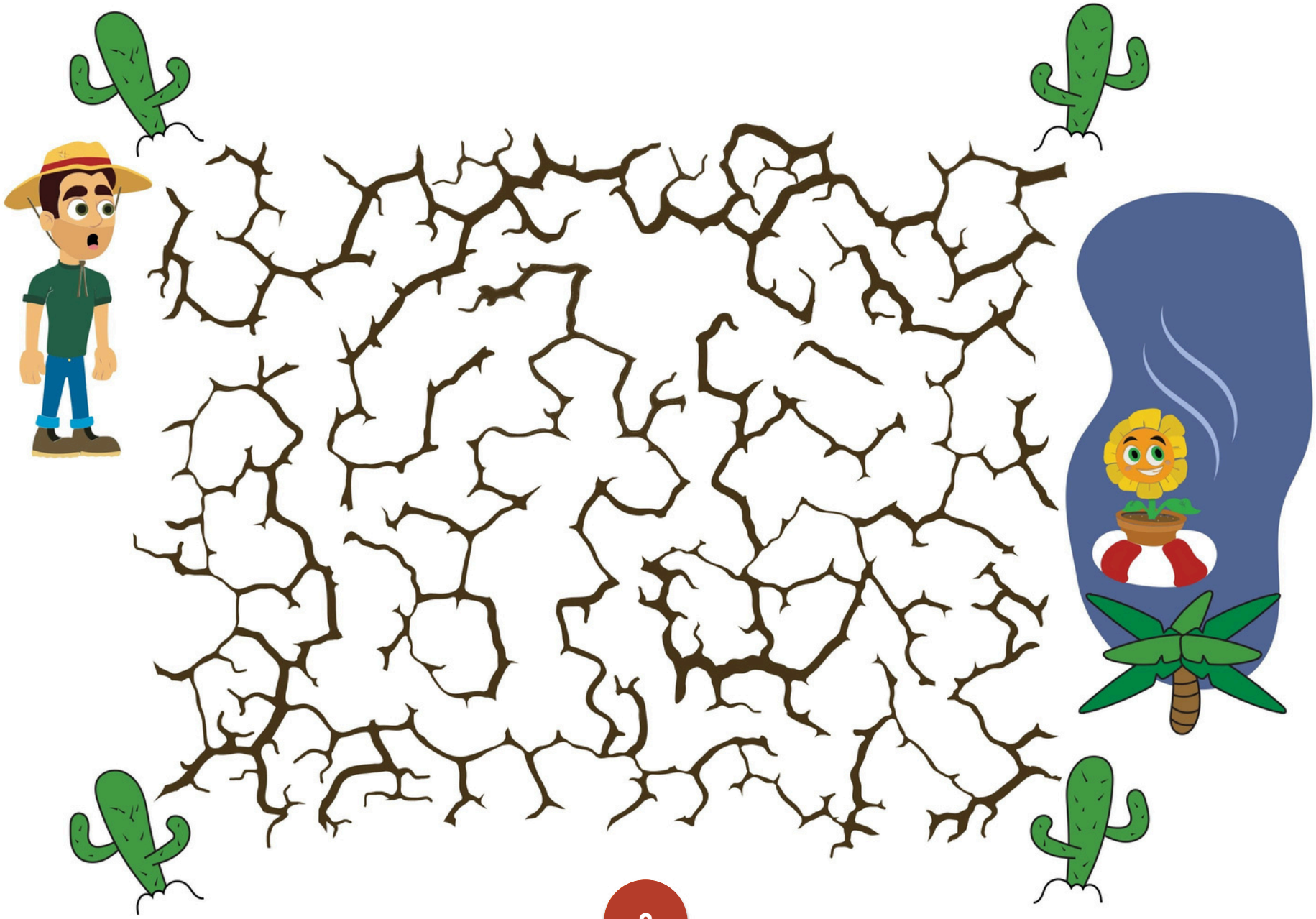
1. Gather all materials.
2. Write your name in the workbook.
3. Carefully cut out all images.
4. Glue the brown worms on the back of items that would count as brown ingredients for compost.
5. Glue the green worms on the back of items that would count as green ingredients for compost.
6. Place all sorted compostable items in a bag or jar.
7. Shake the bag or jar to mimic how you need both brown and green ingredients to compost.
8. Use this as a reminder for what items can be used to make compost.

Feed the Worms

Name: _____

Drought Maze

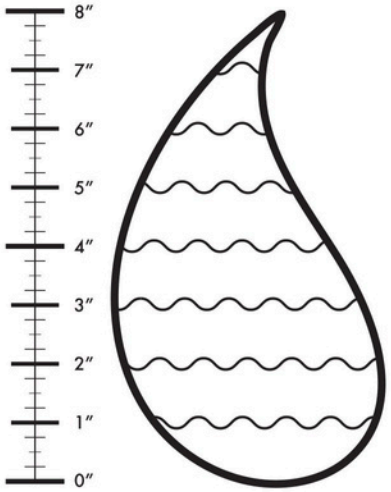
Name: _____



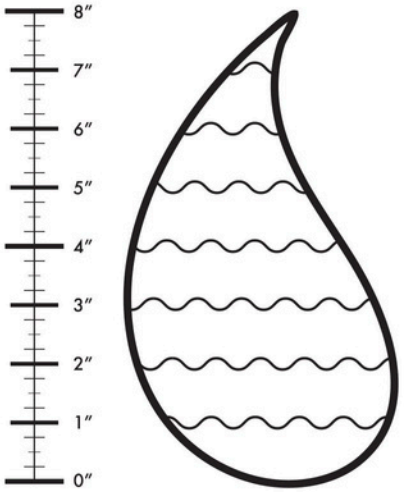
Rain Tracker Color Graph:

Name: _____

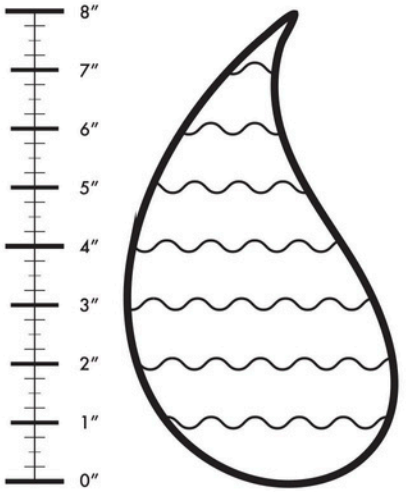
TOTAL: _____



Day 1



Day 2



Day 3

Activity 2: Leaf Shapes

Learning Skill

Determine how different leaves react to rain.

Time Alloted

20-30 minutes

Materials Needed

- 3 Toilet Paper Rolls
- Crayons
- Scissors
- Leaves
- Glue Stick
- Watering Can or Water Dropper

Background Knowledge:

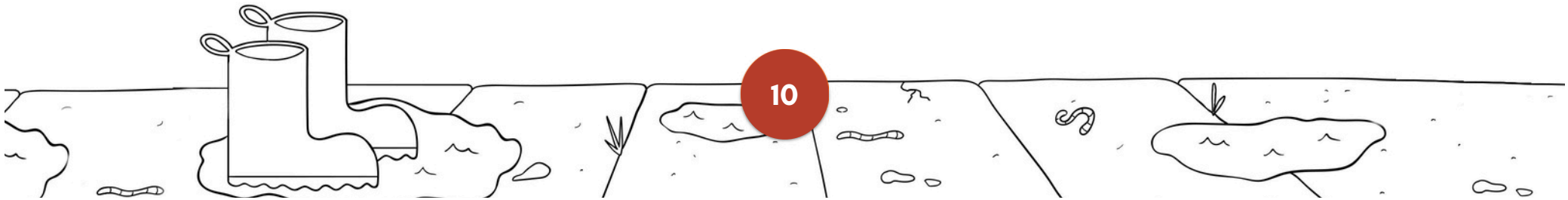
Similar to how plants follow the sun, plants react differently when it rains! When it rains humidity fills the air signaling some leaves to turn upwards (like maple leaves) and direct the rain to their stems. However, some leaves might stay the same and droop down from the weight of the rain (like ferns), this helps direct the water to their roots.

Questions to Ask:

1. What plants might want rain to go towards their stem?
2. How can a drooping leaf help the plant?
3. How do the leaves know when to change for the rain?

Directions:

1. Gather all materials.
2. Color the three sets of leaves in your workbook.
3. Cut all of the leaves out.
4. Fold open the maple and pathos leaf to create a scoop-like structure.
5. Glue each set of leaves to a toilet paper roll.
6. The maple and pathos leaves should be scooped upward and the fern leaves should gently bend down.
7. Let the glue dry.
8. Now take a gentle watering can or water dropper and act as rain on your leaves!
9. Watch how the water drips and determine if the leaves direct rain towards or away from the center of the plant.
   a. You can also do this test on plant leaves outside!



Leaf Shapes

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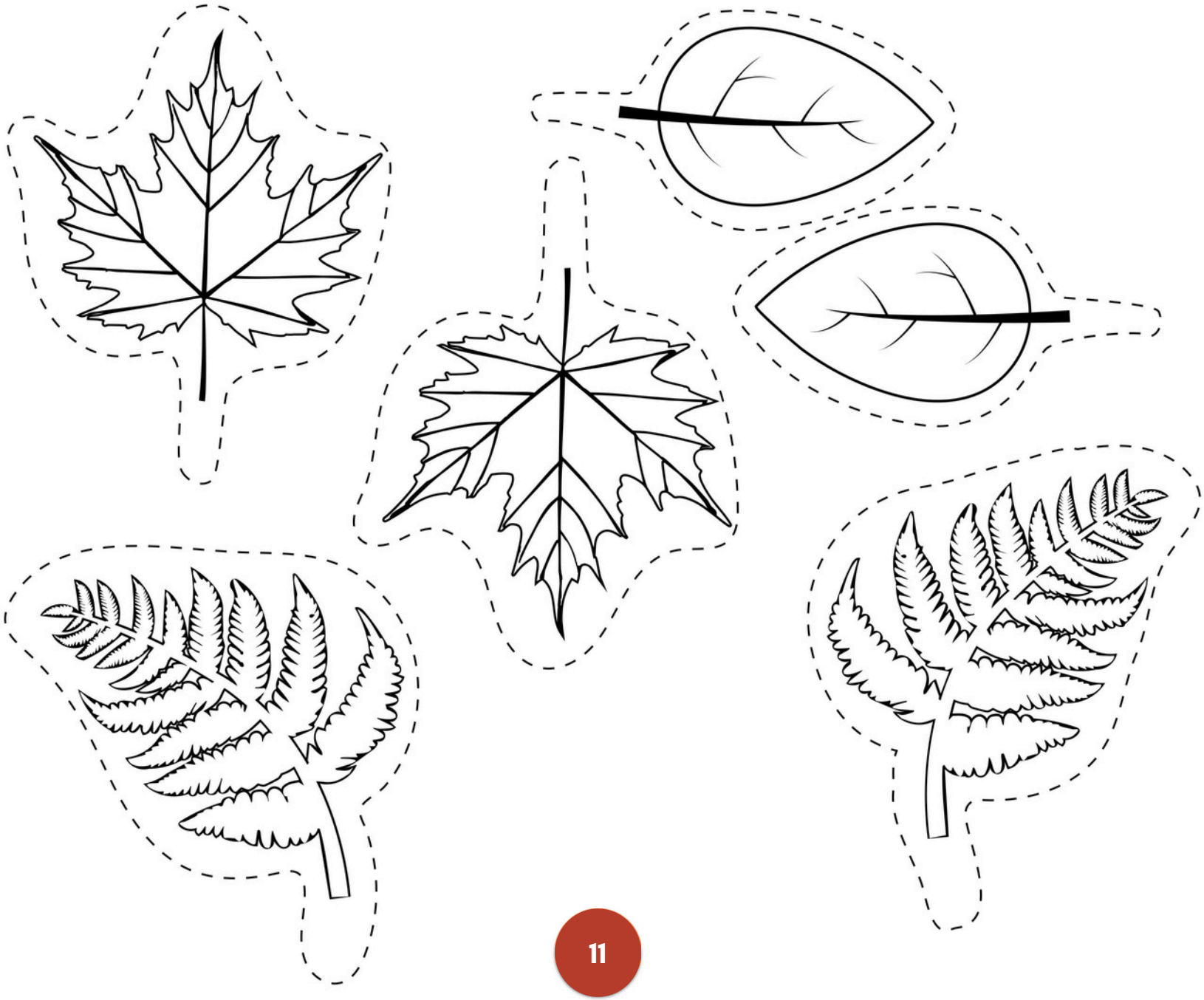
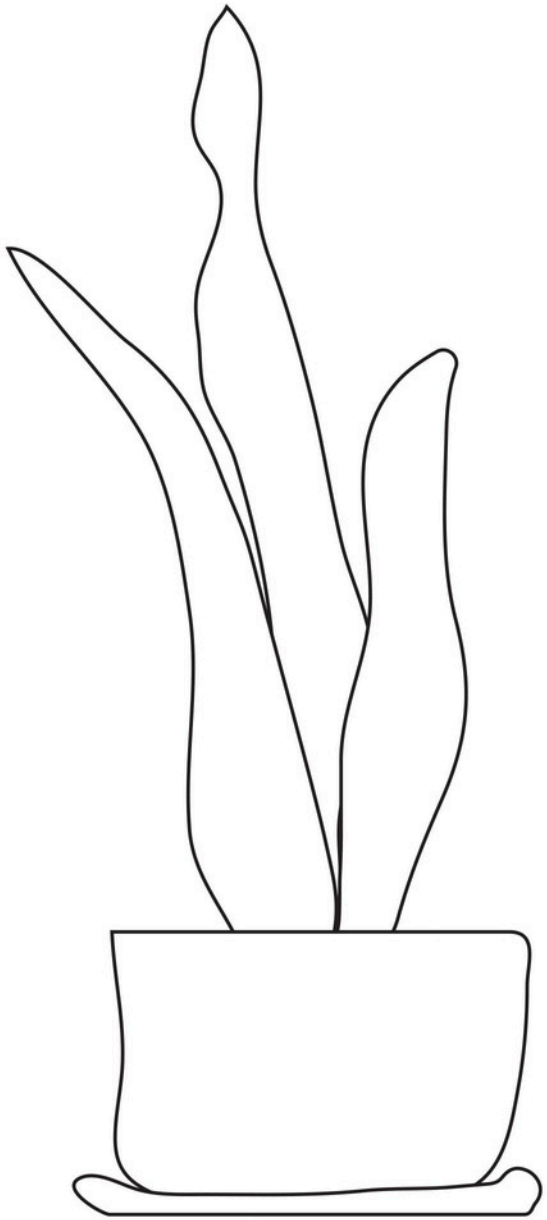
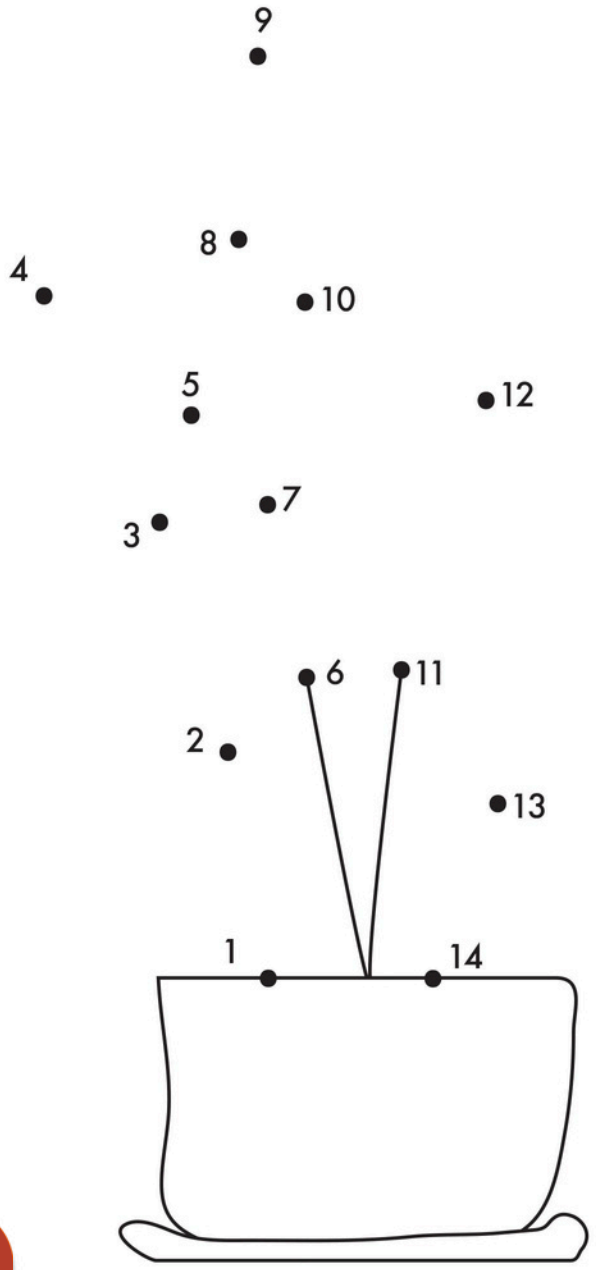


Propagation Connect the Dots

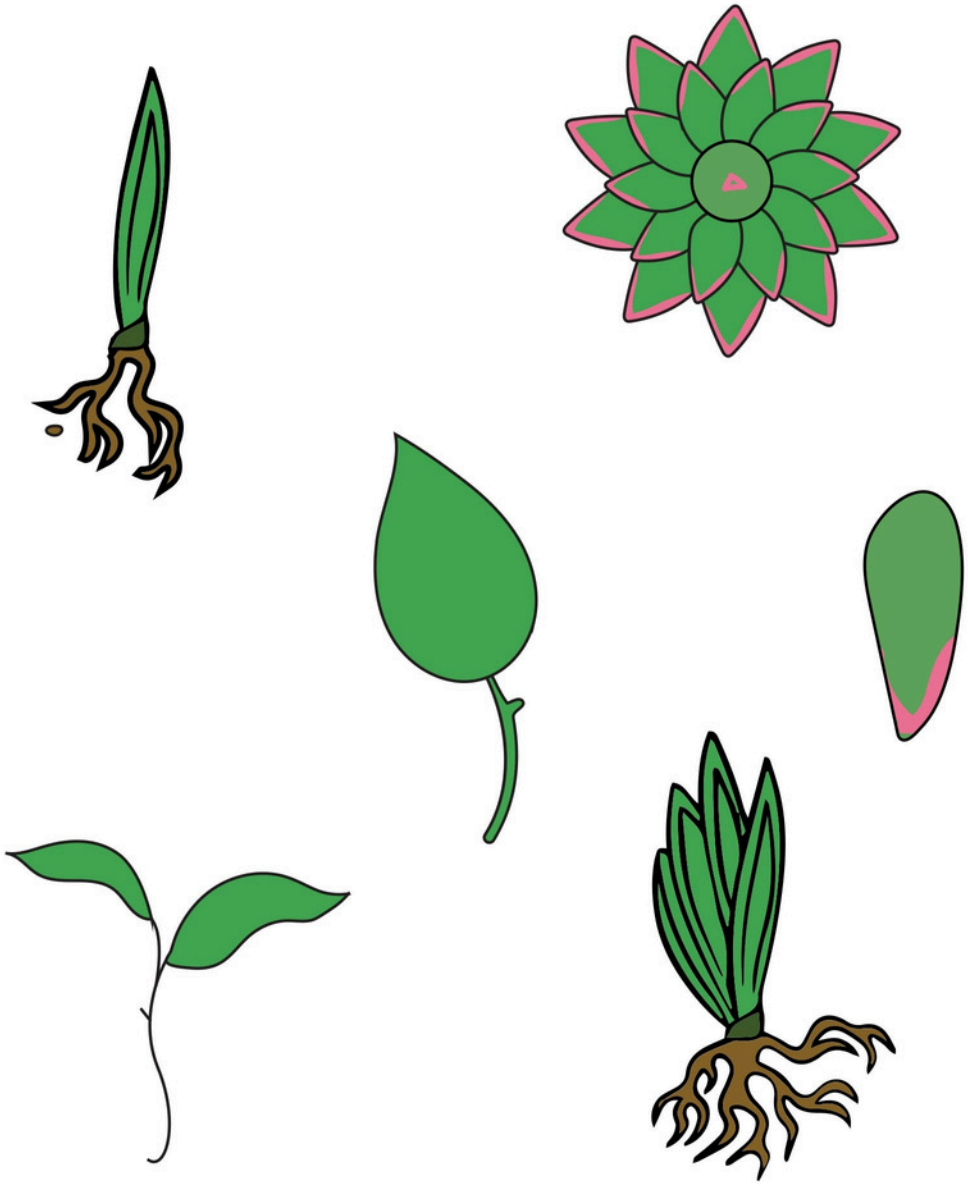
Name: _____

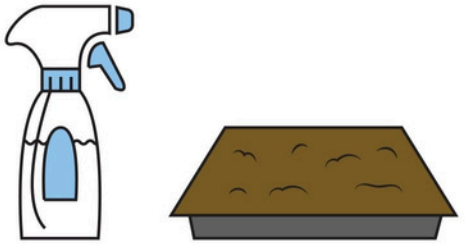


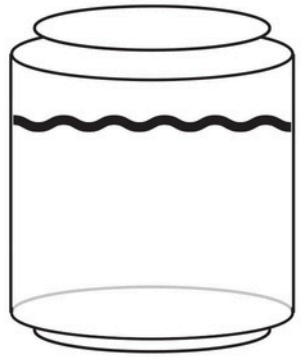


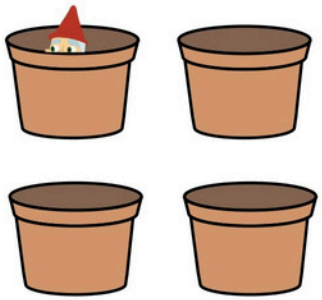
Rain Tracker Color Graph:

Name: _____









Activity 1: Paper Plant

Learning Skill

Use fine motor skills to create your own paper flower

Time Alloted

15-20 minutes

Materials Needed

- Crayons
- Scissors
- Glue Stick

Background Knowledge:

Propagation is a great way to reuse a part of a plant to create several new plants! The same can be said for repurposing paper. What might be an old drawing could turn into a beautiful flower!

Questions to Ask:

1. How could paper flowers be used?
2. Could different paper make different looking flowers?
3. How are paper flowers like propagation?

Directions:

Paper Flower

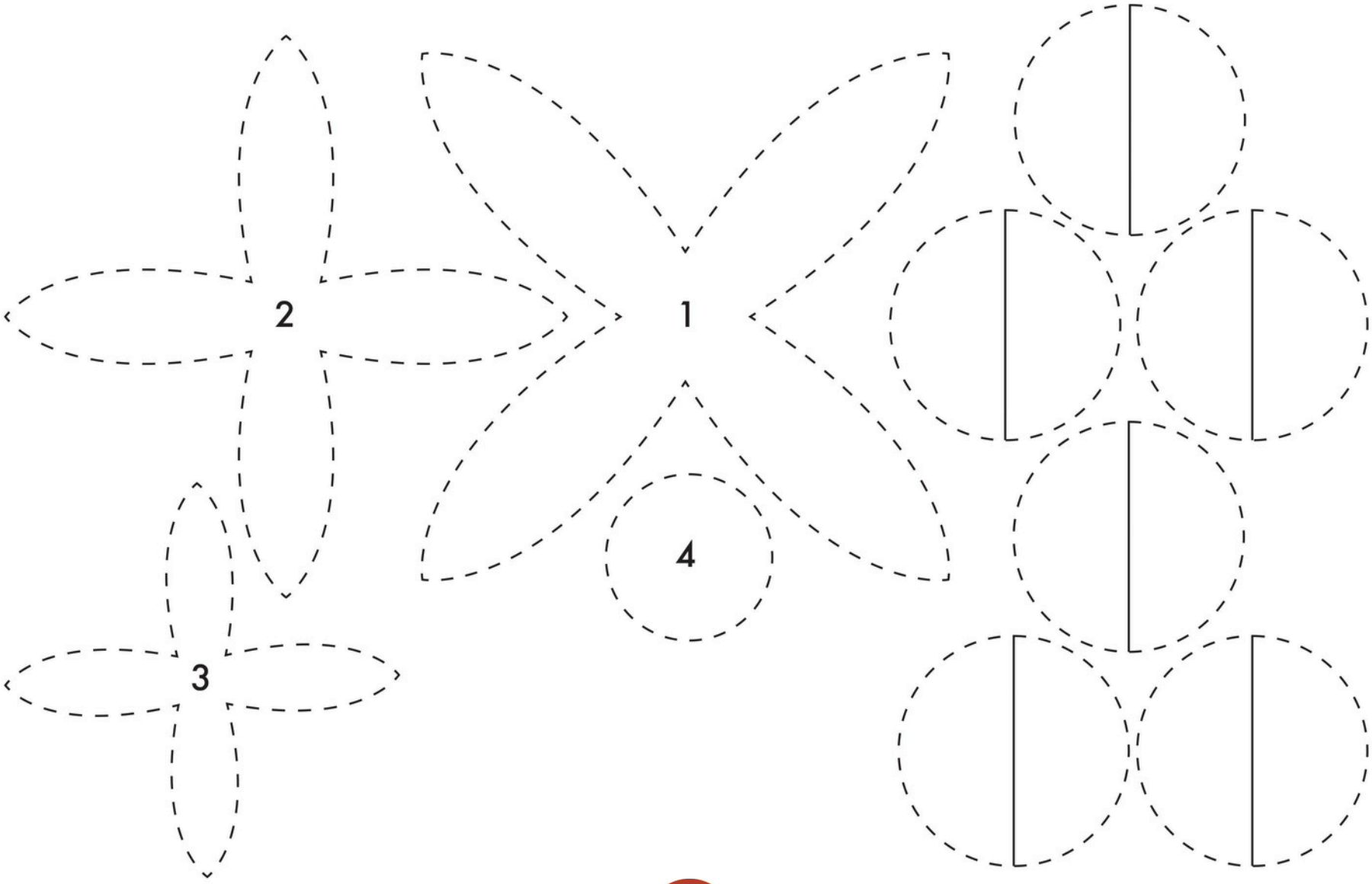
1. Color all of the dotted petals on your page.
2. Carefully cut them out following the dotted lines.
3. Glue the petals on top of each other following the numbers in the middle (1-2-3-4).
4. Enjoy your new paper flower!
5. **Optional:** color and cut your own stem and glue it to your new flower!

3D Paper Flower

1. Color all of the dotted circles on your page.
2. Carefully cut them out following the dotted lines.
3. Fold your circles following the solid middle line.
4. Make sure the colored part is still showing!
5. Now arrange your half circles as petals, with the small points overlapping in the middle. (resembling a windmill)
6. Once arranged, carefully glue your petals to a square piece of paper and draw a stem and leaf!
7. Part of your petals will stick up out of the page creating a 3D effect.
8. **Optional:** draw a landscape around your new 3D Flower!

Paper Plant

Name: _____



Pollinator Word Search

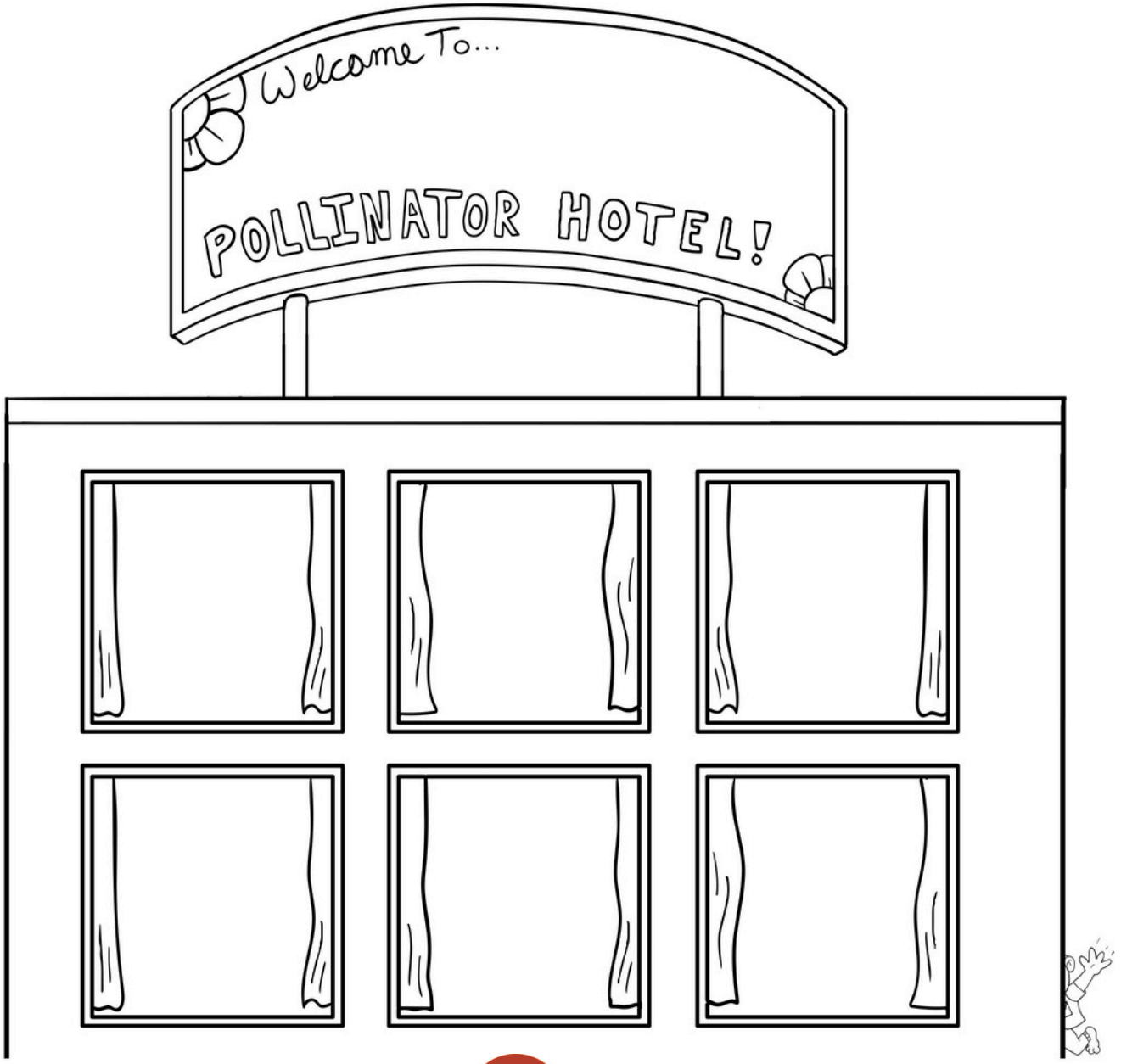
Name: _____

F E D V E T C T U H A T
R C D R T G M H E U S I
U O F L O W E R S M C E
I S H I T T V P C M S E
T Y W T T P M E W I N D
F S E P O E I T O N V G
E T R N O R T A W G R N
S E I B U M B L E B E E
H M P O L L E N M I Y C
P O L L I N A T O R I T
F E R T I L I Z E D N A
A B U T T E R F L Y N R

BUMBLEBEE BUTTERFLY ECOSYSTEM FERTILIZED
FLOWERS FRUIT HUMMINGBIRD NECTAR
PETAL POLLEN POLLINATOR WIND

Pollinator Hotel with Farmer Nick!

Name: _____



Activity 1: Mosaic Pollinator

Learning Skill

Mimicking how pollinators move!

Time Alloted

15-20 minutes

Materials Needed

- Crayons
- Scissors
- Glue Stick
- 2 Popsicle sticks

Background Knowledge:

Pollinators fly from flower to flower to gather nectar or rest their wings. When a pollinator lands, pollen from the flower rubs onto their legs. After they fly to another flower the pollen is transferred and helps the plants create fruit and seeds!

Questions to Ask:

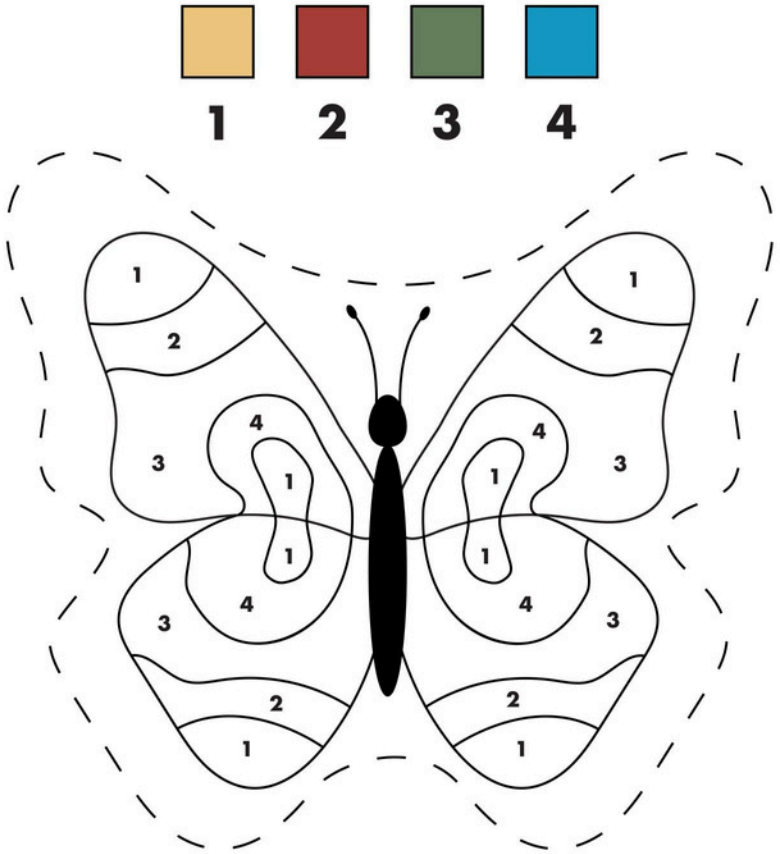
1. Where do all pollinators fly to?
2. How are they helping plants?
3. What do the plants do for them?

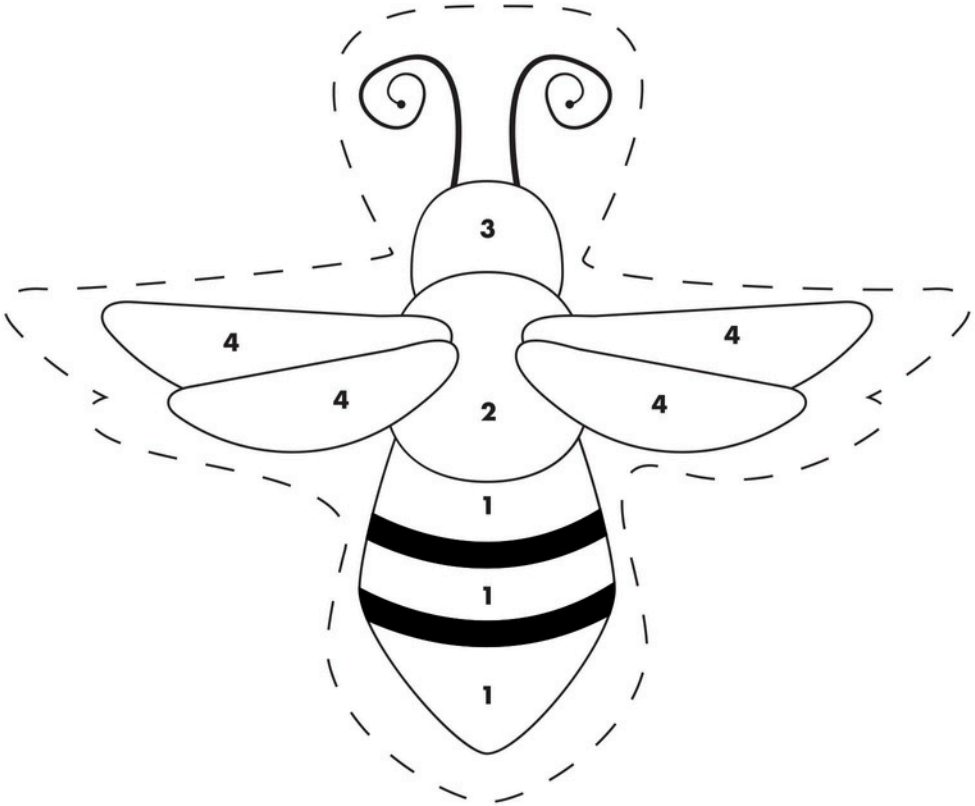
Directions:

1. Using your workbook, create mosaic pollinators by coloring them by number.
   a. You can also glue tissue paper to the color by number spots if you want!
2. Once done, cut your pollinators out by following the dotted line.
3. Use your glue sticks to glue the center of your pollinators onto a popsicle stick.
4. Allow the glue to dry.
5. Now test your pollinators by waving your popsicle stick up and down.
6. Your mosaic pollinators should flap their wings like a real pollinator!
7. Now mimic how pollinators move by "flying" them from flower to flower.
   a. You can even use the paper flowers you made during the propagation lesson!

Mosaic Pollinator

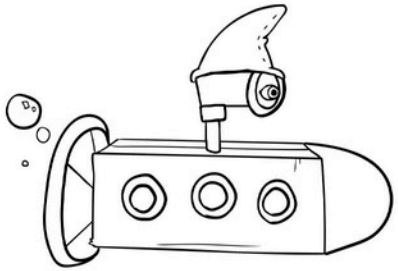
Name: _____

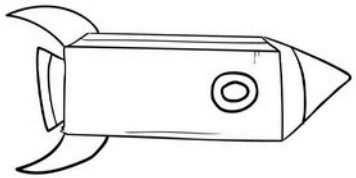


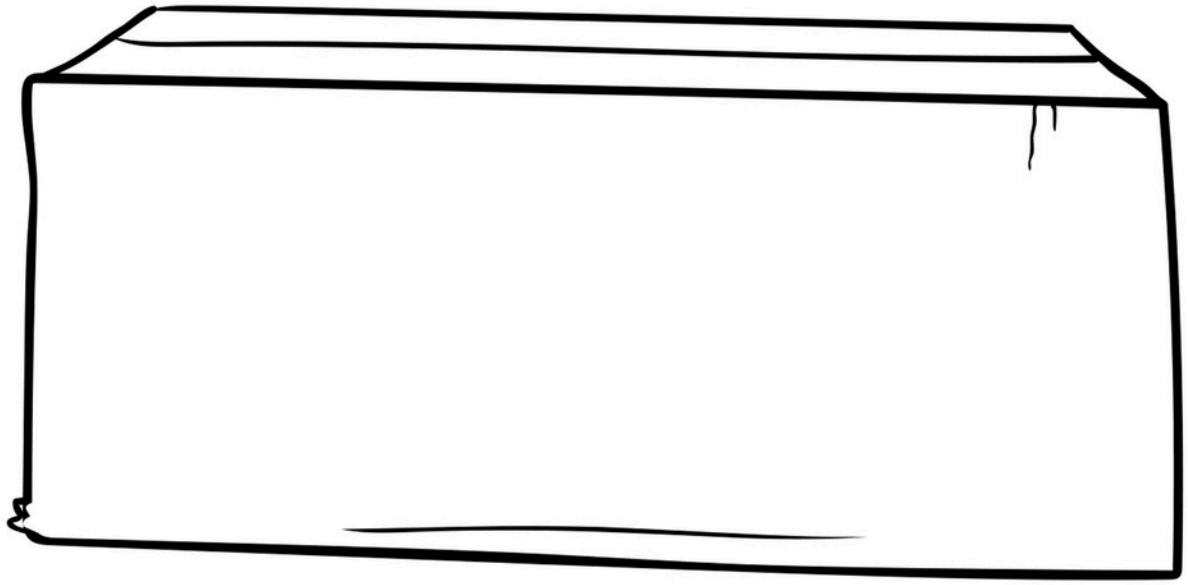


Finish the Picture

Name: _____

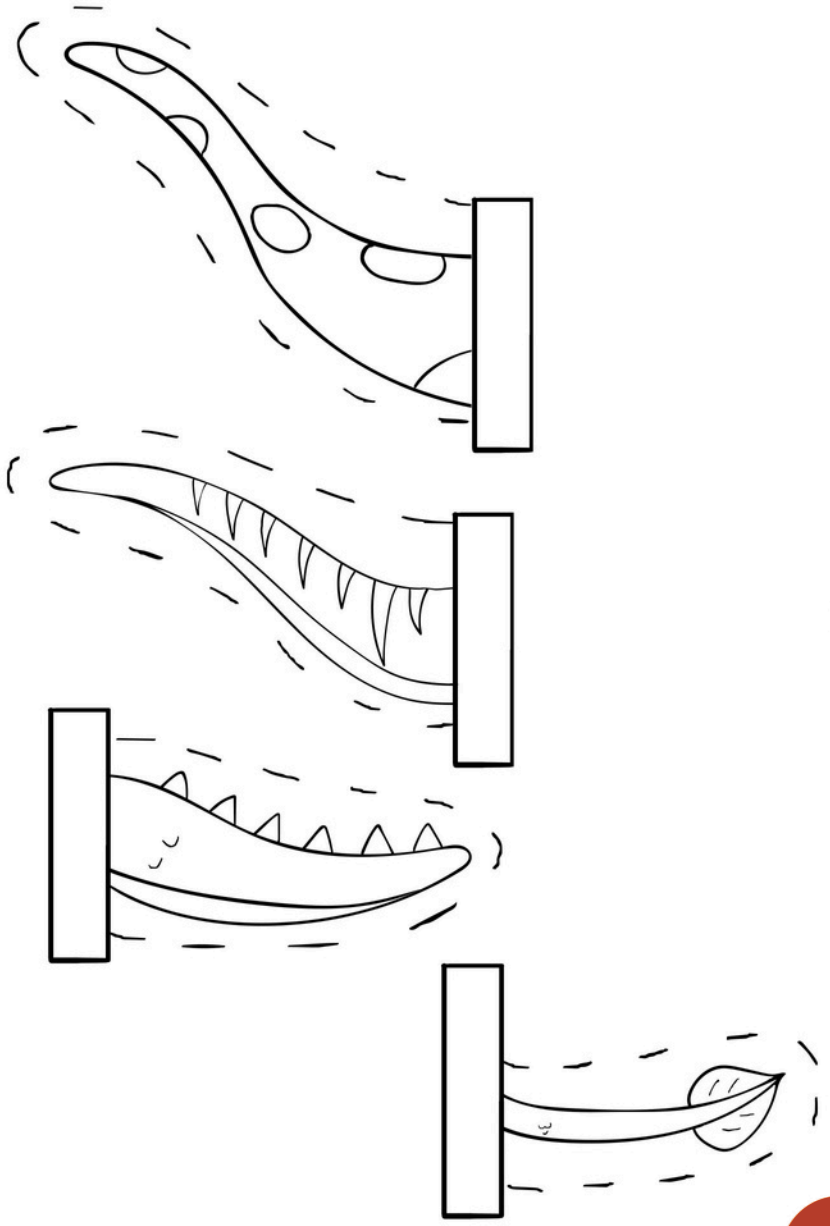


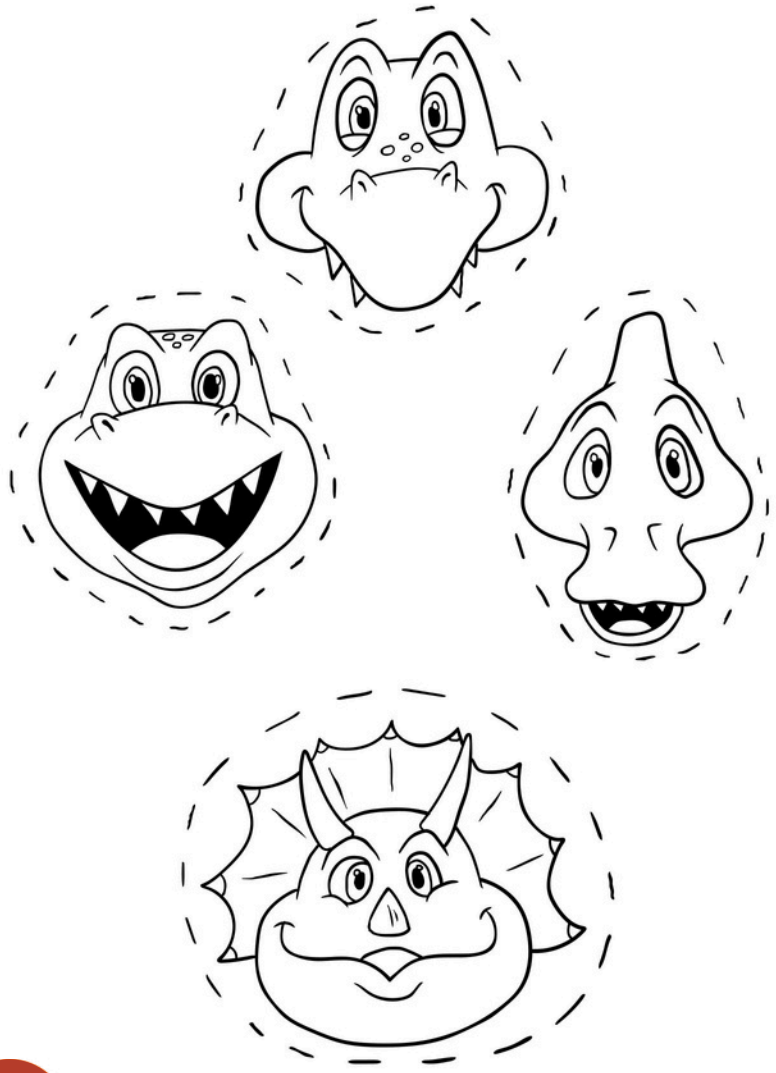




Dinosaur Cut Outs

Name: _____





Activity 2: DIY Gardening Tools

Learning Skill

Creating gardening tools with items found around the house.

Time Alloted

20-30 minutes

Materials Needed

- Popsicle Sticks
- Glue
- Berry Containers
- Soil
- Seeds
- Empty Juice Container
- Scissors
- Water

Background Knowledge:

On average each person creates about five pounds of trash everyday. This trash could be yogurt cups, popsicle sticks, plastic water bottles, and more! Sometimes this trash ends up in the ocean or in gardens harming our environment. What if instead of throwing away used items we repurposed them for our garden?

Questions to Ask:

1. What surprised you about making these tools?
2. Which homemade tool worked best?
3. What other tools could you make using items in your house?

Directions:

1. Gather all materials.
2. Write your name in the workbook.
3. Clean and dry all used items.
4. Create the following DIY Gardening Tools.
5. Share how they look compared to the workbook page.

Popsicle Trellis:

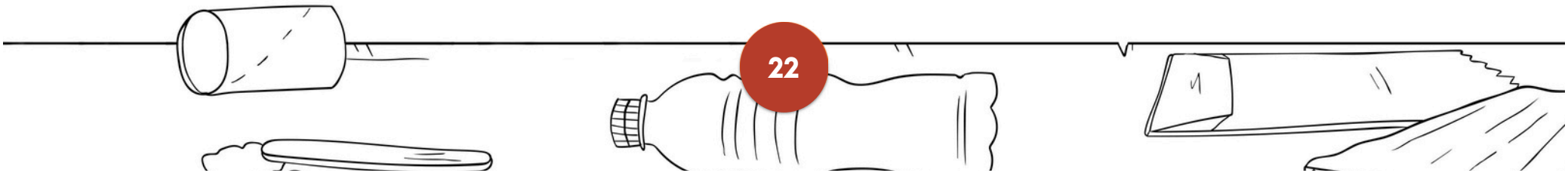
1. Gather and color your popsicle sticks.
2. Layout your trellis design in a ladder formation.
3. Glue each point where the popsicle sticks connect.
4. Once dry, place trellis with a climbing plant.

Watering Can:

1. Find an empty water bottle.
2. With an adult, carefully poke holes into the lid.
3. Fill the bottle with water, and place the lid back on.
4. Squeeze the bottle over a plant and watch your lid turn into a watering can!

Mini Greenhouse:

1. Gather your clean and dry berry container.
2. Fill with soil.
3. Plant any seeds you would like (we recommend peas or radishes)
4. Water your seeds in.
5. Snap the lid on.
6. Place the mini greenhouse on a window sill or outside and watch your seeds grow!



DIY Gardening Tools

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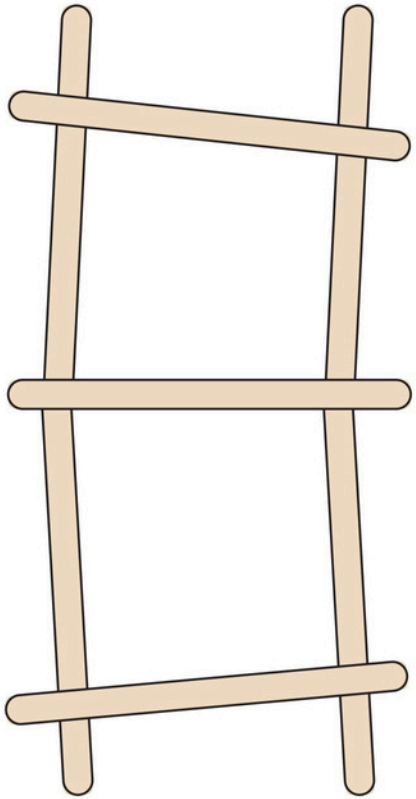

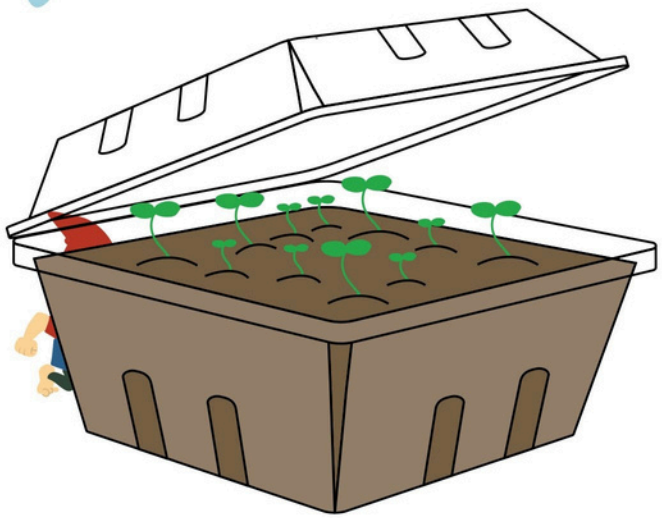


THYME
MACHINE

Official Plant Explorer!

You Did It Again Human!

You really are becoming an expert Plant Explorer and you learned all about how to repurpose while caring for your plants. Well done!

As a thank you for taking care of Planet Earth, here is your next Plant Explorer Badge! Feel free to cut it out and stick it on the fridge!

- Stay Green,
Plant