WE’RE SO GLAD YOU DECIDED TO JOIN US!

At UM Pre-College Programs, we believe that kids need to learn actively – through play, creativity, movement, and interaction. You’ll see some videos linked here, but we’ve chosen to emphasize activities children can do away from screens.

We will be releasing these guides throughout the summer to help fuel your summer explorations. Enjoy!

HOW TO USE THIS PACKET

Each day has four elements to balance children’s daily experience. We’ve divided each element into things kids can do (mostly) by themselves (depending on their age), and things they’ll need more adult help with. Some of the “on your own” activities may require adult help because they involve reading, using scissors, etc.

INVESTIGATE is all about absorbing information and testing that information out. You’ll find instructional content and hands-on activities here.

CREATE is all about making things – art, design, building, doing. These activities offer reflection space complementing the investigation material.

MOVE is all about physical activity. We want to encourage children to pull away from the screens and the books and move in ways that help them physically respond to the weekly theme.

JUST FOR FUN Playing is important, even if sometimes it’s not directly related to the academic learning children are doing. Growing brains need down time to process information, and also — it’s summer!
EVERYDAY ITEMS
• Pencils
• Paper (construction and plain copy)
• Index Cards
• Crayons, markers, or colored pencils
• Scissors
• White glue or glue stick
• Stapler
• Tape (packing, masking, duct, and transparent)
• Acrylic paint and brushes
• Ruler, yard stick, tape measure
• String and/or yarn
• Balloons (variety of colors)
• Aluminum foil, cling wrap, and wax paper
• Glitter
• Cereal boxes or thick cardstock
• Paper plates
• Straws
• Toothpicks

DAY 1
Pond in a Jar:
• A jar with a lid
Taxonomic Toy Box
• Animal toys
• Scissors
Nature Journal
• 3-5 pieces of office paper
• Pens, pencils, crayons, markers
• Stapler
Lego Sort
• Legos or similar shaped blocks. Buttons or hardware would also work.

DAY 2
Worm Tower
• Small pebbles or gravel
• 2-liter bottle
• Dirt
• Worms
Backyard Diorama
• Found nature items
• Paint
• Shoebox
• Rubber cement
• Optional: clay for sculpting animals, small plastic animals or insects, sand, glitter, cottonballs

DAY 3
Experiment: Turning Flowers Green
• White flowers like daisies
• Four clear cups
• Spinach
• Green maple leaves
• Green sprinkles
• Food processor
• Rubbing alcohol
Experiment: Leaves Make Oxygen
• Leaves from different trees or bushes
• Jars or cups
Clothespin Paintbrushes
• Clothespins
• Leaves, flowers, stems
• Paint
• Paper
Tree Ribbons
• Wide ribbons or scraps of brightly colored fabric
• Sequins or glitter
• School glue
• Permanent markers
• Tennis balls

DAY 4
Habitat Hopscotch
• Sidewalk Chalk
Squirt Gun Pyramid
• Squirt guns
• Plastic disposable cups
Flip the Flap Food Web
• Magazines with animal pictures

DAY 5
Mix-n-Match Animal Cards
• Index cards
• Glue
• (Optional) Magazines with Animal Pictures
Pom-Pom Animals
• Scrap cardboard
• Yarn
• (Optional) foam hair curlers (for printing stripes)
• black and white cardstock paper
• googly eyes
• white crayon
• scissors
• glue
Today is All About
The wild can seem exciting and bizarre, but scientists learn to understand it by looking for patterns in nature. Rev up your science brain and prepare to solve some puzzles, because today we’re going to be nature explorers.

On Your Own
Taxonomic Toy Box or The Sorting Hat for Animals
Gather some toy animals: stuffed animals, little plastic ones, whatever you’ve got. Don’t have enough or want to get crazy? Add in some toy monsters! Give yourself plenty of space – a big dining room table or a bedroom floor should be fine. Now, cut our handy sorting questions into strips and stuff them in a bag or box you can pull them out of. Some are blank so you can add your own ideas! You can use some of the things you learned from the videos about classification systems, but you can also have fun coming up with your own classification categories. As you go, group the animals by category. If you want to get really fancy, try to get them into smaller and smaller groups until each animal is all on its own. See our chart for some suggestions. Bonus: find a way to put your toys away so that they’re stored in categories!

Nature Journal
The great naturalists kept journals full of drawings of the things they saw and stories about what they observed and how they felt about it all. Get a bunch of paper, fold it in the middle and staple it along the middle to make a book. Now decorate your cover with nature pictures. You can use this all week or even all summer! https://www.howwemontessori.com/how-we-montessori/2018/05/nature-journal.html

With an Adult
Pond in a Jar
You will need: a clean jar with a top and a pond. Take the jar to the pond scoop up some water as well as some debris from the bottom of the pond, seal the jar, and wait for the magic to happen. https://twistedsifter.com/videos/guy-seals-jar-of-pond-water-and-leaves-by-window/

On Your Own
LEGO SORT
It can be surprisingly fun to figure out how to sort your Lego into categories. First, think about what you like to do with them – is color more important? Shape? Size? Now sort them into categories. What kinds of problems do you encounter? How is sorting Lego like sorting living things? How is it different? Next time you’re bored, draw a paper from the box and do that activity!
CREATE

With an Adult

**Taxonomy Toy Box**

Does this creature have a backbone (vertebrate) or no backbone (invertebrate)?

Does this animal have warm blood or cold blood?

How does this creature bring its babies into the world? Organize your groups according to creatures that give birth to babies (mammals), animals that lay hard eggs on land, animals that lay soft eggs in water, animals that do something else entirely (there are a few that are tough to categorize!).

Is this animal extinct, living, or not real?

What kind of feet does this animal have? Bonus: divide these groups into even small ones looking at how many toes/parts of a hoof the animal has.

Does this animal have fur, scales, chitin (what covers insects and crabs), or something else covering it?

What does this animal eat? Plants (herbivores)? Meat (carnivores)? Bugs (insectivores)? Everything (omnivores)?

**Make Your Own Taxonomy Question:**

**Make Your Own Taxonomy Question:**
**DAY 2:**

**The Wild in Your Neighborhood**

- **Tiny Creatures**

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**TODAY IS ALL ABOUT**

Look out your windows. You know there are living things out there. Things that aren’t you or your pets. Today we’re going to get to know some of the smallest of them.

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**INVESTIGATE**

Bill Nye: Insects
https://www.youtube.com/watch?v=rzzSxCk0wLE

CrashCourse: Decomposers
https://www.youtube.com/watch?v=uB61rfeeAsM

Explore Outside
Step outside and bring with you a jar or piece of Tupperware. A cup or net would be great, too. You’re on the hunt for creatures that move. See how many you can find and catch the ones that look safe to catch! Then, head over to your nature journal for entry #1.

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**ON YOUR OWN**

**WATCH**

Nature Journal Entry #1
Write the date in your journal and beside it, include the number of different moving creatures you found outside today. Now, do your best to draw some of the creatures you found outside today, capturing every detail. What shape are their bodies? How many legs do they have? What do their mouth parts look like? Their antennae?

**CREATE**

With an Adult

Backyard Diorama
You may need an adult to help you with setting up parts of your diorama, but most of this you can do on your own. Head outside for some supplies: rocks, sticks, leaves, flowers. Paint the inside of a shoebox to set the scene. Then create a beautiful nature diorama. Sticks become trees, moss becomes leaves and grass, leaves become beetles with twig legs. Let your imagination run wild!

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**MOVE**

Firefly Chase
This one is a summer classic but so satisfying! Wait til it’s just starting to get dark, then head outside with a jar that has a top. Run, sneak, do whatever you have to do but catch as many fireflies as you can to put in your jar. Don’t hurt the fireflies!!! They are living things just like you. Watch what they do in the jar for awhile, then let them go. Want to know more about these flirty carnivorous beetles? https://www.youtube.com/watch?v=sS1idSB2Y1E

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**ON YOUR OWN**

**WATCH**

Painted Rock Babies
You can make rock babies or rock baby animals – whatever you want! You’ll have a whole daycare when you’re through.
https://www.handmadecharlotte.com/painted-rock-babies/

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**WITH AN ADULT**

Teeny Tiny Rainy Day Campfire
Rainy days happen, but that can’t stop a committed campfire builder. Using pretzels and marshmallows, create a campfire scene with little pretzel rods making logs and big pretzels making seats like rocks around the fire. Put toy figures on the rocks for the people, and add some tents made of cloth or blocks around the campsite. In the middle of the pretzel-logs, place a tea light candle. When you’re done playing with your scene, grab an adult and, light the campfire candle. Stick small marshmallows on pretzel rods and roast them over the candle for your very own indoor campfire!

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**CREATE**

**Nature Journal Entry #2**
How does your pond in a jar look today? If you have a magnifying glass, use it to try and get a close-up look at the living things in the jar.

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**JUST FOR FUN**

Painted Rock Babies
https://www.handmadecharlotte.com/painted-rock-babies/

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TODAY IS ALL ABOUT
Plants don’t move, but that doesn’t mean they’re boring. We’ll get hands-on with some plant science and celebrate the joys of summer in the shade of our green, growing neighbors.

INVESTIGATE

**On Your Own**

**WATCH**

Bill Nye: Plants
https://www.dailymotion.com/video/x5uifre

Late Elementary: Vegetation Transformation
https://www.youtube.com/watch?v=EstPeBt9CyU

**With an Adult**

**Experiment: Which Liquid Will Make the Greenest Flowers?**

Compare natural and unnatural dyes as you turn some white flowers green. [https://kidminds.org/plant-science-using-chlorophyll-as/](https://kidminds.org/plant-science-using-chlorophyll-as/)

**Experiment: Leaves Make Oxygen – which ones produce the most?**

[https://www.steamsational.com/tree-unit-study/](https://www.steamsational.com/tree-unit-study/)

CREATE

**Nature Journal #3: Backyard Soundscape**

Write the date in your nature journal. You’ll be going outside at three different times today: once in the morning, once in the afternoon, and once at night. For this entry, you should write a description or make a list of all the sounds you can hear at each time you go out. Are the sounds whispery or like songs? Rumbling? Creaking? What do you think is making them? Are some made by frogs? Leaves? Insects? Humans? Birds?

**Tree Ribbons**

Trees have inspired poetry, song, and beautiful art throughout the ages. Use sequins and permanent markers to decorate tree ribbons to hang in your favorite tree or bush outside. On each ribbon, write a few words or a sentence about something that gives you joy or something you hope for. When you’re done, tie your ribbons on branches and watch them sway in the wind!

**With an Adult**

**Clothespin Paintbrushes**

Make paintbrushes from leaves of varying textures, then create art! [http://www.marthastewart.com/1528883/clothespin-paintbrushes](http://www.marthastewart.com/1528883/clothespin-paintbrushes)

JUST FOR FUN

**On Your Own**

**7-Up Ball**

Enjoy this game alone or with a friend! All you need are some tennis balls and a safe indoor or outdoor space to play. [https://www.verywellfamily.com/play-the-7-up-game-1256803](https://www.verywellfamily.com/play-the-7-up-game-1256803)

**With an Adult**

**Bike Rodeo**

You’ll need a big open riding space like a cul de sac or a large driveway to create your very own bike rodeo. Use sidewalk chalk to create lanes – get crazy and make some spirals! Add in obstacles to ride around, over, and under, then invite some friends. Have adults score riders on their tricks and enjoy sweet treats afterwards to celebrate!

MOVE

**Nature Yoga**

Pretend to be a tree, a frog, a seed… find a shady spot outside and stretch out with some nature-inspired yoga poses. [https://childhood101.com/yoga-for-kids-a-walk-through-the-garden/](https://childhood101.com/yoga-for-kids-a-walk-through-the-garden/)

Snap a pic and share your creation! Tag us on Instagram @umprecollege
TODAY IS ALL ABOUT
You've got a home where you can find the things you need, and so do wild things. Nature's ecosystems are complicated and beautiful, and we are all a part of the food web. Learn about biodiversity in the environment around you.

On Your Own WATCH
Nature Journal #4: Time to check in with your pond in a jar again.
Can you identify anything moving? Can you tell if anything is alive? What do you think the moving things eat? See if you can describe the parts of this ecosystem just as you saw in today’s video. Here are some common small and microscopic organisms found in pond water: http://www.microscopy-uk.org.uk/ponddip/

Food Chains: Crash Course Compilation
https://www.youtube.com/watch?v=CZhE2p46vJk

Bill Nye: Biodiversity
https://www.youtube.com/watch?v=65pqsW2EzU0

On Your Own
Nature Journal #5: How is your Worm Tower doing?
Maybe today is a good day to add some lettuce to the tower for the worms to eat. In your nature journal draw a map of the worm tunnels. Feel free to draw the ones you can see and also the ones you know are buried deeper in the tower. Get imaginative and create little rooms in there for the worms. What kind house would a worm design, if a worm could design a house? Be sure to add labels to show the names of all the rooms, and while you’re at it, why not draw portraits of each of your worms and give them names?

With an Adult
Make a Quiz
It’s time to test the adults in your life. Make a quiz for them asking them questions about biodiversity and food webs. Make sure the quiz has things in it that you learned in the videos. If you want to make it a little easier on your adults, give them multiple choice questions. See how they score, then teach them the things they didn’t get right!

Habitat Hopscotch
Outside, draw a hopscotch course with sidewalk chalk. Instead of writing numbers in each square, draw a different habitat in each. Some habitats you might want to draw: rainforest, wetland, prairie, coral reef, polar, tundra, tidal zone, and desert. Now, grab a rock and you’re ready to play. https://parenting.firstcry.com/articles/how-to-play-hopscotch-an-easy-guide-for-kids/

Ocean EcoSystem Dessert
A great excuse for a sweet jello treat! https://climatekids.nasa.gov/ocean-ecosystem/

On Your Own
Squirt Gun Pyramid
Use red plastic cups to build a pyramid, then draw a line, stand behind it, and try to shoot the cups until they fall over. If you have a friend, you can build two pyramids and make it a competition to see who can knock theirs over first!

Snap a pic and share your creation! Tag us on Instagram @umprecollege
CREATE

With an Adult
Flip-the-Flap Food Web
Make your very own educational flip-the-flap picture of a food web. See our instructions later in the packet.

1. Look for pictures of animals in a magazine or even print them out from online.

2. Cut them out, then place them on a piece of paper – place them far apart from one another.

3. Draw a square or rectangle around each of them – it should be big enough that they fit inside completely.

4. Use scissors to carefully cut along the lines you have drawn for each square or rectangle. ONLY CUT THREE sides for each, leaving one side attached. You can make the flap bend open here by folding it carefully back. Now it can open and close.

5. Next, take a piece of cardboard or paper the same size as your other paper and put the pictures in all the same places you had them on the first paper. DON’T GLUE THEM YET. Just take your flap paper and put it on top. Do the holes line up with your pictures? Do you need to move the pictures a little?

6. Once your pictures are just where you want them, glue them down. Wait for the glue to dry, otherwise your flap sheet will get stuck to the animal pictures and it won’t work.

7. While you wait for the glue to dry, get your flap sheet back and start to draw on it. You can draw arrows and lines connecting the animals that eat one another. You can also draw where each animal lives. For example, around the bird flap hole, draw a tree so that when you open the flap, you’re opening a piece of the tree.

8. Wait until all the glue is totally dry, then draw a line of glue around the outside of your animal picture sheet, getting all four sides.

9. Now, attach your flap sheet with the ecosystem picture. You can open the close the flaps to teach someone you love about the food web you’ve created.
TODAY IS ALL ABOUT
You’ve probably seen your pets do weird things, and we’ve all heard about how odd the platypus is. But nature can get even weirder than that as organisms develop amazing ways to adapt to their surroundings.

On Your Own

Mix-n-Match Animal Cards
Take some index cards and divide them into three piles. One pile is going to be heads, another will be bodies, another will be legs/feet. Now, either draw different animal parts on these piles OR cut them out of a magazine and glue them onto the cards. Then, mix and match them to make complete animals. Line up the cards so the heads connect to the bodies connect to the legs. What about a lion’s head on an alligator body with flamingo legs? Or an armadillo head on an ostrich body on human legs? Make the weirdest things you can, then imagine reasons each of your weird animals has adapted the way it did. Write your best combinations down in your nature journal!

With an Adult

Pom-Pom Animals
Who needs fluffy toy animals when you can make your own? https://www.youtube.com/watch?v=MA0J7_XAo4I

On Your Own

Early Elementary

Living Things Change: https://www.youtube.com/watch?v=xDSFlRunlrU
Why Sand Beaches are Made of Fish Poop: https://www.youtube.com/watch?v=1SfxgY1dIM4
How Your Dog’s Nose Knows So Much: https://www.youtube.com/watch?v=Gf4k0VgCQjg

Late Elementary

Adaptations and the Environment: https://www.generationgenius.com/videolessons/adaptations-video-for-kids/
Octopuses 101: https://www.youtube.com/watch?v=oSyEZAm8nb8
Building the Perfect Squirrel Proof Bird Feeder: https://www.youtube.com/watch?v=hFZFjoX2cGg

With an Adult

Talk to an adult
You just watched some videos about how animals adapt to their environments. Explain to an adult about some of the weird adaptations you saw. Why do you think these animals have these adaptations? Think of some other animals you know about. Why do you think they adapted to be the way they are? For example: why are cats so good at balancing when dogs aren’t? Why don’t the worms in your worm tower have big eyes you can see?

On Your Own

Paper Bag Animal Puppets
Create a puppet show with animal puppets! Get started with this easy zebra. https://iheartcraftythings.com/paper-bag-zebra-craft.html

Ant Obstacle Course
Find some ants outside – NOT FIRE ANTS. Regular, nice little ants. If you’re not sure how to tell, ask an adult to look before you get close. Now, collect some obstacles for the ants. Start small, and maybe put down a few crumbs or chips near the obstacles. Watch how the ants navigate the obstacles. Do they go over or around them? Do they bring friends? Do they move things? How are the ants’ adaptations helping them succeed in the challenging environment you have created for them?