

WEEKDAY WONDERS



Content developed by the
Tennessee Aquarium
Education Department



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Wonders of Nature: Day 5

We live in a world filled with wonder! This week, young scientists invoke their innate sense of curiosity and wonder, as they explore our natural world by taking time to look up to the sky and down to the earth. They investigate natural phenomenon on a large scale, such as the phases of the moon, as well as on a more minute, less obvious scale, such as the resourceful way that plants can inhabit seemingly uninhabitable spaces and much more!

These curated activities are listed in a suggested sequence but may be done in the order that works best for you and your young scientists. Learn more about this series in the [Introduction to Weekday Wonders](#).



Question of the Day

Have you ever wondered how insects can have such different lifestyles?



Daily Nature Journal

Spending some time outside every day completing their daily nature journal is a great way for young scientists to learn to focus on the surprising life that goes on right under our noses in our back yards! To help guide your young scientist in this endeavor, use the [Guide to Nature Journaling](#) to support them in nature journaling each day.



Daytime Insects

Encourage your young scientist to go outside or look out a window and focus on the insects that he/she sees during the day. Have your scientist try to make a list of the types of insects that are active during the day.

After yesterday's focus on wings, as him/her to write or draw in the Nature Journal about how insects are moving, such as flying, walking, or hopping. What other behaviors does he/she see that might be a help to the insect as it goes about its life during the day?



Butterfly Buffet

String some slices of fruit onto a thread or lay them on a plate. Place them outside, either hanging from a tree branch or on a railing. Periodically check back to see if any butterflies have come to try the buffet.



Nighttime Insects

Some insects are active at night rather than during the day. Moths might come to mind as they circle around porch lights. But, there are many other insect species that are active at night.

In this activity, you can help your young scientist meet many nocturnal insects and a few that are active during the day as well. If you have followed Weekday Wonders for the past few months, you may remember the porch lighting activity. Today, we suggest doing it again. Not only will your scientist use it for a different purpose, but there may be different kinds of insects because of the time of year.

Gather the materials you and your young scientist will need for this activity.

- 1 or 2 white sheets or table cloths
- Outdoor light with a white bulb
- Cord
- Marble-sized rocks (or marbles!)
- Clean, dry, clear containers

You and your young scientist may also wish to wear closed toed shoes, crew length socks, and long pants. Fold the pants legs over the shin and pull the socks up over them. He/she should wear dark colored clothes. They don't have to be black, but if you wear white, khaki or other light colors, the porch light turns you into a target. This will help prevent bugs from crawling on you.

Help your young scientist to use the cord to secure the sheet just under the light, like in the photo at right. The knots may hold better if you tuck a rock into a fold of the sheet and tie the cord around that. Arrange the sheet so that you can move around it easily without bumping it so that you can easily move to where the bugs are but not scare them by moving the sheet.

The bottom of your sheet (or a second one) should also cover the ground around the vertical part of your sheet. Beetles sometimes fly in, hit the sheet, and fall to the ground. You don't want to miss them and you don't want to step on them. A sheet on the ground will help to avoid this.



Try to turn off all other lights besides the one you will be using for your observations. You may need to help your young scientist unscrew any other outdoor lights just enough to make them go out. Be sure to test those with a little tug to make sure they won't drop out of the fixture.

Turn the porch light on at dusk and leave it on for as long as your young scientist wants to watch it. It is not necessary to watch constantly. Checking in on the sheet every 20 minutes or so yields good results. If your young scientist would like to, you can carefully scoop insects off the sheet and into a container for close observation. These insects should be released as soon as possible. If your young scientist is too young to stay up for porch lighting as a special treat, he/she can help you set it up and after he/she is in bed, you can collect some of your visitors in some of the containers for your young scientist to enjoy in the morning. After that, please let them go!

As you observe insects, have your young scientist keep records. Have your scientist include names if you know them (or make up names), description, behavior, and anything interesting about the insect. See if any of them are the same as the insects he or she saw in the Daytime Insects activity.

Extension: If you want to know the common names for the insects you see, the iNaturalist app is a great tool. You can find it for free in your app store. You do not have to establish an account or sign in to use it for identification.

Skip the log in, then touch "make an observation." Choose "take a photo" and do so. The best photos are taken with the insect on the sheet, not in a container. If you like the photo, touch "OK". If you want to try to get a better photo, touch "retry." If you like your photo and have touched "OK", next touch "What did you see?" iNaturalist will show you photos of some suggestions for what the insect might be. Do your best to match them with the insect on your sheet. You may not get it exactly right, but it will be close and you and your young scientist can research it further in field guides or on the internet.



Waggle Dancing

Gather some paper and crumple it into small balls. Yellow or orange sticky notes work well for this, but any paper will do. Hide the crumpled paper balls around the yard or house.

Tell your young scientist that he is going to get to explore another type of behavior that an insect does. Tell your scientist that s/he is going to be a bee. When bees find good food, they are able to return to their hives and tell other bees where that food is. To do it, they use the waggle dance.

Show your young scientist one or both of the following videos.

Bee Dance (Waggle Dance): <https://youtu.be/-7ijl-g4jHg>

Honey Bee Wagglings Dance: <https://youtu.be/1MX2WN-7Xzc>

Make sure your scientist understands that the bee waggles to show the direction of the food and how far it is from the food. The bee makes a turn to circle back around to start the waggle again.

Have your scientist find a spot near the paper balls that can serve as the “beehive.” Then have your scientist go on the hunt for pollen—the paper balls. When s/he finds one, s/he should pick it up and run back to the beehive.

Once there, your scientist should do the waggle dance to show which direction the food is in. For the purposes of this game, it is fine to not worry about the position of the sun, but rather have your scientist waggle his or her back side in a line toward the food. S/he should also show how far it is to the food – the closer it is, the shorter time s/he will waggle. To do the dance, your scientist should waggle, turn one direction and circle around to the start, waggle again, then turn the other direction and circle back to the start. He or she should do this a few times before looking for the next pollen. Continue this process until your scientist has found all of the pollen and shared where the “good food” is with the hive.

If you have more than one scientist playing, you can also have one scientist/bee search for food while other scientists hide their eyes. Have the scientist/bee leave the pollen where it is, then come back to the hive to give directions to the other “bees.” When a scientist finds it, s/he should collect the pollen and then serve as the bee looking for food in the next round.