



# Grab-N-Go

## Nature Lessons Kit




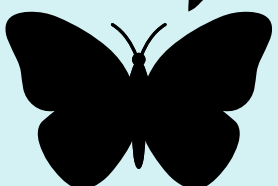
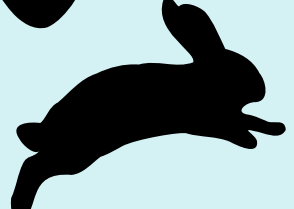


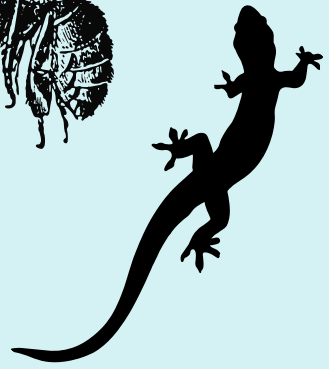
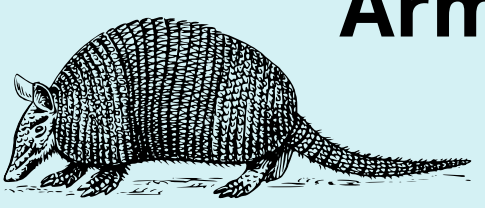
# Animal Adaptations to Beat the Heat

During the summer months temperatures can rise to dangerous levels, but there are special strategies that plants and wildlife use to overcome the extreme temperatures and keep cool. These strategies can be **behavioral** [taking an action], **anatomical** [special parts of the animal] or **metabolic** [how their bodies respond]! Try to find some evidence or observe these strategies as you explore the park, and think about the ways you stay cool too! With the list below, draw lines to match the animal to a strategy you think they use!



### Animal:

### Strategy:

-  **Deer**
-  **Butterfly**
-  **Rabbit**
-  **Bird**
-  **Bees**
-  **Lizard**
-  **Armadillo**

1. Sweating
2. Panting
3. Nocturnal Activity
4. Hiding in the Shade
5. Going Underground
6. Fur, Feather or Skin that radiates light
7. High Metabolic Tolerance
8. Increased surface area to release heat
9. Reducing Elimination
10. Reducing touching the ground
11. Body provided shade
12. Shedding

# Beat the Heat - Investigation

## Question

Some animals have long or wide body parts that help increase surface area to radiate heat through a network of blood vessels. What animals use their EARS for this strategy?

## Your Answer:

[Can you name 3 animals?]

Answers: There are many! Rabbit, Elephant, even Dogs and Cats!

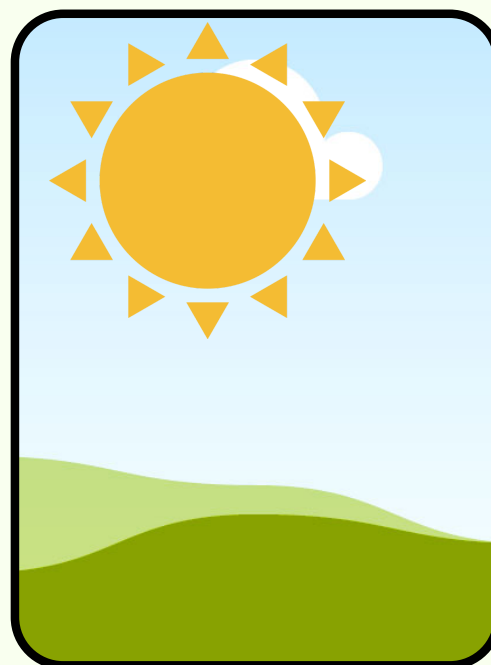
## HYPOTHESIS

Using what you know about sunlight, heat, and ways to cool off, let's try an experiment to see just **what is the easiest way to cool off in the park?** Let's mimic sweat and model seeking shade, like people and animals in the park! **What do you think it will be?**

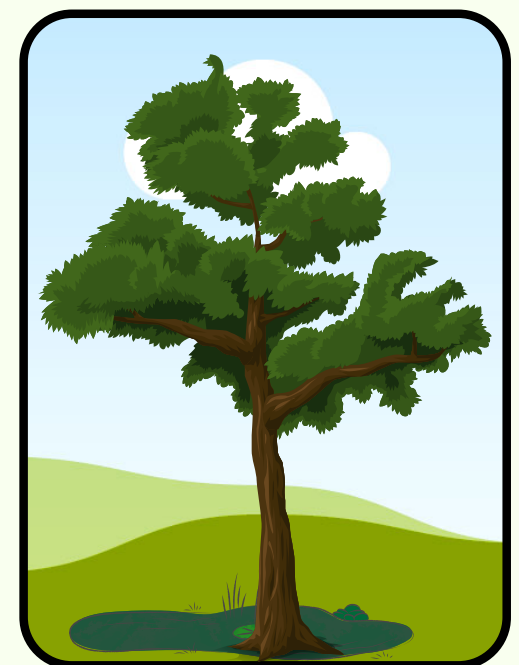
## EXPERIMENTATION

Materials: Some water!

Find a nice, well shaded spot. Stand on the edge of the shade and the sun. Hold one arm out into the sun and one arm out into the shade. Close your eyes and count to ten, and feel the difference in temperature.



Stretch out your arms!!!



Next, wet your arms and hands with the water to imitate perspiration, and return to your position. Stretch your hands out again, one to the sun and one to the shade. Close your eyes, count to ten, and feel the difference as the water evaporates off of your hands.

## RESULTS AND CONCLUSION

You've measured 4 ways of enduring the heat: extending your arm to increase surface area, extending your arm & perspiring, extending and shade seeking, and lastly extending + perspiring + shade. Which way was most effective to you? Does a breeze make a difference? How does the water help? What animals might use these strategies?



# NATURE SUMMMER FUN



- WITH -

## TWIG-TAC-TOE

### **MATERIALS:**

4 found twigs and 10 'tokens' being leaves, pebbles, shells, other small natural items!



### **DIRECTIONS:**

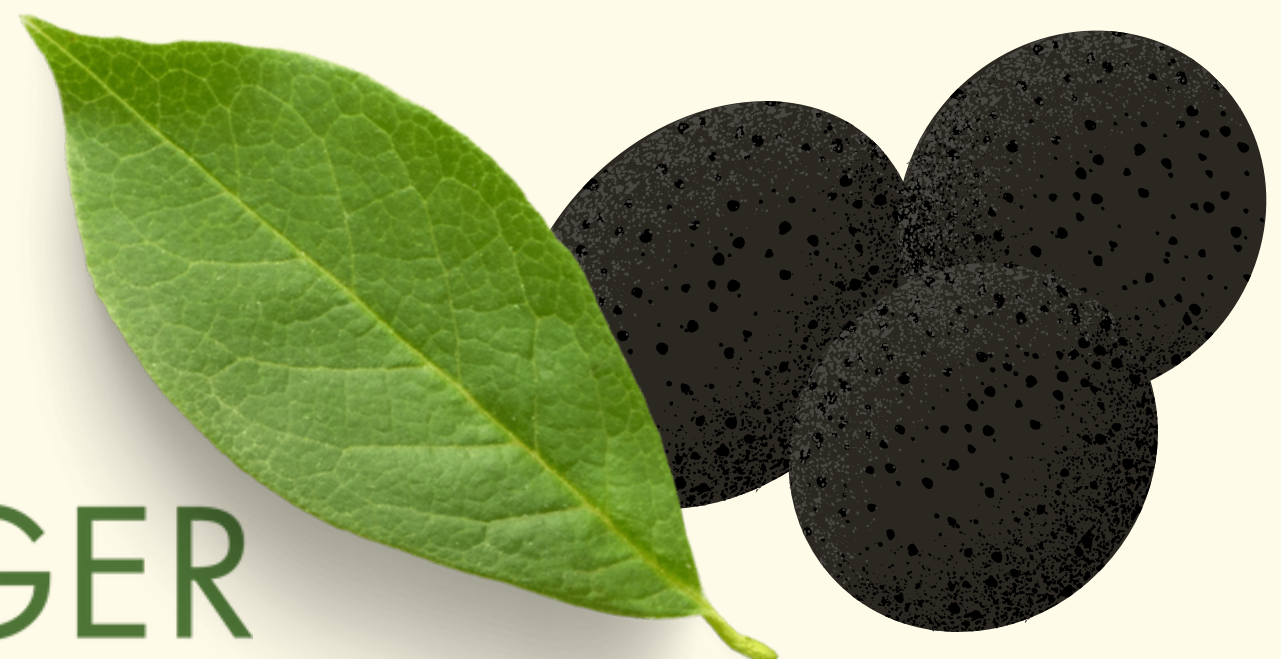
This is an easy way to play the classic game anywhere! First, find 4 sticks the length of your elbow to your wrist.

Next, find a nice cool and shady spot to lay them out! This can be in the grass, on a table, or on a sidewalk. Lay the first two side by side, and the second two crossing them for the classic 3x3 grid.

Each player will need 5 of their item. 5 leaves or 5 flowers or 5 pebbles. Take turns placing your pieces until someone has 3 in a row!



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 **PHIL HARDBERGER**  
**PARK CONSERVANCY**

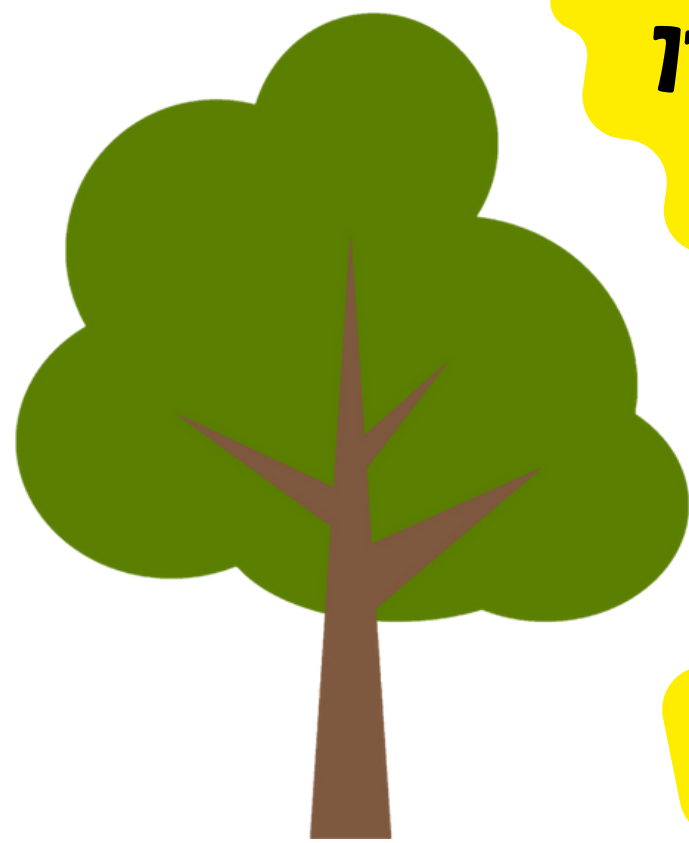


# SUMMER SUN SAFETY TIPS!

Reapply sunscreen every two hours to stay protected!



During midday hours of 11am-5pm, stay in the shade or indoors!



Sunglasses and a hat are a must.



Drink lots of water to stay hydrated!!



Make sure pets follow these same rules!



Have yourself a nice, COOL treat!!! Here's some suggestions!

