

Vultures are nature's clean-up crew and play a vital role in the health of our ecosystems. These scavengers help stop the spread of many diseases, such as botulism, rabies, anthrax, cholera, tuberculosis, and much more! Vultures are one of the most imperiled group of birds in the world which is why the North Carolina Zoo is actively involved in vulture conservation in Africa.

To help you better understand these critical creatures, try the following fun activities:



## Activity #1: Eat like a Vulture

### You will need:

- scale
- calculator
- bucket or bowl
- rocks, potatoes or water



### Directions:

Vultures often gorge themselves on their food and can eat up to 1/4 of their body weight in one meal!

1. Step onto a scale and weigh yourself (**for example, you weigh 150 lbs.**).
2. Multiply your weight by 0.25 (25%), this is the amount of food you would need to eat (**150 lbs. x 0.25 = 37 1/2 lbs.**)!
3. Add the amount of food you have to eat to your weight (**150 lbs. + 37 1/2 lbs. = 187 1/2 lbs.**).
4. Step back onto the scale with an empty bucket and slowly add rocks, potatoes, or water to the bucket until you reach this weight. Feel how heavy the bucket is and try imagining having to eat that much food at your next meal!
5. Keep your food weight a secret and empty your bucket. Now have other people add the rocks/potatoes/water to your bucket and try to guess how much food you would have to eat. Then weigh the bucket and see how close they got!

## Activity #2: Vulture Vomit!

### You will need:

- Tarp or plastic sheeting
- Images, drawings or the vultures' "enemies" as words
- Tape
- Slime – either purchase or make your own (you can find many different slime recipes online!)



### Directions:

Vultures have weak feet and are not able to carry their food away which is why they have to gorge themselves. If a threat comes near they are often too heavy to fly off, so for protection and to make themselves lighter, they will vomit on that threat so they can get away!

1. On separate pages, either print off an image, draw the image, or just write the word of the following vulture "enemies":
  - ◆ **Power lines or wind turbines**—Vultures often collide with these.
  - ◆ **Diclofenac**—A cattle medicine that can cause kidney failure in vultures who eat cattle that are on this medication!
  - ◆ **Poisons**—Some farmers will put poison on dead cattle to try to kill lions or other predators and indirectly kill hundreds of vultures.
  - ◆ **Lead**—From feeding on animals that were shot with lead shot from shotguns.
  - ◆ **Hyenas**—African vultures have to compete with hyenas for a carcass.
  - ◆ **Poachers**—Many poachers will poison the animal they just killed to directly kill vultures as a rangers know that if they see a bunch of vultures circling there may be a poached animal and possibly poachers nearby!
  - ◆ **Habitat loss**
  - ◆ **Pesticides**—Chemicals used to kill insects that get into their water and food supplies.
2. Go outside and hang up your tarp or plastic sheeting making sure to leave some on the ground (see above picture).
3. Tape your vulture enemy pages onto the tarp.
4. If needed, make your slime (vulture vomit!).
5. Mark a line ~5-10' (depending on age of the person throwing) away from your tarp.
6. Take turns throwing pieces of your "vulture vomit" and see who can hit the most vulture enemies!

## Activity #3: Vulture Stomach Acid

### You will need:

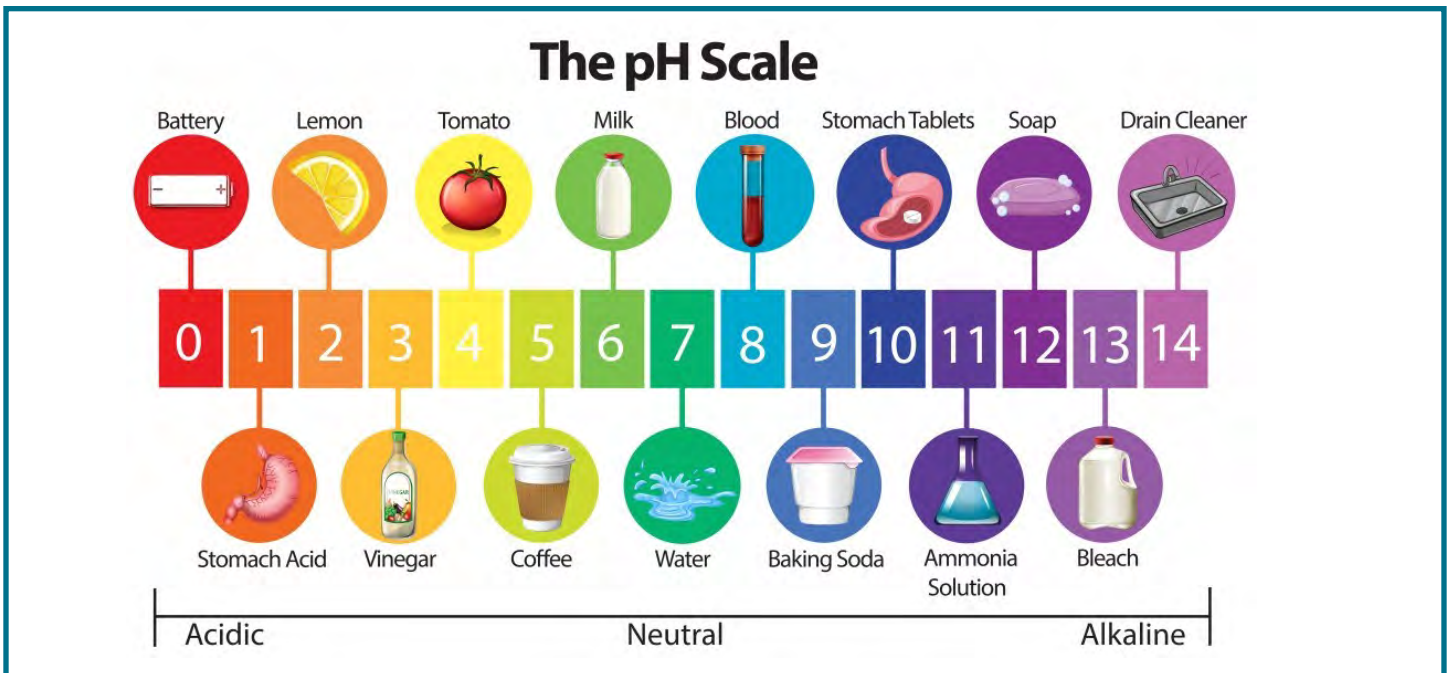
- Clear container
- Vinegar

- Baking soda

- Wax paper
- Plastic baggie

### Optional:

- Red food coloring
- Pasta



### Directions:

In order to digest rotting meat and sometimes even bone, a vulture's stomach acid has to be strong. On the above pH scale, the vulture's stomach acid is between 0 and 1, as strong as battery acid!!! This is why they are not affected by diseases on the carcasses and why in areas that vultures have disappeared, rabies and other disease start to run rampant!

1. Make your "meat" by putting a couple of tablespoons of baking soda into bowl and stir in a little water at time until it makes a paste. Put the paste into a small plastic baggie, seal, and then cut a small piece off one of the corners of the baggie. Squeeze the paste through the hole in the baggie onto a piece of wax paper to make a button-sized tablet and repeat until all the paste is gone. Let air dry.
2. Halfway fill your clear container with vinegar ("vulture stomach acid") and if you want, add a couple of drops of red food coloring.
3. Drop a piece of "meat" into the vinegar and watch the "vulture's stomach acid" digest the "meat"!
4. You can also drop small pieces of pasta ("bone") into the "stomach acid" and compare how long the "meat" and the "bone" take to digest.

**Note:** You will periodically have to change out the vinegar if you no longer see any fizzing after dropping in the "meat".

**Activity #4: Smell like a Vulture!****You will need:**

- 3 containers that you can't see through, like a coffee can
- 3 different scents (perfume, extracts, coffee, spices, anything with a strong smell)
- Cotton balls
- 1-3 tape measures
- Paper
- Pencil

**Directions:**

Very few bird species have a strong sense of smell, except the Turkey Vulture that uses its strong sense of smell and keen eyesight to find carrion (dead animals)! They are able to find their food in dense forests just by using their sense of smell. Many other scavengers will follow Turkey Vultures in order to find food! Let's see how good your sense of smell is:

1. Label your cans Station 1, Station 2 and Station 3.
2. Put several cotton balls on the bottom of each can.
3. Have one person secretly put a different scent onto the cotton balls in each station.
4. Mark a start line and then place each station about 20-30' away from the start line. Make sure to keep at least 10' between the stations so the scents don't cross paths!
5. Have your "vultures" line up in front of a station at the start line and give them a piece of paper and a pencil.
6. Have the "vultures" slowly walk towards their station until they can smell the scent and stop.
7. Using the tape measure, measure the distance between the "vulture" and the station.
8. Record on the paper what station they were at, what scent they think it is and their distance from the station.
9. Move to the next station and repeat until all the "vultures" have recorded their findings at each station.
10. Gather all the vultures and compare notes to see who has the best nose (was the furthest away from each scent) and who got the scents right!
11. Switch up roles and scents and try again!