

## You will need:

- X-Ray pictures (below)
- Writing Utensil
- A keen eye!

**Objective:** Students will be able to identify abnormalities in radiographs and understand the importance of radiographs.

## Background:

Radiographs, or X-rays, can tell us a lot about animals. Just like humans, sometimes animals get hurt and need to see a doctor. Radiographs allow us to look inside the animal to see things that we can't see on the outside.

By doing this, we can identify injuries so we know the best way to treat them. Sometimes, radiographs are taken at animal "check-ups" even if there is nothing wrong with the animal so that we know what a "normal" x-ray looks like if something does happen later down the line.

## Directions:

Look at the radiographs on the next few pages to identify anything that looks out of the ordinary. Circle the things you find to check your answers!

## Helpful hints:

- The more solid or dense the object, the brighter it will show up on an X-ray. For example, metal will be very bright on an x-ray. Bone shows up more than tissue on an x-ray because it is more dense.
- We don't always look only at bones in x-rays, sometimes we can see problems around the bone in X-rays too!
- When tissue (skin, muscles, etc. around bone) is swollen, it becomes a little more dense and shows up more on an x-ray.



**\*\*\*Answers in Separate File\*\*\***

1. Oh no! This Turkey Vulture hurt himself out in the wild. Luckily, some kind people found him and brought him to the North Carolina Zoo's rehabilitation center. Can you see what is wrong with this bird? How many injuries does he have?

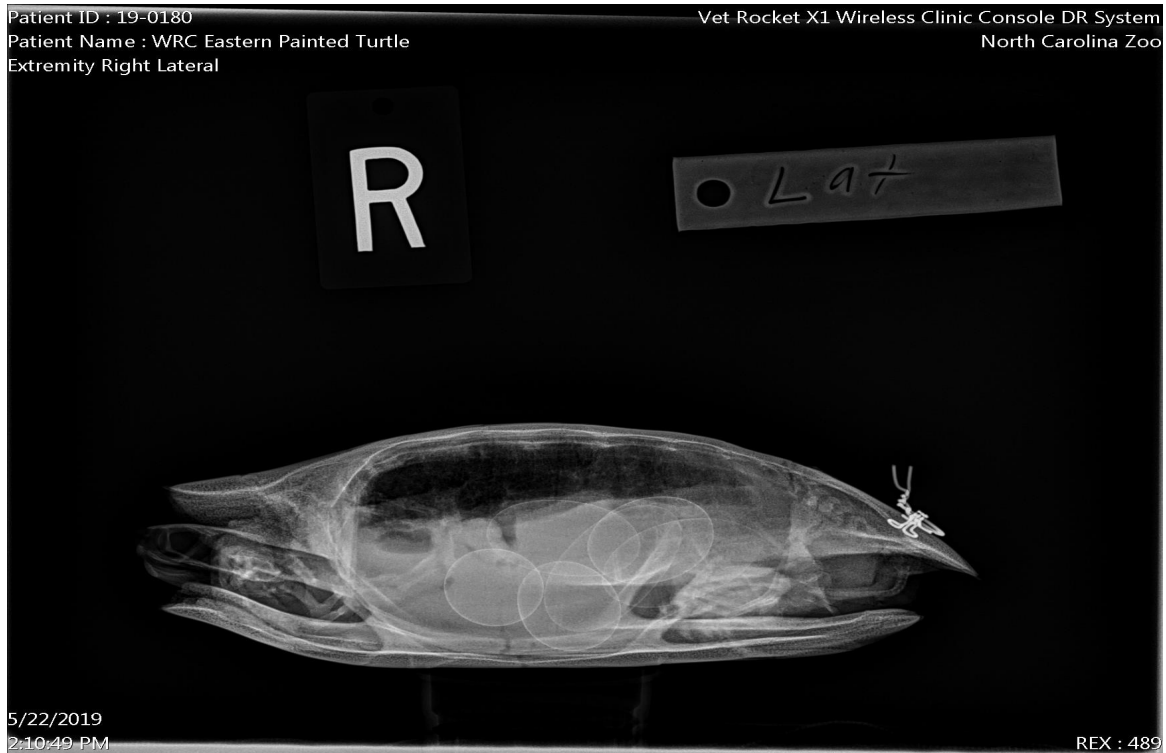


2. This Red-tailed Hawk got tangled in some line out in the wild and suffered some severe damage to his wing. Can you find the damage? Can you see anything else wrong with this hawk?

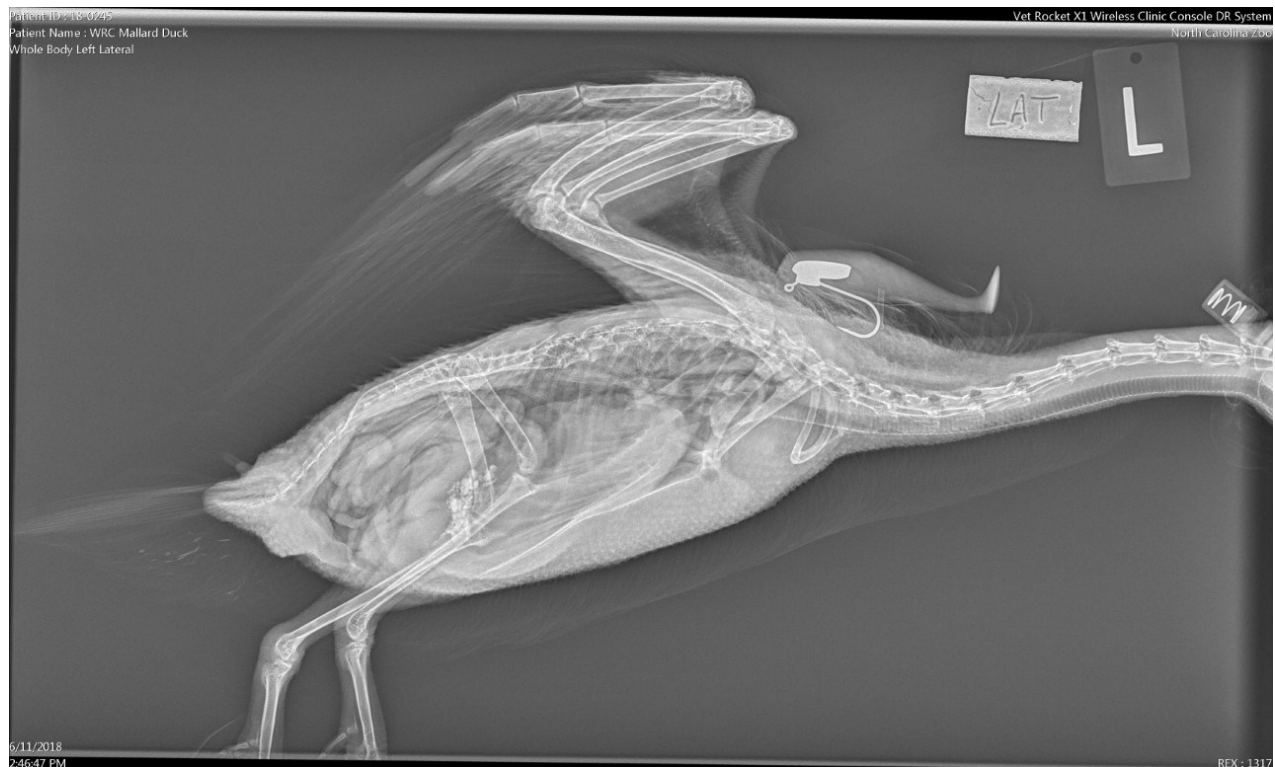
**Hint:** It might be helpful to look back at the “helpful hints” section of the instructions on the first page if you are having trouble!



3. This Eastern Painted Turtle had an unfortunate collision with a car, but somebody brought her to the North Carolina Zoo's Rehabilitation center. Can you see where the doctors at the rehab center fixed her shell? Do you see anything else exciting in this radiograph?



4. Oh no! Somebody didn't clean up their mess after their fun day at the lake! Can you see what it is and how it affected this Mallard Duck?

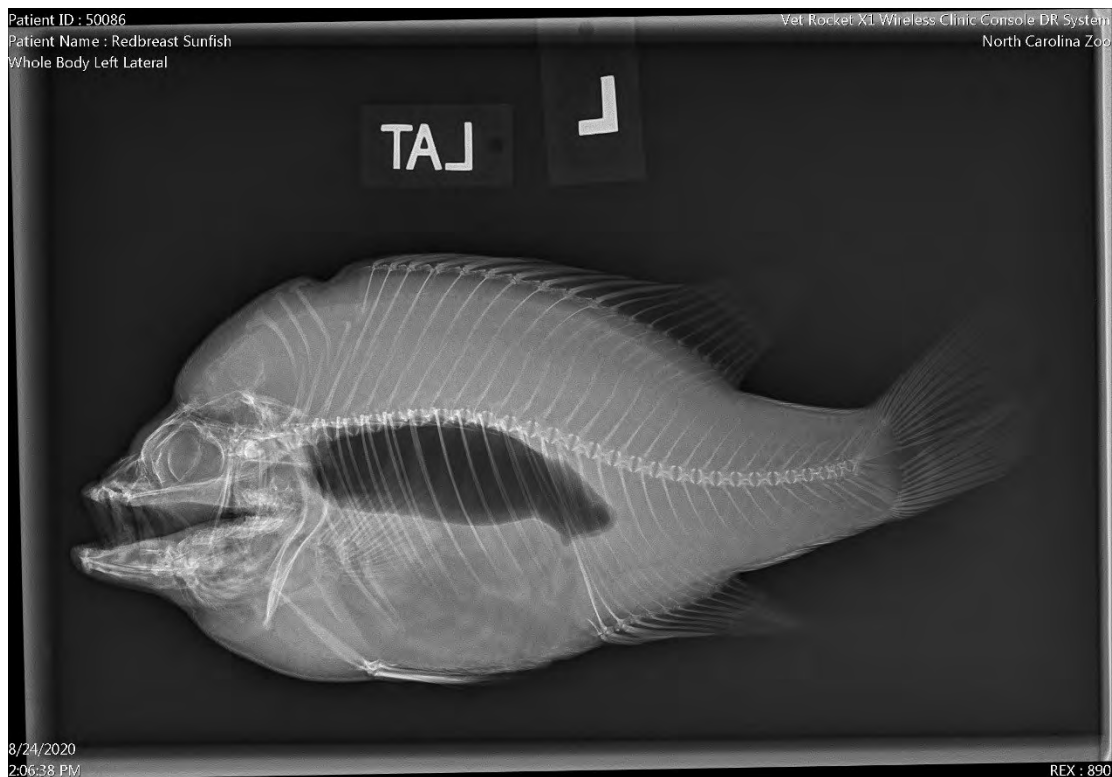




5. Keepers noticed that this Scorpion was having trouble walking and getting around its habitat. Can you see what is causing his trouble?



6. Keepers found this fish stuck in the skimmer of his habitat having a hard time controlling his ability to stay upright. His keepers thought there might be something wrong with his swim bladder, which helps control that ability. Can you find his swim bladder?



2. Meet Najma, the North Carolina Zoo's female Sand Cat. She is about to get some exciting news! Can you see what it is?

