Be a Squirrel Scientist

With their big fluffy tails and active nature, gray squirrels are one of the easiest animals to see frolicking around Rowe Woods.

Take this guide along when you hike on our trails to learn what these clever rodents are doing and why!

Observe their antics and record your findings in this brochure like a real field biologist would!
Signs of Squirrel Activity

Even if you don’t see many squirrels on a particular day, the woods are full of evidence that squirrels have been around.

Tracks
Squirrels have 5 toes on their back feet and 4 on their front. Tracks often lead right to a tree and disappear since squirrels usually take to the trees for safety.

Dreys
Squirrels build warm nests out of leaves. Look for them high in the tree tops.

Food Evidence
Squirrels often leave behind evidence of their feeding activity, such as chewed up pieces of nuts, acorns, cones, etc.

Tree Markings
Squirrels often mark territory by chewing and urinating on trees. They will commonly use a spot under the crook of a large branch that protects the scent from being washed away.

Scat
Squirrel scat comes in the form of small rounded pellets.
Record Your Observations

Use this space to record the squirrel behaviors you observe at Rowe Woods today.

---

---

---

---

---

Continue Making Scientific Discoveries!

If you enjoyed watching squirrels at Rowe Woods, start a squirrel behavior notebook at home and write down all the things you find squirrels doing.

Compare the behavior of Rowe Woods squirrels and squirrels near your home. Do squirrels at a busy nature center have a shorter flight distance than those in quieter areas where they might not have as much contact with people?

If you tap two quarters together to imitate the sound of a squirrel eating a nut, can you reduce the flight distance (how close someone can get before they run)? Squirrels prefer to eat when it’s safe, so you may convince them that they are not in danger.
If it’s December through February or May through June, you’re right in the middle of squirrel breeding season. When it is time for breeding, up to 12 males may start to follow a female, hoping to mate with her. The female often runs away or attempts to chase males off until she is completely ready to mate. As the males follow her in this ‘mating chase’ they often fight amongst themselves with dominant males chasing off subordinates. Fights between males can involve wrestling, slapping and biting. After several hours the female will stop evading suitors and allow a male to mate with her.

Older, established adults may chase younger squirrels out of an area when food is scarce, especially in drought years when there is a shortage of nuts.

Young squirrels stick together for a few weeks after leaving the nest. They chase, wrestle and tumble with siblings to learn motor skills and social behaviors they need later in life.

**Squirrels chase each other for many reasons. The main ones are listed below:**

**Courtship**

If it’s December through February or May through June, you’re right in the middle of squirrel breeding season. When it is time for breeding, up to 12 males may start to follow a female, hoping to mate with her. The female often runs away or attempts to chase males off until she is completely ready to mate. As the males follow her in this ‘mating chase’ they often fight amongst themselves with dominant males chasing off subordinates. Fights between males can involve wrestling, slapping and biting. After several hours the female will stop evading suitors and allow a male to mate with her.

**Competition**

Older, established adults may chase younger squirrels out of an area when food is scarce, especially in drought years when there is a shortage of nuts.

**Play**

Young squirrels stick together for a few weeks after leaving the nest. They chase, wrestle and tumble with siblings to learn motor skills and social behaviors they need later in life.
**Freezing**

How might freezing in one place help a squirrel survive? By standing very still when danger is detected, squirrels make it difficult for predators to find them.

Gray squirrels have special fur coloration called countershading. When predators look up at a bright sky, it is more difficult to see a squirrel’s white belly. Their darker top half makes it more difficult for predators to see them from above because they blend in with trees or the ground.

**Try This:**
If a squirrel freezes when you’re on the trail, freeze as well and challenge it to a staring contest! How long does it stay still before moving on?

**Eating**

Squirrels eat nuts, seeds, berries, bird eggs, and even baby birds. Their sharp teeth never stop growing and can crack very hard nutshells.

Squirrels usually eat nuts sitting upright so they can keep an eye out for predators. Having large eyes on the sides of their heads gives squirrels the ability to see all around them. Many animals would be happy to make a meal out of a squirrel, so it is important they stay alert, even when enjoying nuts.

**Grooming**

Squirrels may groom themselves or each other to keep their fur clean. Grooming can include rubbing, scratching, licking or lightly gnawing. Social grooming occurs most often between siblings.
Jumping and Leaping

Squirrels are natural acrobats. They can jump five feet vertically, and up to ten feet through the air when they leap from branch to branch. Squirrels might make such leaps when chasing each other or escaping from predators. How far can you jump in one bound?

Climbing

Sharp claws make squirrels expert climbers. They usually flee to the trees when danger shows up. They climb down headfirst when the danger has passed.

Scatter-hoarding

Squirrels collect and bury nuts underground in the fall to ensure they have enough food throughout winter. They bury thousands of nuts a year and can recover 96% of them or more. The seeds they don’t eat often grow into trees in new areas, making forests healthier.
Dealing with Threats

When squirrels sense a threat like an actively hunting predator, they respond with a variety of behaviors including orientation towards the predator, tail flicking and calling.

**Tail Flicking**

The white fringes around a squirrel’s tail work as a caution sign. The movement tells other squirrels to LOOK OUT, because there may be a predator around. Squirrels tail-flick more often in noisy urban areas where calls might not be heard as easily.

**Calling**

In terms of our language, there is really no squirrel can equivalent to human word. Experiments reveal that the sequence of calls tells the predator that it has been spotted and has lost the element of surprise and lets fellow squirrels know the location and movement of the predator.

Scan the QR code to hear each sound:

If a predator is discovered slinking through the forest, the squirrels might respond with a rapid series of kuks that will continue until the predator begins to move out of the area.

If the predator is beginning to move out of the area of the calling squirrel, the kuks will be slower or the squirrel might combine them with a longer call described as a quaa.

As the predator moves away from the caller, the kuks and quaas will then change into just quaas alone.

As the predator moves further away, the quaas will be changed to modulated quaas.

Once the predator is out of the view of the caller, the modulated quaas will be replaced by modulated quaa moans which might transition into just the moan portion of the call produced alone.