

Fly Into Our

NEHST

Nature Education
for

HOMESCHOOL

Students & Teachers

at the

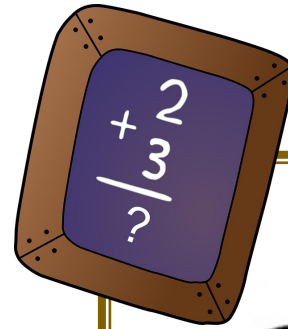

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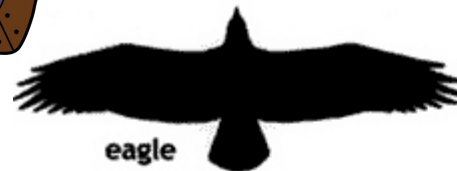
Stone Harbor, NJ 08247

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Branching Activities for Raptors on the Wing



How Many Beats in a Meal?



eagle



falcon



harrier



kite



buteo



accipiter



osprey



Do the Math

The eastern screech owl beats its wings five times per second. If it takes an owl two minutes to leave its perch, catch a mouse and return to its perch, how many times does it beat its wings?

5 beats/second x	_____	seconds/minute =	_____	beats/minute
_____	beats/minute x	2 minutes =	_____	wing beats while capturing the mouse

Learn to Identify Hawks in Flight

Everything you need to get started is included below!





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1. **Northern harrier, adult male:** Distinct grayish topside with black border on flight feathers, back is often browner. All harriers have a white “rump,” a classic field mark.
2. **Northern harrier, adult female:** Pale underneath with slightly darker flight feathers, and narrow streaks on chest. Note long, narrow wings and tail (showing bands when spread). Head is small with owl-like facial disk.
3. **Broad-winged hawk, juvenile/first-year:** Stocky pointed wings, large head, and short, narrow tail. Pale underside with dark streaking on sides of breast, and indistinct tail pattern with darker tip denote 1st-year. Some (like this bird) have streaks on belly similar to red-tailed.
4. **Eastern red-shouldered hawk, juvenile/first-year:** Somewhat stocky squared-off wings with translucent “commas along the primaries. Pale underside with buffy underwing coverts, and dark, evenly spaced streaking on body denote 1st-year.
5. **Cooper’s hawk, juvenile/first-year:** Pale underneath with dark streaks throughout underbody, and brown head denote 1st-year. Note long wings for an accipiter, large head, and long tail with white tip.
6. **Cooper’s hawk, juvenile/first-year:** Note brown upperside with tawny head that projects well past wings, and long tail with white tip.

7. **Turkey vulture:** Blackish overall; reddish head can be difficult to see at a distance but white bill usually glows. Note long, broad, squared-off wings, broad tail, and modified dihedral when gliding.
8. **Sharp-shinned hawks, juvenile/first-year:** Note short, stocky wings and body, long slim tail that is short for an accipiter, and small head. Plumage is difficult to see on distant birds, but 1st-years lack a rufous tone underneath.
9. **Red-shouldered hawk, juvenile/first-year:** Note somewhat stocky squared-off wings with translucent “commas” along the primaries. Pale underside with buffy underwing coverts, and dark, evenly spaced streaking on body denote 1st-year.
10. **Broad-winged hawk, juvenile/first-year:** Pale underside with dark streaking densest on sides of breast, translucent primary “windows,” and indistinct tail pattern with darker tip denote 1st-year. Note stout body, large head, stocky, pointed wings, and narrow tail.
11. **Northern harrier, adult male:** Very distinct brilliant white underside with a black border on flight feathers. Note long, slim wings and tail, and small head.
12. **Bald eagles, immature:** 1st-years are dark overall with white wing pits, 4th-years are similarly dark overall but show a whitish head and minimal white on the wing pits. Note somewhat broad, straight, very long wings that lack a sharp taper and are held drooped in a glide, large head, and broad tail.

13. **Peregrine falcon, juvenile/first-year:** Classic silhouetted long, narrow, pointed wings that are angled at the wrists, and long tail that resembles a cocked bow and arrow. 1st-years are dark-streaked underneath, lacking the paler chest and black head of adults.

14. **Peregrine falcon, juvenile/first-year:** Pale underneath with heavily streaked body, heavily “checkered” underwings, and dark head. Note very long, pointed wings, heavy body, and broad tail and head. Wingtips are less sharply pointed in a full soar.

15. **Red-tailed hawk, adult:** Quintessential broad-winged, short-tailed buteo shape. Plumage is pale underneath with dark patagial bars and bellyband. Note: dark trailing edge to the wings and reddish tail denote adult.

16. **Red-tailed hawk, juvenile/first-year:** Pale overall underneath with dark patagial bars and bellyband. Lacks a dark trailing edge to the wings and reddish tail, and shows translucent primaries, identifying it as a 1st-year.

17. **Eastern red-tailed hawk, adult:** Pale underneath with buffy wash, dark patagial bars and belly streaks, dark trailing edge to the wings, and reddish tail. Note pale throat and lightly marked underwing coverts.

18. **Red-tailed hawk, second-year:** Pale underneath with dark patagial bars and bellyband. Dark trailing edge to the wings and reddish tail denote adult, but shorter retained juvenile secondaries denote 2nd-year bird.

19. **Western red-tailed hawk, adult:** Note dark upperside with only minimal pale scapulars and rufous uppertail coverts, but tail lacks bands. Reddish tail, golden head, dark edge to back of wings denote adult.

20. **Merlin:** Juvenile and adult female are pale below with heavy, dark streaking, heavily “checkered” underwings, and distinct tail bands. Merlin has stockier, more sharply pointed wings, broader, shorter tail, and is “chesty” compared with kestrel. Likely an adult female based on buffy underside, thick streaks, slaty head, and yellowish leg feathers.

21. **American kestrel, male:** Note pale underside with orangey chest, black spots on belly two black “sideburns” on head, and blue upperwing coverts, orange tail with black tip.

22. **Merlin:** Juvenile and adult female are pale below with heavy, dark streaking, heavily “checkered” underwings, and distinct tail bands. Merlin has stockier, more sharply pointed wings, broader, shorter tail, and is “chesty” compared with kestrel. Likely an adult female based on buffy underside, thick streaks, slaty head, and yellowish leg feathers.

