DETERMINING THE SPECIES OF SQUIRREL

1. Referred to as the Eastern Grey Squirrel species, they range in colour from pure black to pure grey, or a brindle shade of dark brown with golden highlights
2. Red squirrels are a different species, they are red in colour with a white belly, and are much smaller

IS THIS SQUIRREL TRULY ORPHANED?

When people find young squirrels, whether tiny closed-eye infants or slightly older but still un-weaned babies, it is typically due to one of 5 scenarios

1. The **mother is gone** – trapped and removed or killed
2. The **nest has failed** – high winds or heavy rain may contribute – or tree trimming/removal that destroys the nest. Young may be found on the ground or in a fallen nest
3. The **mother is moving her young,** and one has fallen or been separated
4. **Predation of the nest has occurred** – if a cat or crow, for example, raids the nest
5. The **family pet brings a baby home** – this scenario can follow any of the first four, if a pet found baby on the ground

Scenario one: Babies are orphaned and in immediate, and often desperate need. Eyes-closed infants will be dehydrated and starving, usually having waited for their mother for a day or more before wiggling out of the nest. Slightly older eyes-open babies often approach and follow people, perhaps climbing up a pant leg. Baby squirrels rely on their mother for a long time, weaning gradually after about 8 weeks, and staying with mother until 12 weeks of age. Therefore a fluffy little 6 week old, eyes-open baby, although mobile, is still totally dependent.

Scenario two and three (only occasionally four and five): The young may still be reunited with their mother, so as they are not injured (excluding superficial injuries). One thing to note is that eyes-open babies that have been missing their mother for only hours rather than days (ie mom is still nearby) may be

more wary than the first scenario, and not as likely to approach people as they will not yet be so desperate. Overly friendly ones have likely been away from mom for much longer.

Scenario four and five: This scenario may occasionally lead to a reunion, but it is important to be wary as predators are often attracted to unguarded nests of babies, where the mother has already gone missing, or predation itself has caused an injury, and injured babies should not be returned to mother unless injury is superficial.

CAUTION about "creating" orphans: Squirrels choose warm protected places to have their young, sometimes in and around our dwellings. Baby squirrels are often "created" orphans when homeowners hire pest control companies to remove the mother. The best solution for the homeowner and the babies is to leave the mother squirrel alone for a grace period of a few weeks. She will move her young herself once they become mobile and start to venture out of the nest. At that point it is safe to exclude the entire family and make repairs so the situation does not repeat. If you have found very young babies (with no scant or no fur and eyes closed) and their birth nest has been destroyed or the mother barred entry to it, she may not be able to take the babies elsewhere, and she may not have another nest site safe and warm enough to keep fragile baby infants alive. If this is the case, if at all possible, try to restore the birth nest in hopes that the mother will be able to continue to care for the babies there. Older, mobile and fully furred youngsters are hardier, and the mother is more likely to have an alternate nest site that will suffice for them in an emergency, and she will often choose to move older babies if the birth nest is threatened. **NOTE: If the mother is still there, she will take her young back, given the opportunity, even if you have touched them. She will pick them up one at a time and carry them off to safety providing she has a safe and warm enough den site to take them to.**

READ ON TO LEARN HOW TO ASSESS RETURNING BABY TO MOTHER

THE FIRST ORDER OF BUSINESS: WARM THE BABY

1. Use a soft cloth to pick the baby up. Wrap it up in the cloth, snugly, head and all, and let it calm down and get warm by holding it in your hands. You want it completely warmed up to your bosy temperature. Mother squirrels do not seem to recognize a baby as their own if its body temperature is not normal, and babies cool down quickly once they lose their insulated protection of their nest. This is especially pertinent for spring litters when outside temperatures can be quite cold.
2. If there is more than one baby, or it is very cold, you will want to put them in a small box with several layers of soft cloths while they warm up. Make sure bedding is non-ravelling since wiggly little animals can quickly become strangled in threads or holes. Provide external heat by setting the box half-on, half-off a heating pad set to low, or put a hot water bottle well-wrapped in a soft cloth in the box beside them so they can snuggle against it. Make sure there is enough room in the box for them to wiggle away from the hot water bottle or the side of the box with a heating pad if they get too hot. Cover them over, head and all, with soft cloths. Close the box securely since even tiny babies might escape, and make sure to punch breathing holes in the top. Place the box in a warm, dark, quiet place. Check them every 10 or 15 minutes while their body temperatures return to normal.

THE SECOND ORDER OF BUSINESS: CHECK FOR INJURIES

1. In a safe spot, with good light – in a small washroom for example, unwrap the baby and check it all over for injuries. It is handy to have a few more clean cloths and a basin of warm water and a washcloth (white is best so you can see any blood) to clean away dirt from a suspected injury. At this stage, it is important for an adult to carefully assess the squirrel in a quiet room without children or pets present. The washcloth should be wrung out in warm water and then made to mimic the mother gently licking the baby clean – all over. Try to use a light cloth like those used

for human babies so that you can feel the orphan through the cloth. Go slowly and take your time, and this will calm the baby and make your examination easier.

2. When cleaning the baby, please pay special attention to the face, checking for dried blood in the nose, and mouth, to make sure it can breathe easily. Also pay attention to the genital area – try to see if the baby pees when gently stimulated with the soft warm cloth or a Q-tip or tissue, and note the colour of the urine. On males stimulate the penis – a small nub about ½" above the anus; on females stimulate the little nub very near the anus. Stimulate for a full minute or two, using light feathery strokes.
3. Remove any external parasites you see (fleas, ticks), and any fly eggs. Fly eggs are whitish specks that will be stuck to the fur or inside/around wounds, eyes, ears, nose, mouth, or genitals – hatched eggs are tiny whitish larvae. If there are many such parasites it is a good indication the mother has been missing for days – and in that case you will need to carefully bathe the baby in a basin of warm water with a little diluted dishwashing liquid ("Dawn" is good) to get rid of the parasites. An old toothbrush will help dislodge sticky fly eggs. Thoroughly dry and warm the baby after its bath.
4. In terms of injuries to look for: falls can result in broken legs, and head or spinal injuries. Very young infants will be naturally weak, so it may be harder for you to tell, but look to see that the legs are held in the right position, not twisted or dragging limply. Older eyes-open youngsters should use all four legs, and hold their tail up a bit. Try lightly pinching each paw and the tail, since if the baby can feel the pinch it will pull away. Cat caught babies may have obvious injuries or sometimes just puncture wounds that are almost invisible to our eyes, and because cats' claws and teeth carry a bacteria that is fatal to small wildlife like baby squirrels, cat caught babies should be put on a course of antibiotics right away. An injured baby is not a candidate to try to return to its mother – please take it to a veterinarian for an assessment.

ATTEMPTING TO REUNITE WITH THE MOTHER

The Squirrel is **NOT** a candidate for attempting to reunite with mom if it:

1. Is injured, unless the injury is superficial
2. Has a lot of fleas or fly eggs/larvae. This is a strong indication mom has been missing for days.
3. Is thin and debilitated, perhaps with dark colored urine indicating dehydration
4. Is an eyes-open baby that has been following people around

If you believe the mother is still around, and you attempt to return the young to her, please be patient and very vigilant.

- Put them as close as possible to where you found them or where you know the nest to be (mom will not know to look anywhere else), and monitor carefully from a distance or from inside a building.
- Do not cover them with any materials, or even put them in an open box, they need to be left out exposed in plain view so the mother can see them or she will not find them. However, this is a balancing act, because they also need to be kept safe and warm.
- Place them in a little depression created by bunching a thick soft cloth into a saucer-like nest, and put this improvised nest on top of a hot water bottle (that you refill every few hours). If you add a couple of pop bottles filled with hot water beside the hot water bottle and wrap it all in an old wool sweater, the heat will last longer. Remember, mother squirrels do not seem to recognize a baby as their own if its body temperature is not normal.
- The mother may come, and check, and then leave only to come back in several hours for them. She may be off preparing a new nest for them or simply anxious, cautious and scared. She can pick up and move only one baby at a time, so sometimes the process will take hours.

- Please do not leave them unmonitored, or out after dark since mom is active only during daylight, and they will be vulnerable to predation, especially after dark. If the mother has taken one or more of the babies, bring the rest in once it gets dark for overnight care, and try again early the next morning. You can try a third day also, but after that it is unlikely the mother is still around.

IF THE BABY IS AN ORPHAN THAT NEEDS TO REMAIN IN CARE, READ ON

When a baby loses its mother it is in desperate trouble. Its best chance for survival will be for a rescuer like you to find a wildlife rehabilitator. Wildlife rehabilitators are community volunteers, often licensed by government wildlife agencies, and they will know how to raise your rescued baby so that it is releasable back into the wild. They will buddy it up with other orphans of its species and provide expert care. Your search for a wildlife rehabilitator may take you several hours and many phone calls, but try not to give up – they are usually unpaid volunteers and there are not nearly enough of them to provide this service in all areas or for all orphans. Try calling local humane societies, animal rescue groups, vet clinics and pet stores for contact information in your area, or try searching the Internet by typing in "wildlife rehabilitation" or "wildlife rehabilitator" and your location.

If you need to care for the baby while you are searching for a wildlife rehabilitator, or if you are unable, despite your best efforts, to find one in your area, please read this ENTIRE article now before beginning the care. It will help you avoid simple mistakes that are easy to make, and could result in injury or death to the baby and heartache for you. It's a good idea to print this out for easy access when caring for the babies.

BABY SQUIRRELS NEED TO BE RAISED WITH OTHER BABY SQUIRRELS

If you determine that the squirrel is orphaned, it will have littermates that also need help, so **please continue to check the area frequently** for a week or more. If no siblings are found, contact local humane societies, animal rescue groups, vet clinics, and pet stores to try and find a baby squirrel buddy. Please make every effort to do so. Young squirrels readily accept other baby squirrels even if their ages are not exactly matched. Baby squirrels raised with other baby squirrels bond to each other, learn from each other, and rely on each other for warmth, play and companionship not only during rehabilitation but after release as well. **Please understand that it is vitally important to the squirrel's proper socialization and eventual release into the wild that it be raised with other squirrels.** It must learn the social "etiquette", the "language" of being a squirrel. A baby squirrel raised alone without other baby squirrels has a greatly reduced chance of a successful release.

NOTE: when you are raising several baby squirrels, and they all look alike, it may be hard to keep track of who is who when feeding. One solution is to carefully trim the fur on the tip of their tails in various ways using manicure scissors. Ex: leave one baby with an untrimmed tail tip, trim one off in a square "brush cut," trim only half of the tip for one leaving a long thin tuft.

SQUIRRELS DO NOT MAKE PETS

Please think ahead and focus on the fact that in a couple months the small baby you have rescued will need to be set free into the wide world. Squirrels DO NOT make pets. Once they are no longer babies, they are extremely active and independent, and if that natural independence is thwarted, they will bite the hand that feeds them. Spend a few minutes watching the acrobatics of your neighborhood squirrels and think about the deprivation of a life in a cage or a house for such a happily wild animal.

RAISING A SINGLE SQUIRREL

If it proves impossible to find a buddy, make every effort to raise a single orphan (as you would a group of orphans) so that it retains a healthy fear of dogs and cats and other humans. When it is released its very life will depend on such natural wariness.

On the other hand, a single orphan will bond to you as its mother substitute because like other species of mammals, a baby squirrel's psychological well being depends on the feeling of security it will get from loving attentive care. Thus you will need to handle, cuddle and play with it, to provide comfort and some of the tactile stimulation it will miss from not having a mother or siblings to sleep and play with every day. Interaction with other people should be minimal - **the ideal being that only one person ever handles it**. Give it toys in its cage to stimulate play. Parrot toys can be hung in the cage, or human baby rattles and small stuffed toys are good, or create your own toys using thick rope, pinecones, small branches, bark, limestone pieces, empty toilet paper rolls, empty tissue boxes etc.

Except for the times when you interact with it, keep the squirrel confined safely to a cage in a room out of high traffic human activity. Do not treat it like a pet, in the sense of getting it used to free run inside the house, or habituating it to species it should fear (such as cats and dogs) since this will increase the likelihood it will get into serious trouble with other people or pets once it is released.

INITIAL FEEDINGS NEED TO BE REHYDRATION SOLUTION

Orphans that have been without their mother will be suffering from chill and dehydration. They must be thoroughly warmed first, and then, although they are starving, **they must be given warmed rehydration solution before any milk formula is offered**. Their dehydrated little body is simply unable to digest food (i.e. the milk solids in formula) and if given formula or other food before they are rehydrated it can kill them, or cause debilitating diarrhea.

Pedialyte is a rehydration solution made for human babies, and is available in drug stores – it often comes fruit flavoured, but if you can find the unflavoured kind that is best for wildlife babies. It should be heated to body temperature and offered frequently: every 30 minutes to babies that will take only a small amount, or every 2 hours to those that take a larger amount. Feed only Pedialyte for the first several feedings – as much as the baby wants until it is rehydrated and producing lots of light yellow urine when you stimulate it. Stimulate it at each feeding using light feathery strokes.

In an emergency, a homemade rehydration solution can be made by mixing: ½ teaspoon salt + ½ tablespoon of sugar + 2 cups of water – warm slightly to dissolve sugar and salt. Use this homemade solution only until you can get to a drug store. **Pedialyte is a balanced electrolyte solution, much better for the baby.** Once Pedialyte is open, refrigerate between feedings, and discard any unused portion after 72 hours. It can be frozen in an ice cube tray and the cubes stored in the freezer for use within a couple of months.

USE AN ORAL FEEDING SYRINGE

NOT the small pet nursing bottles available at pet stores

- It is critical for YOU to control the flow of fluids, and with the little pet nursing bottles you cannot do that
- The baby squirrels will not be able to nurse from them. Although the short stubby nippples look right to our eyes, they are useless to baby squirrels

INSTEAD, use feeding syringes

- It is best to start with a very small 1cc/ml or 3cc feeding syringe
- You can find these at a vet clinic or drug store
- Ask for the o-ring syringes rather than single use ones
- Get a few 10cc o-ring syringes for when you and the squirrel are more experienced
- Consult the website version of this form for pictures of feeding tools

For the first few feedings when the baby is debilitated or desperately hungry it may be difficult to establish a smooth, gentle feeding regime. The baby may be frantic and want to suck the fluids too quickly. This risks inhalation of fluid into its lungs, which must be avoided. Alternatively it may be too weak. In these cases it is especially important to be dripping small amounts of rehydration fluid into its mouth so as to either slow the flow or assist a weak baby who cannot suck.

ELONGATED FEEDING NIPPLES

Elongated feeding nipples should be pushed onto the end of the 3cc/ml syringe

- PetAg makes elongated feeding nipples that work very well for feeding baby squirrels that can be attached to the end of a 1cc or 3cc oral feeding syringe
- They can be found in some pet stores

Feeding nipples come “blind” – without a hole in the end. You must make every effort to make a very small hole.

- Pierce the nipple with a darning needle and boil it with the needle still inserted
- If the resulting hole is too small do this again with a larger needle or toothpick
- If the hole is a little too large, it will shrink slightly if you briefly soak the nipple in boiling water
- Alternatively, you can use manicure scissors to cut as little off the tip as you can to create a very small hole
- The aim is for the flow of liquids to be **slow and natural** and to prevent the baby squirrel from sucking fluids too fast
- Practice with it by expressing the fluid into a cup before trying to feed the baby
- A hole that is good for rehydration solution may need to be a little bigger for thicker milk formula

Adapting to 10cc syringes

- Medical supply stores stock little adaptors/tips that will fit a 10cc syringe so that it will hold an elongated nipple
- Refer to our website for images of these adaptors

These nipple look long, but you will be surprised that even the littlest baby squirrels will suck most of the elongated tip into their mouths

- Seat the nipple up against the roof of its mouth so its tongue has room to move comfortably
- For the first few feedings you will have to encourage the baby to take the nipple into its mouth, but most learn quickly

FORMULA

PetAg makes a puppy milk replacement formula called Esbilac

- Do not be put off by the fact that it is puppies as it is suitable for baby squirrels
- This should be available at local vet clinics or pet stores
- Some stores may carry other types of puppy milk replacement formula, but make sure to consult the ingredients of Esbilac to confirm they match
- Get in the **powdered** formula rather than liquid
- Keep refrigerated after opening

NEVER use:

- Human baby formula, cow's milk, goat's milk, soymilk, and most other pet products
- Homemade recipes for wildlife formula posted on the internet, which are often referred to as "death formulas" by wildlife rehabilitators
- All of these can cause severe diarrhea/dehydration, malnutrition, or death for the baby, and a great deal of heartache for you. **Your baby squirrel's life depends on you getting the right formula.**

Wild-Orphan specific formula:

- Fox Valley Nutrition makes milk replacement formulas specifically for wild orphan, including baby squirrels
- This formula must be ordered, so is good to get if you are going to be doing care for more than a few days
- 32/40 formula is for closed eyed orphans
- 20/50 is for older eyes open orphans

- Some wildlife rehabilitators use both formulas, but some simply use 32/40 for all squirrels up until they are weaned to solid foods

GRADUAL INTRODUCTION OF FORMULA FOLLOWING REHYDRATION

After the baby has had several feedings of rehydration solution, introduce the milk formula gradually using the following four steps:

1. Mix 3 part rehydration solution with 1 part milk formula for one or two feedings
2. Next, mix rehydration solution and milk formula half and half for one or two feedings
3. Next, mix 1 part rehydration solution with 3 part milk formula for one or two feedings
4. Finally, go full strength milk formula

One way to complete this mixing is through drawing up one syringe of milk formula and placing in a coffee mug, then drawing up 3 syringes of pedialyte and placing into the same coffee mug. Mix and then feed with that solution, warmed to body temperature. Then adjust this ratio for each feeding of the four steps. Some wildlife rehabilitators advise using plain water instead of pedialyte for this.

Mixing the milk formula (Esbilac):

- The powder particles do not always dissolve quickly, and can have a “hard” shell. **The powder must be fully dissolved for squirrels digestion**
- Keep powdered formula refrigerated after opened
- Mix up enough formula for 24 hours at a time, and keep this refrigerated
- Turn the can over several times to mix powder before measuring it to avoid nutrients settling to the bottom
- Mix 1 part powder with 2 part water
- Use very hot (175F) but not boiling water to avoid destroying nutrients

- Add half the water and stir thoroughly for at least a minute to make a smooth thick liquid
- Add the other half of the water and again mix thoroughly
- If it is lumpy when mixed, strain it but push the lumps through the strainer to retain nutrients
- Avoid incorporating air into the formulate as you mix it
- Always let the mixed formula rest for at least four hours, and preferably overnight before feeding it to the baby. This allows the powder to fully dissolve
- Esbilac is a little low fat for baby squirrels, so you may add a small amount of whipping cream (unwhipped). Start with one teaspoon (5ml) of cream for each cup of mixed Esbilac formula. If your baby squirrel does well, you may gradually increase the amount of cream up to 5 teaspoons (25ml) for each cup of formula. However, if your baby squirrel develops loose or soft stool, reduce or discontinue the use of cream
- At feeding time stir the formula again lightly and then remove only slightly more than what is needed for the feeding. Warm the serving and stir again before feeding.
- You may add a tiny bit of plain unsweetened full fat yoghurt (or probiotics such as lactobacillus acidophilus from a drug store) at feeding time to the warmed formula, once or twice a day. If using, add about 1 teaspoon (5ml) to each ⅓ cup of warmed formula
- Keep feeding implements incredibly clean, for example wash and store them in the fridge between feedings

Warming during the feedings:

- Formula should be kept a bit warmer than body temperature during the entire feeding since it cools down quickly once in the syringe. Some baby squirrels will refuse to take the formula if the temperature is not right.

- Place formula in a coffee mug. Set mug in a larger container of hot water during feeding session. Place a small cloth over the mug.

Switching over to Fox Valley Formula

- If you order Fox Valley after using Esbilac, it is a good idea to gradually change over
- Mix 3 parts Esbilac with 1 part Fox Valley for a few feedings
- Mix half and half for another few feedings
- Mix 1 part Esbilac with 3 part Fox valley for another few feedings
- Finally switch over to fully Fox valley
- As Fox Valley is made specifically for squirrels, there is no need to add any cream, but you can continue to add yoghurt or probiotics as you wish

FEEDING AMOUNTS BASED ON BODY WEIGHT

While the Stages of Development and Care guide gives recommendations on how much to feed babies based on their age, it is incredibly important to check their weight in deciding how much to feed. **While squirrels often progress in weight at similar stages of development, these are still general guidelines. It is incredibly important to weigh the babies yourself, or to get a veterinarian to do so**. An underfed little one will be deprived of enough calories to thrive or even survive, while overfeeding can lead to a host of problems, including digestive upset, diarrhea, bloat, and in some cases, death. Keeping a record of both the squirrel's weight and how much it should be eating vs how much it actually is will help you feel assured that it is developing properly. If appetite is poor, or it obviously wants more than it should have, please take it to a veterinarian for assessment.

A good rule of thumb is to feed closed-eyed baby squirrels 5% of body weight at every feeding. Eyes open babies sometimes want between 5-7% of body weight at each meal. To calculate:

- Take the baby's weight in grams, and divide by 100.
- Multiply by 5 to get 5%, multiply by 7 to get 7%
- This should give you the number of cc/ml needed each feeding

Formula amounts for Eastern grey baby squirrel:

- 20 gram baby (eyes-closed): 1cc per feeding
- 40 gram baby (eyes-closed): 2cc per feeding
- 80 gram baby (eyes-closed): 4cc per feeding
- 100 gram baby: 5-7cc per feeding
- 200 gram baby: 10-14cc per feeding

Formula amounts for Red baby squirrel:

- 10 gram baby (eyes-closed): 0.5cc per feeding
- 20 gram baby (eyes-closed): 1 cc per feeding
- 40 gram baby (eyes-closed): 2cc per feeding
- 60 gram baby: 3-4.2cc per feeding
- 80 gram baby: 4-5.6cc per feeding

Once feeding is well established and your baby squirrel is doing well, especially after its eyes are open, it may want more formula than the 5% rule dictates, so you can be a little flexible at that point – going to 7%. It is safer to slightly underfeed than to overfeed. After a feeding, a baby should be comfortable, with a little plump tummy, soft and round, not a tight, bloated or distended abdomen. Overeating is usually not too much of a problem with healthy baby squirrels that have settled into care and are doing well. Nevertheless, they are all individuals and there are

certainly exceptions to this, so considering the problems overfeeding can cause, it is always best to continue measuring the formula at each feeding. If you can't get a gram weight, use the development chart to estimate weight.

If your baby squirrel is not taking the amount of formula you calculate it needs:

1. Check to be sure it is comfortable and warm
2. Wash its face and genitals with a warm cloth, stimulate it to pee
3. Make sure it is not dehydrated, try a feeding or two of rehydration solution
4. Make sure you are feeding in a quiet room with no distractions
5. Wrap the baby snugly in a soft cloth, covering over its eyes to reduce its stress, if it's a red baby squirrel try wearing light little cotton gloves you can find in drug stores (made to keep cream on hands overnight) to pick it up with and hold it for feedings, covering its eyes over with your index finger
6. Hold the baby in an upright position, not on its back, let it push its forepaws against the syringe
7. Check again that the formula is the right temperature and stays so all through the feeding
8. If you are worried the baby is constipated try a little dose of stool softener such as "lactulose syrup" (tastes good) or "docusate sodium" (tastes bad)
9. Baby squirrels settle into care once they realize you are their protector, not a predator. They will overcome fear faster if you gently stroke them and whisper to them by holding them close to your face for a few minutes at each feeding, thus getting them used to your scent.

10. Aim for feedings to be a smooth, gentle, and unrushed experience for both you and the baby

HOW OFTEN TO FEED BASED ON AGE

When you first rescue a baby squirrel, apart from whether its eyes are open or not (eyes-closed infants will be less than 4 weeks old, eyes-open babies will be more than 4 weeks old), a look inside its mouth will help you determine age. If the baby has no teeth or only the bottom two front teeth are present, it is very young since the bottom incisors are the first to erupt at about 3 weeks of age. The top two incisors (front teeth) erupt next, between 4 and 6 weeks of age and the cheek teeth appear at about 6 weeks of age.

Note: because a squirrel's teeth are ever-growing, they must align correctly in order to wear down continually. When a baby falls it sometimes hits its face and if there is facial swelling the growing teeth can be pushed out of alignment leading to a "malocclusion". Please be vigilant in checking your baby squirrel's teeth on an ongoing basis, to make sure they are growing straight, and wearing down evenly. You can sooth swollen gums by cleaning around the teeth after each feeding, using a Q-tip dipped in warm saline solution. If the swelling is judged to present a significant risk of causing a malocclusion some wildlife rehabilitators advise treating right away with a course of antibiotics.

The development chart which you can download from our website will help you decide how old your baby squirrel is. The number of formula feedings per day decreases while amounts fed at each feeding increase as the baby gets older. There is a geographic difference in size for Eastern grey squirrels in North America. Body mass increases as you go further north, so young born in the north will likely be bigger on average than those born further south – although features of

each age (for example time when eyes open, or teeth erupt) will be the same. The development chart uses weight data based on the experience of wildlife rehabilitators at the northern edge of Eastern grey squirrel habitat. Weights for young at the same stage of development will vary not only between individuals but across regions as well. Therefore it is best to decide how much formula to feed based on individual weights using the chart below as a general guide only.

FEEDING A BABY SQUIRREL

As mentioned above, choose a quiet room with no distractions. Hold the baby squirrel in an upright position (not on its back) wrapped snugly and firmly in a soft cloth or towel, covering its eyes. Keeping the baby wrapped in a towel not only gives you more control when feeding but the squirrel will feel more secure, much like nursing from mom in a quiet, dark nest. Once the baby gets used to this method, it will be less anxious and distracted by sights and sounds as it gets older and is harder to handle when being fed. Allow it to push against or hold the end of the syringe with its forepaws.

Note: if you are caring for red squirrel babies they may be extremely bonky, wiggly and even nippy once their eyes are open at 4 weeks. Try wearing light little cotton gloves to pick them up with and hold them for feedings, covering their eyes over with your index finger. Allow the gloves to retain their scent between feedings by not washing them too often. Scent is extremely important to baby squirrels, and their own scent is reassuring to them. Make sure the room you feed in is secure, in case a baby gets away from you during feedings.

A hungry baby squirrel can suck very quickly and take too much formula if you are not in total control. If this happens it will bubble formula out of its nose. Immediately stop feeding, lower the baby's head to allow formula to run out of the nose, and gently wipe the excess formula from its nose. Repeat this for about 5 minutes or until the nose is clear and breathing returns to normal. **If this aspiration problem is severe and fluids get into the lungs, it can cause immediate death or pneumonia on a longer-term basis.** That is why it is so important for you to control the flow of fluids for the baby – and also why the smaller size syringes are safer, in that the baby cannot get so much formula all at once from a 1cc or 3cc syringe as it can from a 10cc one. Take your time, and go slowly, carefully watching both the squirrel and the syringe. If air bubbles appear in the syringe it is an indication the baby is sucking fluid more quickly than you are depressing the syringe plunger. If the baby is doing fine and just wants the formula a little faster, then try to accommodate, (perhaps even going to a larger syringe), but if it is bubbling formula from its nose, stop feeding, and expel the air from the syringe before continuing. When you resume feeding if the baby continues to suck too strongly, try to hold the syringe plunger back a bit rather than depressing it. You should also fit a new elongated nipple to the syringe – one with a smaller hole.

Some baby squirrels go into a sort of "nursing trance" when they are intent on sucking and their tongue seems to adhere to the roof of their mouth – they will look almost like they are gaping, with mouth wide open – but will continue to swallow the drops of formula you keep providing from the syringe. This can be a little disconcerting though, so if you wish, you can wake the baby from this by stopping for a minute and washing its face before starting to feed again.

Note: After every feeding thoroughly wash the baby squirrel's face, neck and under its chin with a warm washcloth. Formula dries like glue and turns hard, sticking the fur to the skin, which must be very uncomfortable, and results in fur loss. In nature the mother squirrel would lick her babies clean all over many times a day.

BATHROOM BUSINESS #1: FLUIDS

It is critical that baby squirrels are stimulated to urinate at every feeding. They may be peeing a bit on their own, but this can simply be overflow from a distended bladder, and if they are not stimulated the bladder can rupture. Inside their nest they do not pee on their own, the mother squirrel licks away the urine and thus keeps the nest clean. To stimulate a baby squirrel hold it over a face cloth, and dip your finger, a Q-tip or tissue in warm water and then light feathery strokes over its genital area will cause the baby to urinate and/or defecate. On males stimulate the penis - a small nub about ½" above the anus; on females stimulate the little nub right near the anus. Once the squirrel starts to pee, don't stop stimulation until it is finished or it will stop without fully emptying its bladder.

Note: Young babies love to suck. Sometimes baby squirrels will suck on each other's ears or other parts of their bodies, and when that body part is another baby's penis, the penis can become red and swollen – sometimes, in extreme cases developing a scab and creating a situation where the sucked-on baby can no longer urinate. If this happens you will need to separate the babies until they are a little older and this need to suckle lessens. Soak the sore penis in warm water for 15-20 minutes until the scab slides off easily. Then cover the penis with an antibiotic cream such as Polysporin to soothe the swollen tissue. If the baby still cannot pee however, please take it to

a veterinarian for an assessment. Try feeding baby squirrels that are sucking on each other smaller amounts more frequently – to help satisfy their sucking instinct.

BATHROOM BUSINESS #2: SOLIDS

The first stool you see from a rescued orphan will usually be dark in colour, but once the baby is digesting milk formula the stool should be firm little mustard coloured pellets. Overfeeding can cause stool to be pasty and paler in colour. If the baby has loose stools or diarrhea, dilute the formula half and half with plain water for a few feedings and try to feed smaller amounts more frequently. Work back up to full strength formula gradually as the problem resolves.

Overfeeding and other digestive upset can also lead to bloat. Bloat can sometimes be relieved by massaging the abdomen while holding the baby with the bottom half of its body submerged in a basin of warm water. Sometimes a few drops of a human pediatric colic medicine (symethicone) will help relieve bloat in a baby squirrel, and sometimes a small dose of stool softener (such as lactulose syrup or docusate sodium “Colace”) will help. Do not feed the baby formula if it is bloated, offer Pedialyte instead, and if your best efforts do not resolve the problem within a day, please take the baby to a veterinarian for an assessment. Digestive upset is often a feeding problem (wrong or too much formula, or formula feeding before the baby is fully rehydrated), but occasionally it results from intestinal parasites or a coccidia infection, and your vet will be able to treat for these conditions.

RODENT BLOCK

It is very important baby squirrels learn to eat rodent block (which is a large pellet, usually about 1" x ½ inch), since it will provide 100% nutrition while they are in captivity. After their eyes open, put a few pieces of rodent block in the nest. If they "teethe" on it as their first solid food, they will get to like it – otherwise it is a tough sell since it's not as tasty as the other solids they will be offered once they are weaned. Choose a rodent block made for rats and mice - not one for gerbils or hamsters. Keep it refrigerated in a tightly sealed container after opening to preserve freshness. Please do not buy the bags of mixed seed/grain also labelled for rats and mice or even those labelled "squirrel feed" as an alternative to rodent block since your youngsters will then just pick and choose and eat only the tasty bits – getting nowhere near 100% nutrition. Caged squirrels are susceptible to "metabolic bone disease" if their diet is not complete, so this is a very important consideration. Check local pet stores; there are several brands of rodent block made for rats and mice – "Mazuri" and "Kaytee" are two good ones.

FIRST HOUSING-BIRTH TO ABOUT 5 WEEKS

Housing requirements will change as baby squirrels grow and develop, very young eyes-closed squirrels require specific housing:

- Set up housing in a warm room away from drafts and noise
- Use a small enclosed box with breathing holes
- Create a cozy nest in the box with several layers of soft cloth, flannel, or polar fleece bedding. Make sure the bedding has no holes and is non-ravelling since wiggly little animals can quickly become strangled in hanging threads. Also avoid using terry cloth

towelling for very young or weak babies because their claws are easily snagged and stuck in the fabric loops, which can result in twisted limbs.

- Change the bedding twice a day and launder WITHOUT fabric softener or softening sheets in the dryer as they leave scents that are hard on the babies respiratory system.
- DO NOT use woodchips as they release damaging aromatic oils for the babies lungs, and do not provide insulation or warmth
- As previously mentioned, when babies eyes first open, rodent block should be added to the nest

Heating the first housing:

- Place the box enclosure half-on half-off a heating pad OR place a hot water bottle well wrapped in a soft cloth beside the babies for them to snuggle
- Ensure that there is enough space for babies to move away from the heating pad side of the box/the hot water bottle if they get too hot
- Cover babies over, head and all, with soft cloth
- Refill the hot water bottle at every other feeding, or when it is no longer warm enough
- Check that the hot water bottle is not too warm and does not leak
- Some wildlife rehabilitators use a “rice sock,” made by filling a cotton sock halfway with dry uncooked rice, tying the top, and heating it in the microwave for a few minutes. This should be reheated at every feeding

NOTE: Red squirrel babies

- These babies are escape wizards, especially once their eyes are open

- If you have more than two babies it is a good idea to have two housing set-ups until they are weaned. This allows you at feeding to pick up each baby, feed it, and transfer it to the other housing. This allows you to avoid escapes and keep track of who is being fed

INTERMEDIATE HOUSING - 5 WEEKS TO ABOUT 8 WEEKS

FIVE WEEKS:

- Once baby squirrels' eyes open, they become much more mobile. While they should still be kept in a quiet warm room, they will need more space to play and exercise
- A large dog-size pet carrier is ideal (26”x15”x17”high)
- If the pet carrier door has mesh that is big enough for the babies to escape from or get their heads stuck in, cut a piece of window screening and attach over door
- Continue to provide rodent block
- Add a drinking water bottle and a small mammal mineral stone
- The layout should include a towel on the bottom, a hanging water bottle and food at the front, and more soft bedding at the back for them to hide in and sleep under. This will give them a sense of security that mimics a tree cavity or leaf nest.
- Begin to gradually remove their supplemental heat source at this point. UNLESS they are not well or you have a single baby. Start with a few hours a day, and remove their heat at night last. When using heat, place the back corner of the pet carrier on a heating pad covered with a towel and set to low.

6-8 WEEKS

- When the squirrels are about 6 weeks AND you notice they are chewing the rodent block, you should add other teething materials.

- These can be twigs and small branches with buds and leaves. Be careful that these are from areas that have not been sprayed with pesticides. Replace these chewed items daily.
- Add a few **large striped unsalted** sunflower seeds to the dish of rodent block.
- Add a separate dish of chopped fruit such as apple, banana, grape, avocado, and melon. Peel grapes when first introduced to avoid choking on the skins.
- This is a messy stage, and you will need to change their bedding and clean their carrier daily.

PRE-RELEASE CAGING 8 WEEKS TO ABOUT 12 WEEKS

After baby squirrels are weaned, or mostly weaned, at about 8 weeks of age they need to spend 4 weeks in a large pre-release cage before their release at about 12-13 weeks of age

- The cage should be as large as you can manage, but at least 2ft x 4ft x 4ft high
- Grey squirrel cage: made of 1" welded mesh wire
- Red squirrel cage: made of ½" mesh as they are smaller and prone to escape
- DO NOT use chicken wire as squirrels can gnaw through this or get their heads stuck
- Place a plastic tarp with an old sheet on top under the cage to catch debris, and wash the sheet once or twice a week
- Place a large piece of plywood on the inside floor of the cage to place their dishes on so that food does not fall through the wire
- Hang an old sheet around the back and sides of the cage to increase feeling of security
- Clean the cage daily as this is a very messy stage
- Refer to website for example pictures

Furnishing the cage

- Secure wooden nesting box:
    - Grey squirrels: 10” x12”
    - Red squirrels: 10”x10”
    - Construct with a “predator baffle" since it will later be their release box
    - Fix to an upper corner of the cage by pushing pieces of 1” or ½” wood dowling through mesh to hold in place
    - Make sure to check the box every couple of days to make sure it is dry and clean if needed
- Push pieces of dowel or natural branches through the mesh to create climbing opportunities to mimic the branches of a tree
    - They will love fresh branches replenished daily
    - Greys favor maple, and reds are fans of cedar and pine as well
- Gather as many natural elements as you can, such as stones/pebbles, pieces of back, flower seed heads, maple seed keys, acorns, pinecones, and mosses
- Give them a little clean straw or dried grass in their box as bedding, and allow them to use the fresh leaves you give them to line their nest, as this is a good natural alternative to cloth bedding.
- Place a big hardwood stump or a large log in the bottom of the cage and see how much energy the youngsters will expend working on it
- Once again, make sure natural objects are from areas not sprayed with pesticides

Juvenile squirrels are extremely active and this four week period allows them to exercise, grow strong, and practice the skills they will need once they are released. By the time they are 12 weeks of age, and ready for release, they should be about ¾ of their adult size.

PRE-RELEASE CAGING: PROTECTION FROM PREDATORS

The pre-release cage should not be placed outdoors since it needs protection from predators. Caged squirrels panic when a predator such as a raccoon or a cat comes near or climbs on the cage, and even though protected by the wire mesh, they can die of stress or injuries from claws through the wire. They do not feel secure in a cage outside amid all the sights and sounds because they know they are in something from which they cannot escape. It is therefore important to place the cage in a secure shed or garage, leaving the doors and windows open during the day when someone is around to closely monitor the situation, but securely locking it up each evening **before dark**. This way the squirrels can adjust to outdoor temperatures and sounds but feel and remain secure. An old sheet draped around the back and sides of the cage will give them a further sense of security – like being in a secluded tree nest.

RELEASE LOCATION

Your baby squirrels will have bonded to you as their main caregiver, and to the place where they have been housed in their pre-release cage for the last four weeks before release. They should therefore be released on your property near where they have been raised, where you can monitor their post-release integration into the wide world. This will increase the likelihood they will stay at their release site and thus improve their chances of survival. However, if that is not possible (your property is unsuitable or neighbours are trapping or harming squirrels), they will need to be placed with another willing caregiver who has a suitable property, with a shed or garage to house their pre-release caging. The placement would need to be for at least three weeks before their release so they can become accustomed to the new site, and their new caregivers. If necessary the squirrels can be kept an extra couple of weeks to accomplish this.

RELEASE DAY

Check the forecast to be sure there will be 2-3 days of dry weather after the squirrels are released and then, just prior to release, remove the nest box they have been using. You can provide a temporary cardboard version or several towels for them to hide under overnight or on the morning of release. Clean the box and remove any cloth bedding since it would become a damp mouldy liability once the box is exposed outside in the tree. Then securely attach the box as high as you can in a tree, at least 12-15 feet up.

Their familiar nest box will provide shelter and security for them after they are released. On the morning of release day, carry the cage to the base of the tree where the nest box is mounted, and open the door as close to the trunk as possible, using the tree to keep the door wedged open. Bring a lawn chair out and monitor from a little distance. It may take an hour or more before they venture out – but if you position the cage well and let them come out on their own, they will jump onto the tree and spend time exploring it and checking out their nest box.

This is the day all your efforts to raise healthy, alert, strong youngsters has led to, and hopefully it will be as joyful for you as it usually is for them.

AFTER RELEASE

For spring youngsters, released in the summer, provide food and water for at least 4 weeks post-release. For those released in the fall, please continue to feed all winter since they will not have had the time to collect and store food for the winter. Some squirrels will disappear for several days or even a week or two when they are first released, as they explore their new world.

Be sure to continue to stock their feeding station every day even if you do not see them since they need your support. A good staple to provide post-release is large, striped, unsalted sunflower seeds. You can also give some hard shell nuts like almonds, pecans, hazelnuts or walnuts as treats, since the youngsters can bury them and have a back-up supply of food. One way to make sure they have fresh water (until they scout out their own source) is to nail a yoghurt container onto the trunk of the tree holding their nest box, low enough for you to refill it daily. Provide their food within sight but some distance from the nest box however since you do not want to attract other animals to their box.

Since transitional care is required, the squirrels must be released on private property, where caregivers they recognize are present.