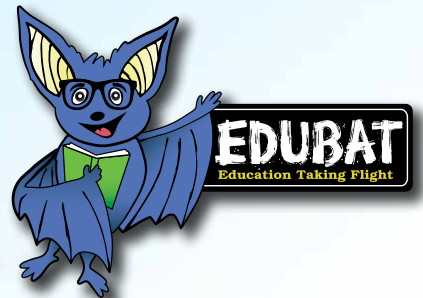


# BE A BAT HERO! BAT BRIGADE



# Welcome to the World of Bats!



## Calling all Bat Champions!

Bats are one of the most important and unusual animals on the planet.  $\frac{1}{4}$  of all mammals are bats and they are the only mammals that can fly. Plus, they help us—a lot. By eating thousands of crop-killing insects every night, pollinating plants and spreading seeds, bats keep our food healthy and give us lots of choices of food to eat like bananas, avocados, and mangos.

Unfortunately, bats are in real trouble all over the world. Many people are afraid of bats and hurt them either on purpose or by mistake. Bats that naturally live in dead trees and rock crevices during the summer have a hard time finding a place to raise their babies when natural places are torn down. In North America, bats are also dying from White-Nose Syndrome, an illness that targets bats while they hibernate.

All of this means that it's important that you and your friends help save bats. With your help, they can be healthier and have safer places to live. Choose as many activities as you can in this guide to help our winged friends and be a HERO to bats today!

Partial funding for this program is supported the U.S. Department of Agriculture, Forest Service and the U.S. Department of the Interior, Fish and Wildlife Service.



# MEET THE HEROES OF THE BAT BRIGADE.



## New Dawn

New Dawn is the powerful and intelligent leader of the Bat Brigade. Her seed dispersing powers allow her to rebuild entire forests and jungles in mere moments. She works tirelessly to ensure wildlife habitats are protected, across the world.

New Dawn is based on an **Egyptain Flying Fox**.



## Dark Echo

Dark Echo, the young junior cadet of the Bat Brigade, is no stranger to daring feats. Using his amazing echolocation abilities he's able to navigate and hunt in the pitch-dark with amazing ease. Caves are no problem for this daring hero!

Dark Echo is based on a **Big Brown Bat**.



## Winged Cyclone

Winged Cyclone provides the muscle for the Bat Brigade. His powerful wings can create massive tornadoes that can knock foes flying! You'll never find a bat who is bigger or stronger than this mighty warrior.

Winged Cyclone is based on a **Malayan Flying Fox**.



# ACT 1:



The heroes of the powerful Bat Brigade: New Dawn, Great Echo, and Winged Cyclone, are conducting their usual afternoon surveillance when an urgent call comes over the Bat Communicator...



## ACT 2:



"Terrible news, Bat Brigade," chirped the communicator.

"Bats are dying and they need your HELP! Their habitats are being wiped out, a terrible disease is harming them, and pesticides are making them ill, all across the world!"

Understanding the severity of the situation, our heroes rush off, ready to do battle and save the environment yet again!

**!! ALERT !!  
BATS ARE DYING!  
WE NEED OUR HEROES!**



## ACT 3:



New Dawn, Great Echo, and Winged Cyclone split up.

New Dawn heads south, to the forest.

Great Echo heads north, to a cave.

And Winged Cyclone rushes to a local suburban neighborhood.

What evils could possibly await our heroes...?





## ACT 4:



New Dawn, Winged Cyclone, and Great Echo are all startled by what their eyes behold.

Throughout the forest, trees lay slashed, cut down and burned.

In the suburbs, a toxic goop covers every last plant with a horrific neon-green sludge.

And in the northern caves, poor bats have fallen ill from a terrible sickness that covers their noses and wings in a white fungus.



## ACT 5:



New Dawn gets to work healing the plants and trees with her rejuvenating seed powers, when a metal monstrosity lunges forth from behind the foliage!

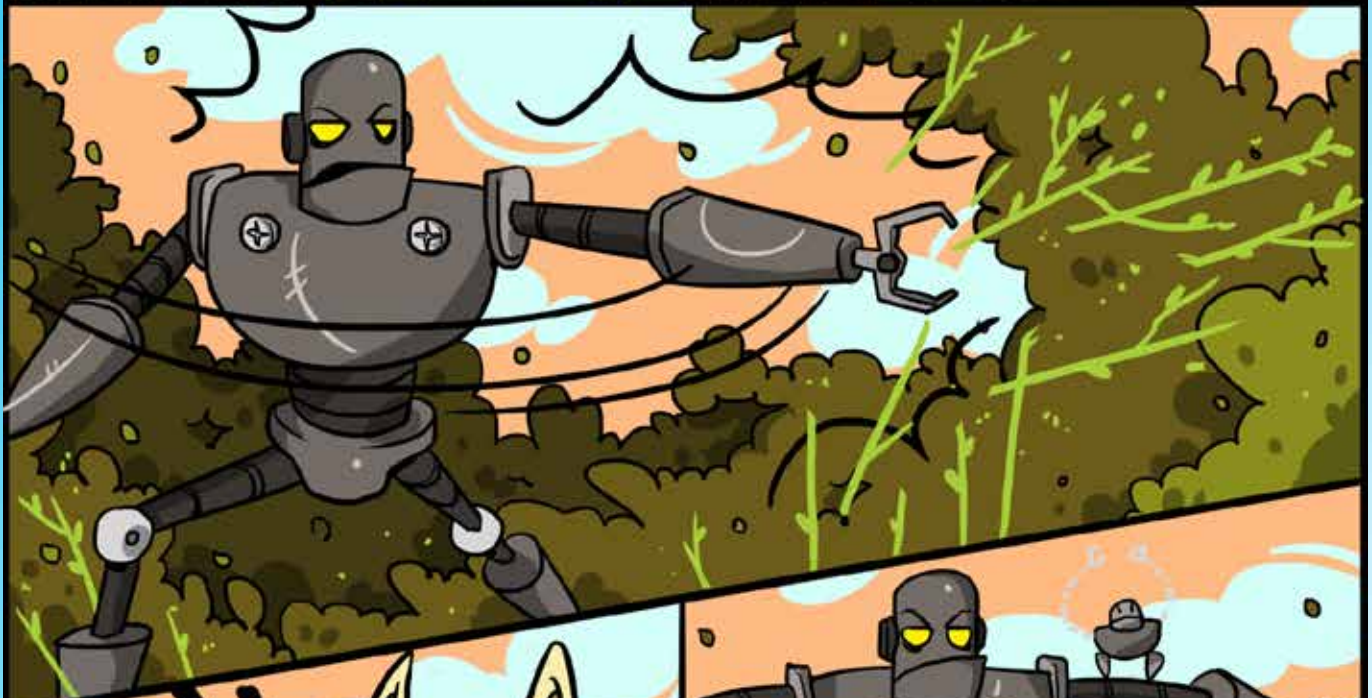
"Who dares undo my beautiful destruction," yelled the bionic menace.

"Who are you," gasps New Dawn.

"I am--THE BLIGHT. And I'm here to destroy every last living thing in this forest. I have only one primary directive: TO DECIMATE.

Before New Dawn has a chance to process what's happening, The Blight issues a command to his underlings:

"Now--ATTACK MY METAL MINONS!!!"



## ACT 6:



In the north, Great Echo skillfully navigates the interior of the cave, searching for the cause of the terrible fungus, when he spots a pair of glowing red eyes deep within.

Slowly... from the darkness rises a massive, hulking foe.

"Are you behind all this?! Who are you," questioned Great Echo.

"Me--In--va--der. Me--SMASH--bats."

"Well then I'm here to smash YOU," chimed Great Echo as he let lose a powerful, sonic strike upon his sizeable foe.

However, ever-powerful as Great Echo's strike was, Invader once again slowly rises to his feet...

"NOW--ME--ANGRY. NOW--ME--SMASH--YOU!"



## ACT 7:



While inspecting the tremendous damage throughout the suburb, Winged Cyclone catches a wave of poison out of the corner of his eye, quickly speeding his way through the air!

With a mighty flap of his powerful wings he deflects the oncoming blob.

On the ground, Winged Cyclone's spots the source of the gelatinous toxin: a masked menace, clad in purple and green.

"This should be fun..." says the figure in a raspy voice from behind her respirator. "They call me, Lady Poison--and you're about to find out why."





## ACT 8:



As the battle rages on, our heroes begin to tire. The relentless and punishing assaults of The Blight, Invader, and Lady Poison are now taking their respective tolls on the Bat Brigade.

However, just as all looks lost for Great Echo, an unlikely group of allies presents itself.

"Great Echo, we're here to help," yells the leader of the group. We're scientists who have been studying how to beat White-Nose Syndrome. All right team, let's get to work!"

The female leader of the group quickly takes aim and FIRES!! The powerful blast of White-Nose Fungus loving bacteria goes to work...stopping Invader right in his tracks.



## ACT 9:



A tired and fatigued Winged Cyclone looks on as Lady Poison takes aim with her toxic cannon. It seems like lights out for our mighty caped warrior, but then, the neighborhood's kids quickly dash out towards the hero.

"Winged Cyclone, CATCH," yell the kids.

A wide variety of organic fruits and vegetables suddenly fill the caped crusader's hands. The pesticide and chemical free snacks provide Winged Cyclone with the very boost he needs to achieve a decisive victory over his deadly foe.

With a final mighty flap of his wings, Winged Cyclone summons a powerful whirlwind at Lady Poison's feet ejecting her, and her diabolical schemes, far into the air!



## ACT 10:



"I'm running out of rejuvenating seeds," says New Dawn under her breath. Slowly, The Blight and his robotic minions march towards her menacingly--ready to deal the final blow.

However, just beyond the cyborg army, a group of kids have something different in mind for New Dawn's metal opponent:

Seeds, and LOTS of them! Each and every child was planting furiously, helping to restore the battered and injured forest.

New Dawn seized on their hard work. Summoning forth all of her remaining strength, she powered up each and every seedling the kids planted. The mighty roots take hold and grow around The Blight, trapping him. Then, a brave girl, quickly sneaks up from behind to unplug the villain, ending his reign of terror once and for all!



**TODAY, OUR HEROES ACHIEVED VICTORY OVER LADY POISON, THE BLIGHT, AND INVADER BUT THE BATTLE FOR BATS IS FAR FROM OVER!**

Bats are in decline nearly everywhere they are found. These amazing animals face a multitude of threats including loss of places to live, pesticide contamination, death from wind turbines, and even intentional killing because people fear them. And, now, a new and deadly disease White-Nose Syndrome is killing bats in North America as they hibernate in caves and mines.

But, fear not! Together, we can defeat the menaces that threaten our bats and our world. Join the Bat Brigade and Be a Bat Hero! Let's take actions both great and small to save our bats and their habitats. Here are some great ways to get started:

- Bat Habitat Activities
- Bat Artist Activities
- Bat-gineering Activities
- Bat Advocate Activities
- Bat Scientist Activities



**Remember, only YOU can help #SaveTheBats!!**





# The illustrator: Claudia Pimentel



Claudia Pimentel is a Grand Rapids based illustrator, cartoonist, and story-maker, specializing in children's book illustration, character design, cartoon and comics works, and various methods of story-telling and pancake flipping. She adores both the extremes of super-cute and graphic-cool, the vintage and the modern, and always the rooted holy realism of the natural world. When not drawing until the wee hours of the morn, she enjoys playing vintage video games, reading science fiction and fantasy novels, cooking with leeks, and hanging out with her family.

## Words from Claudia

My dentist once told me my bite shape was odd. "Strange teeth!" Thankfully, I was a child with a good sense of humor and a great affinity for woolgathering and magic art hands that would one day spin my straw into gold. A deep love of stories and of story-telling, characters and their design, brought me to choose art as my hobby, my education, and consequently - my career. Now, as I live and work in Grand Rapids, Michigan, I am constantly surrounded and inspired by the vast wealth of natural beauty, cozy living, and eccentric sociality of this, my dear mitten state. Whether it be capturing someone's essence in minimalist picture form, illustrating a children's book, or doodling strange little creatures, as my own teeth mark upon skin, I present here my work in the hopes that it too will leave its own strange and curious imprint upon you.

# Bat Habitat Activities

**With declining habitats, bats need places to find food, shelter, space to raise their young, and water. You can help by turning your yard, school yard, or other green space into a safe and inviting place for bats. Even the smallest spaces can provide a home for bats.**

## Plant a Tree!

Bats need a safe, warm place to rest and to raise their young during the summer – called roosts. Live and dead trees can provide safe roosts for many bats. Because most of our bats only have one baby a year, having a safe roost is vital to long-term survival. You can help make a difference by providing bats with a natural home – a tree.

- Plant a tree that is native to your area.
- If you are planting more than one tree, plant the trees in groups.
- Plant corridors to connect islands of trees with other natural areas.
- If you don't have a place to plant trees, don't worry! You can always volunteer at a national forest, wildlife refuge, nature preserve, or other public place. There are many volunteer tree planting events around the country, and your help will be greatly appreciated.

Trees will also support a large variety and abundance of insects that are important for bats that are hunting for a meal. Studies show that native trees produce more insect prey than non-native tree species.

## Water for Bats

In areas where water is limited, creating water sources for wildlife, especially bats, can be very important. If you don't live near a river, lake, or other source of fresh water, consider adding a small pond or water garden to your property. For smaller backyards, install a bird bath or other container filled with water. Remember to:

- Change the water often in small water features.
- Make sure there is a clear flight path to your water feature with no obstacles. Bats do not stop and land to take a drink of water. They must drink on the wing!
- Include a ramp or other feature to help bats escape if water is more than a few inches deep. Bats can drown!

## Gardens for Bats

For insect-eating bats, you can create a garden that is a wonderful place for you and for bats. Planting herbs and flowers that attract insects will bring bats to your yard. Pale flowers are a wonderful choice since they are easily seen in poor light and will attract night-flying insects. Examples of bat-friendly plants and shrubs include evening primrose, bergamot, goldenrods, asters, rosemary, lemon balm, lavender, New Jersey tea, common buttonbush, chives, and mints. Take care to choose plants that are native to your area that will thrive in the light and soil available at your site. The Lady Bird Johnson Wildlife Center has a well-researched database of native plants and shrubs by state and by region.

Don't worry, even small spaces can bring in yummy insects for bats. You can grow relatively short plants in pots on your deck or in a window box to provide a small patch of habitat for insects. Use the largest containers that you can fit in your space. By day, your garden will provide habitat for butterflies and hummingbirds, while at night, it will provide a smorgasbord for bats!

## Reduce or Eliminate Pesticide Use

Remember, you want insects to come to your garden, so don't use pesticides. To decrease pesticide use, try some of these tips:

- Plant native species that are well-adapted to the area and, therefore, require less pesticide, fertilizer, and water.
- When possible, remove insect pests by hand if you have a small number of insects or wash them off with a stream of water from a hose.
- Use only organic or natural products/deterrents such as soap, garlic, and chili pepper.
- Research and try alternative pest control methods (like attracting bats).

## Turn Off Your Lights

Lots of flying insects are attracted to lights at night. Are bats attracted to the lights, too? No! Bats are actually sensitive to artificial lights and research shows that bat activity is generally lower in well-lit areas. What can you do? Turn off your lights at night! That's really easy. Remember:

- Talk with adults about lights that might be necessary for safety or security.
- If lights are needed, replace outdoor lights with low glare lights.
- Make sure outdoor lights point down toward the ground to avoid light leaking into the sky.
- Put outdoor lights on motion sensors and timers to reduce the time lights are on.

## Keep Your Cat Indoors

You can help bats, simply by keeping your cats inside at night. This is especially important from June to September when bats are raising their young. Young bats are not very good flyers and they make an easy target for an outdoor cat. Keep your cat indoors!

# Bat Artist Activities

## Pick and Draw Your Favorite Bat

With so many different species of bats, they're a great subject for artists. Pick your favorite bat and see which features that make your chosen bat unique. Then, draw the bat using any medium you like, even digital! Show it to your friends and explain why this type of bat is so special.

## Draw a Superhero

Bats are amazing creatures! From their ability to echolocate to their ability to fly, bats command almost superpower-like qualities. Using your imagination and any medium you like, design your own bat superhero. What powers does it have? How does it use its powers to fight evil?

## Make a Comic

With your brand new superhero, it's time to make a storyline! Using elements from real bats, or your imagination, create a story featuring your superhero. What problem does it face? How will it overcome it?

## **Flipbook**

Flipbooks are a fun and easy way to understand the basics of animation. Draw your own flipbook highlighting bats. You can show a bat flying, eating, or having a mini adventure—the decision is all yours!

## **Project EduBat Mural**

Murals are a wonderful way to express important environmental issues through art. The Project EduBat mural explores the importance of bats to people and the environment across the country - starting with the forest of the east, traveling through the farms of the Midwest, and ending in the southwestern deserts. Visit <https://batslive.pwnet.org/edubat> to download your free copy of the mural.

# **Bat-gineering Activities**

## **Build a Bat with LEGO**

There are more than 1300 different kinds of bats in the world. What better way to celebrate such diversity than by using LEGOs to build your very own bat! Using LEGO building blocks, construct a bat based on a species of your choice. You'll learn all about planning and design as well as the bat's characteristics, traits and biology.

## **Paper Bat Plane**

Bats are the only mammal that can truly fly. Build your own flying paper bat out of simple paper with a friend and take it outside for a flight.

## **Put a Bat House in Your Backyard**

The average insect-eating bat will consume anywhere from 2,000 to 6,000 insects a NIGHT. By building a bat house, you'll learn about measurement and construction as well as the importance of providing shelter for bats in your backyard or school. You can buy a pre-built bat house or use a building guide from [www.batweek.org](http://www.batweek.org). When putting up the bat house, be sure to put it at least 15 feet off the ground, facing south or southeast so it gets a lot of sunshine. Bats like their houses to be nice and warm!

# **Bat Advocate Activities**

## **Write a News Story for your Local Paper**

When it comes to advocacy, getting the word out is one of the most important things you can do. Pull together your own news story about bats for your school or local newspaper. Possible topics include: White-Nose Syndrome, Bat Sonar, and Breaking Bat News.

## **Blog or Social Media**

Many organizations are doing what they can to restore or provide habitat for bats, to care for injured bats, and even researching treatments for White-Nose Syndrome. They may not have time to focus on getting the word out about the importance of bats or the work that they are doing. You could help. Consider contacting an organization that you respect and asking if they need help with social media.

## **Bat Films**

Host a film screening at your school or a local community building. Make sure you advertise the event using social media, the newspaper, and even flyers you hang up around town. There are several great films available about bats and White-Nose Syndrome that you could show that are free. Battle for Bats and the Bat Squad videos are our favorites and are available online.

# **Bat Scientist Activities**

## **Give a report to your class**

White-Nose Syndrome has spread across the United States, hurting bats where it finds them. Learn where White-Nose Syndrome came from and how it harms bats. Then, give a report to your class or your friends and family. Teach them that bats are important and need to be protected.

## **Compare Bats and Humans**

Did you know that biologically bats have more in common with humans than they do with rodents? Give a report to your class or friends and family about the biological similarities and differences between humans and bats. Take a look at things such as hands, eyesight, and diet. Which fact is the most interesting to you? Did you learn something you didn't already know?

## **Take a Bat Walk in your Neighborhood**

Dusk is the best time to look for bats because it's not yet too dark to see but dark enough for bats to leave their roosts. With an adult, take a walk at dusk in your neighborhood to watch the bats hunt for dinner. Keep a journal of your bat observations, recording the time, place and location of your discoveries. Take note about what the bat is doing, how it is flying, and how it catches its food.

## **Make a Bat Guide**

With more than 35 species of bats in the United States, chances are you have many different kinds living in your state. Compile a guide of all the bats in your state. Find a picture of each bat and include the scientific and common names, where they live in your state, what they eat, and a fun or unique fact for each one. Which bat is your favorite? Why?

## **Bat Tracking**

Participate in North American Bat Tracker. Document your bat sightings. Provide a picture of the bat and/or a picture of the habitat you see bats using. Note what the bats are doing such as hunting over open meadow, flying under tree canopy, hanging on a window screen, drinking from a pond, etc. Contact Project Noah to become involved in this project at <http://www.projectnoah.org/missions/18306114>

## **Bat Foods**

Challenge your family to eat bat-supported snacks for a day. This could be foods that are pollinated by bats or foods that are protected from insects by bats. Did you realize that bats help provide us so many yummy, healthy foods?

