



Teacher,

Please share this power point presentation with your students before beginning the activities in the box. It should take approximately 15 minutes.

- Click your mouse or spacebar to advance through the slides.
- You may wish to read the text aloud to students, or allow them to read it themselves, and then discuss.
- You will see a challenge review of information on slide number 20. This could be used to evaluate students' understanding.



DLIA
Discover Life in America







These mountains were preserved as a National Park in 1934. Before then, it was the desire of many folks to protect this special place before it was cut clean of its massive trees by loggers. Many logging companies had already begun the process of clearing land however, so many of the trees had been lost at the time of the Park's dedication in 1940.



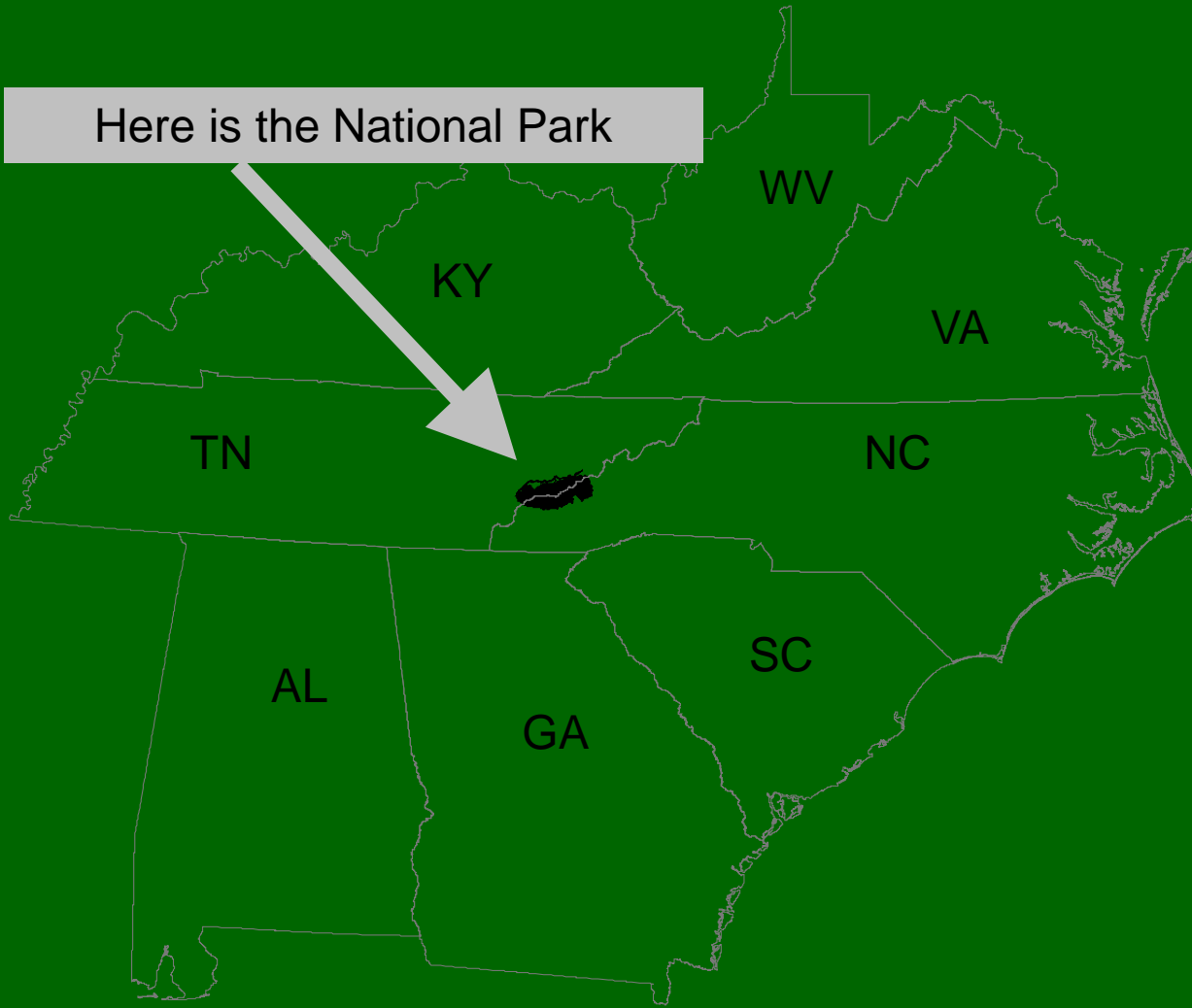
People have since come from all over the world to enjoy the beauty, recreational opportunities and history these mountains have to share.

Over 9 million visitors come each year to this National Park.





Here is the National Park





However, there are other reasons to celebrate and protect this particular place.

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(these are reasons no one really talked about until just a few years ago....)



There are things living and growing here that no researcher has ever studied before...ANYWHERE!

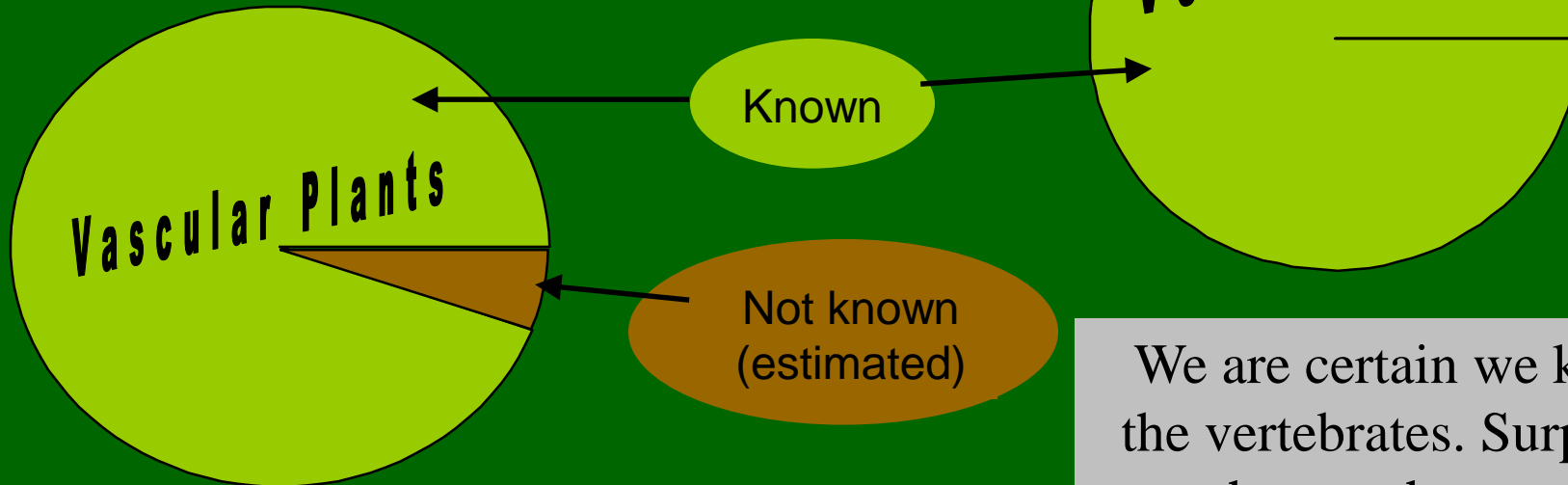
The park has always been a living laboratory for scientists to come learn about, but it wasn't until the park managers launched a very intense scientific study in 1998 that park rangers and scientists understood the potential of this National Park to be a habitat for life that has yet to be discovered!

Can you imagine! And you probably thought that everything in this world had already been studied!

Quite the opposite –in fact there is a lot to learn!



First let's see what we do know about what lives in the park:

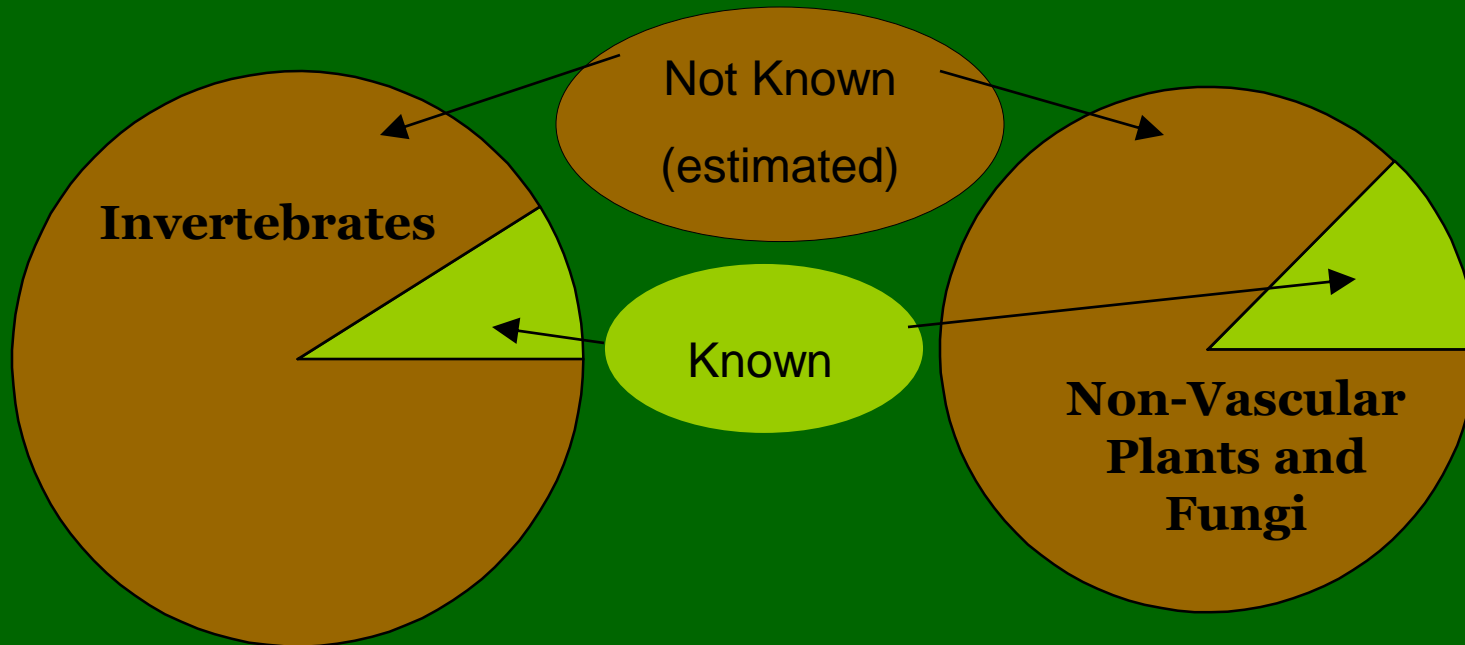


We know most of the vascular plants. The **vascular plants** are plants that have specialized tissues for conducting water.

We are certain we know the vertebrates. Surprises can happen however- in 1999 scientists recorded a species of bat (the Evening bat) living in the Park. These were not new to science, but they were a new record for the park!



Now check out what we don't know



The big part of the “pie” is yet to be discovered!



In order to begin an organized, methodical, scientifically accurate search of all that we didn't know, scientists and park researchers developed an initiative called the ATBI





All Taxa Biodiversity Inventory

What is it?

It is a scientific effort to:

- List all possible species (known and unknown)
- Scientists estimate as much as 100,000 species live in the Smoky Mountains
- So far, over 7,000 species have been discovered new to the park and over 900 new species to science
- Describe the habitats that species need to survive & identify the threats to native species
- Recognize a species role in an ecosystem
- Document the facts that come from new discoveries



Hold On a Minute!

You do know what the definition of a species is...don't you?



The most commonly cited definition of "species" was described by Ernst Mayr in 1942. By this definition species are "groups of actually or potentially interbreeding natural populations which are reproductively isolated from other such groups".

...which basically means that (for example)- since pigs (*Sus scrofa*) and dogs (*Canis lupus familiaris*) are different species, they could never reproduce.



Many researchers in the Great Smoky Mountains National Park often find things that they don't recognize. Sometimes they have to look up the plant or animal in an identification book to see if they can figure out the name. If they can find it in a book, then they know someone somewhere discovered it first and it has already been named.



But there is more to science than just “finding it first”... 15



Even if you find something that you can identify
(such as a dragonfly)



there are questions that a scientist should still ask such as...



What type (species) is it?

Does it belong in this habitat?

What does it eat?

How long does it live?

What eats it?

Where is it born?

Does it go through a metamorphosis?

Where does it find shelter?

How many are there?

Are there more or less of them than there were a year ago?



Sounds like a lot of questions doesn't it?

Well, don't let it all overwhelm you.



The more people that become interested in dragonflies, or butterflies, or ferns, or lichens, or **whatever** means the more information you can share with each other



Now it's your turn.

The science activities that your teacher is going to share with you are all part of doing REAL science. Some of you may think of this as “practice”, but others of you who like a good challenge might find ways of turning these activities into science fair projects, or finding out that you want to someday be a scientist, or a teacher or a park ranger.

Good Luck!



Challenge Review

1. What business was taking place in the Mountains during the early 1900's that made people petition for a National Park?
2. Who lived in the Smoky Mountain region over 2,000 years ago?
3. Have park rangers and scientists learned everything there is to know about the Smoky Mountains?
4. What is the definition of "species"?
5. What are 2 questions scientists hope to answer about every living species in the National Park?

Click to the next slide for answers....



ANSWERS

1. What business was taking place in the Mountains that made people petition for a National Park? - **LOGGING**
2. Who lived in the Smoky Mountain region over 2,000 years ago?
CHEROKEE INDIANS
3. Have park rangers and scientist learned everything there is to know about the Smoky Mountains? **ABSOLUTELY NOT!**
4. What is the definition of “species”? **A POPULATION WHICH COULD POTENTIALLY BREED WITH EACH OTHER**
5. What are 2 questions scientists hope to answer about every living species in the National Park? **REFER TO SLIDE 17**



The End