

## WORK SHEETS FOR HEMLOCK HOLMES

# HEMILOCK HOLMIES: TREE DETECTIVE



**PROPERTY OF**

\_\_\_\_\_ :

**TREE DETECTIVE**



# PROFILE: MY TREE

Use numbers (data) and describing words (observations) to complete a profile of your own tree in the class forest.

**DETECTIVE NAME:** \_\_\_\_\_

**TREE NUMBER:** \_\_\_\_\_

**MY TREE IS:**

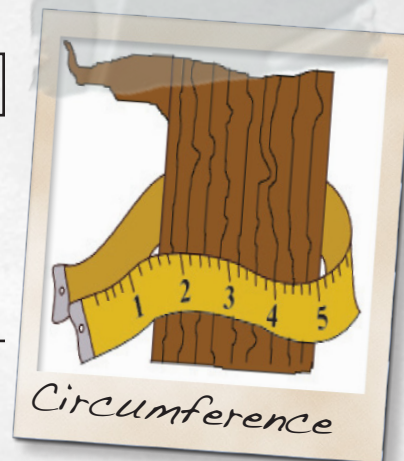
**DECIDUOUS** ☐ **EVERGREEN** ☐

**DATA**

**CIRCUMFERENCE:** \_\_\_\_\_

(Distance around the tree)

**HEIGHT (ESTIMATED):** \_\_\_\_\_



**LEAF LENGTH:** \_\_\_\_\_

*TAPE LEAF OR  
NEEDLES HERE*

**LEAF WIDTH:** \_\_\_\_\_



# PROFILE: MY TREE

## OBSERVATIONS

The bark is \_\_\_\_\_

\_\_\_\_\_

The trunk is \_\_\_\_\_

\_\_\_\_\_

The leaves are \_\_\_\_\_

\_\_\_\_\_

Can you think of more 'describing words for your tree?

PICTURE: MY TREE



# PROFILE: MY TREE

## CHARTS AND GRAPHS

### TALLY

Category

Title


Tally

Frequency

### PICTOGRAPH

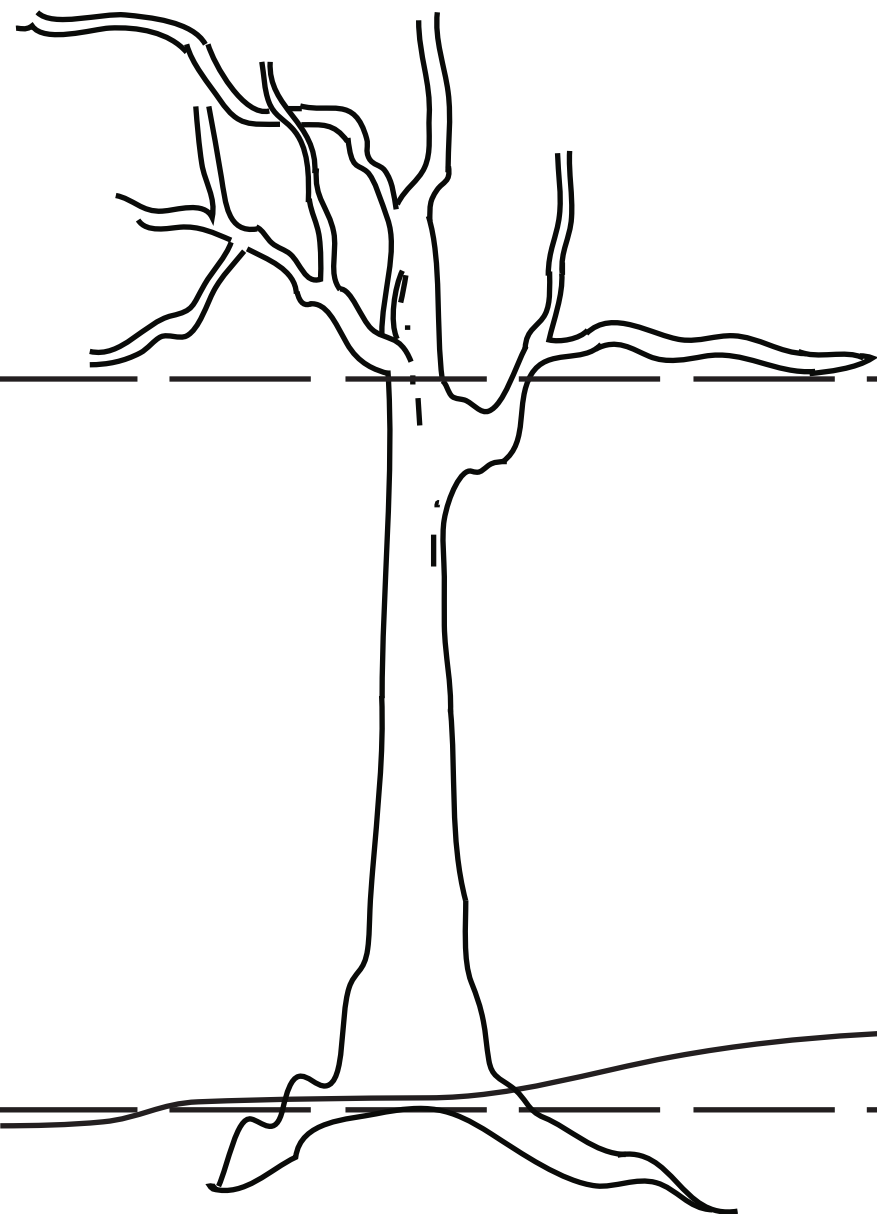
Category

Title



Frequency

Key



The Canopy

The Understory

The Groundlayer

## EVIDENCE OF A HEALTHY FOREST

### Plants and Habitats:

EVERGREEN TREES

☐

DECIDUOUS TREES

☐

BUSHES AND SHRUBS

☐

ROCKS AND STONES

☐

FALLEN LOGS

☐

NURSERY TREES

☐

LEAF LITTER

☐

TREE HOLLOWES

☐

### Animals:

MAMMALS:

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BIRDS:

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WORMS AND INSECTS:

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# THE MYSTERY OF THE STOLEN STONE

One day, best friends Madison and Aaron were playing baseball in a field behind the farm of Aaron's uncle. Madison pitched a fast ball and with a loud crack, Aaron sent it soaring across the field, over the grass, over the fence, and over the trees until they heard a deafening crash.

His heart sunk as he followed the ball's path into a window of the house next door.

"My baseball!" cried Madison, "It was brand new. I oughta skin you alive!"

"I can get it back no problem," he assured her, "All we need to do is get into that house and find it - no one's lived in that old shack for years."

"Are you sure about this?" Madison asked as they reached the gate. Aaron had never been this close to the house before and he did not like what he saw. Slabs of peeling wood were nailed across the chipped front door and dusty spiderwebs laced between every slat of the porch railing. Aaron's mind flooded with all the stories his big brother used to tell about a criminal who lived in that house long before he was born.

"There was no thief worse than the old man who built that house," his brother would say, "He robbed loads of mansions and museums and hid the entire loot somewhere in his home. And when the old crook died, his ghost stayed behind to guard all his treasures."

Aaron gave his head a shake. His brother was always telling tall tales, there was no way those stories could be true.

"Yeah," he said, trying not to gulp, "we'll go in there, find the ball, and leave before you even know it."

So, the children pried loose the old boards and climbed the creaking staircase up to the second floor. They stopped at the top of the stairs and saw that the floor was covered with shards of glass. In the corner of the hallway, Aaron saw Madison's baseball resting against a warped floorboard.

"Phew," breathed Aaron with a sigh of relief. He carefully made his way over to the ball and scooped it into his arms. "Let's get out of here."

"Hold on!" exclaimed Madison, "I think I found something!"

All Aaron wanted to do was turn around and leave right away. His feelings about the house seemed to get worse and worse the longer they stayed.

"What is it?" he asked, trying to hide the fear in his voice.

Madison was staring intently at the log post at the top of the railing.

Aaron took a closer look and saw a piece of shimmering stone embedded in the post.

"I bet we could get it out of there if we tried," said Madison. "Here, give me your keys."



Using the metal, Madison chipped away at the wood of the post until the last piece surrounding the stone fell away. She pried the stone from the wood and held the grape sized treasure in her palm. As she turned it over in her hands examining it, the stone caught the sun's rays through the broken window and cast shimmering light over the dark walls of the hallway.

"I think I've seen this before," breathed Madison excitedly. "Just last week, I read a story in the paper about a rare diamond that was stolen from a gem exhibit when it came through town in 1813. The thief took dozens of priceless jewels and they never caught him. I swear, this stone looks exactly like it!" she exclaimed.

"I don't know," said Aaron, "I'll bet a famous stone like that has hundreds of fake copies around. For all we know, it isn't worth anything."

"For all we know," Madison replied, "it is. There's got to be a way for us to find out."

Madison twisted a strand of her long brown hair around her finger tip as she thought. They couldn't let anyone else know about the stone quite yet and neither of them had the money to get the diamond appraised by a geologist. Just then, Madison came up with an idea.

"I'll bet the stone was put into the log post the same year the house was built," she said. "If we knew how old the house is, we could figure out when the stone was hidden. If it matches the year the diamond was stolen, then we'll know it must be the real gem!"

"But no one knows how old this house is," cried Aaron.

"Hold on a second," said Madison, "Isn't this house built with the same kind of wood as your uncle's house?"

"Well yeah, and my Uncle has a plaque that says his house was built in 1810," he replied. "But that doesn't mean this house was. We need a better idea."

"No," said Madison with a smile, "I think I know just what we should do."

**Want to make the  
mystery come alive?**

Passing around "evidence" such as a piece of costume jewelry or a mock newspaper article describing the diamond mystery will generate excitement and motivation to solve the mystery!

## READING TREE RINGS

Count the number of rings to determine this tree's age. Can you think of some explanations for the ring widths?



Last Year of Growth: 2013

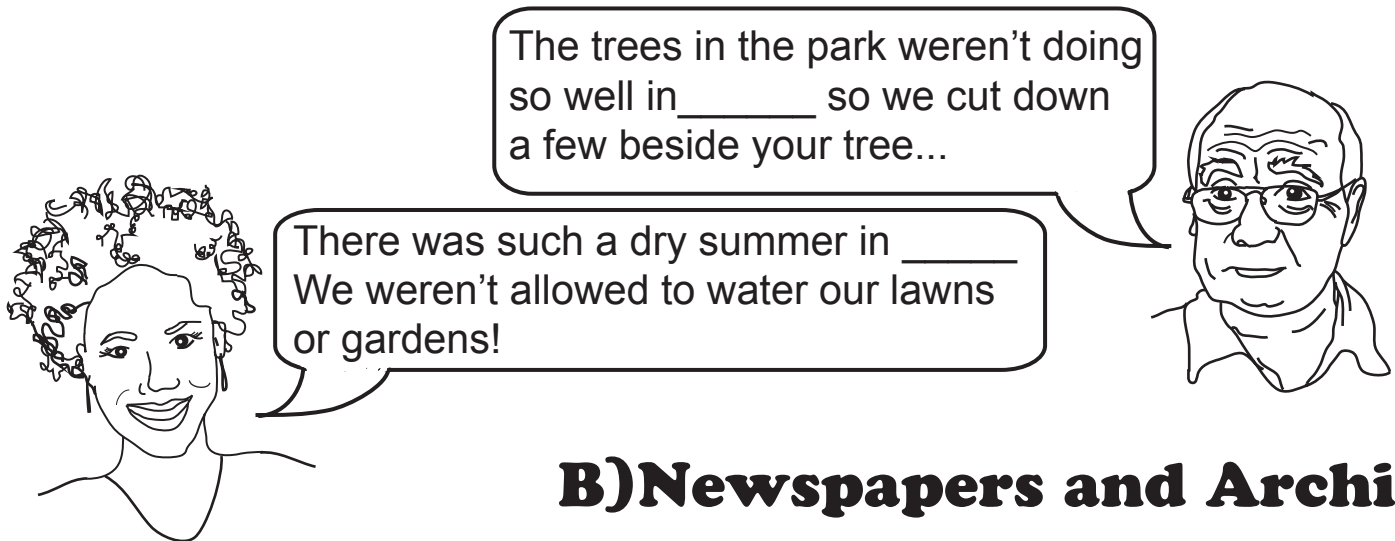
Age: \_\_\_\_\_

First Year of Growth: \_\_\_\_\_

# Explaining Data with Research

Scientists and researchers can find information from many types of sources. Below you will find explanations for different patterns in ring widths. Fill in any year that might fit each explanation.

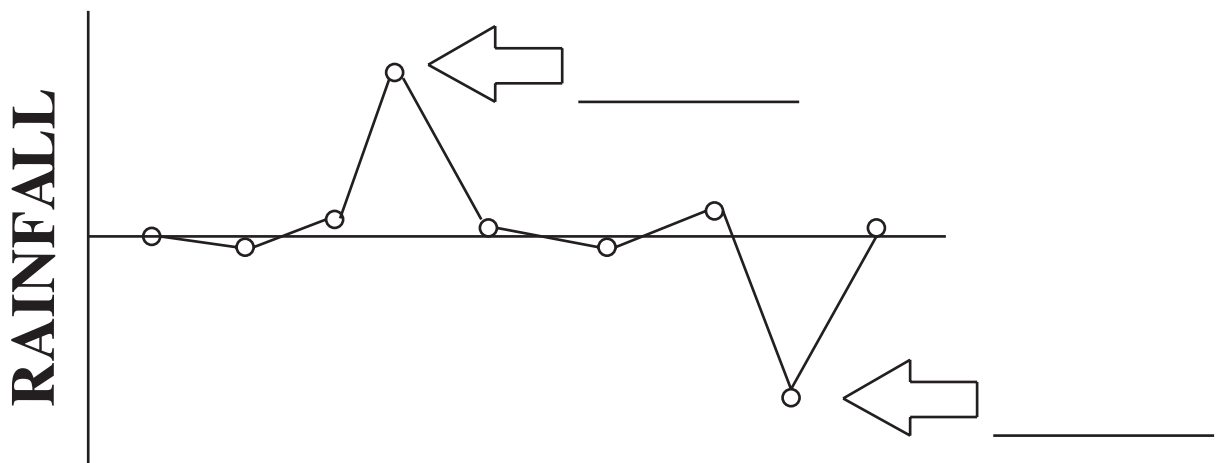
## A) Interviews and Personal Stories



## B) Newspapers and Archives



## C) Climate Data



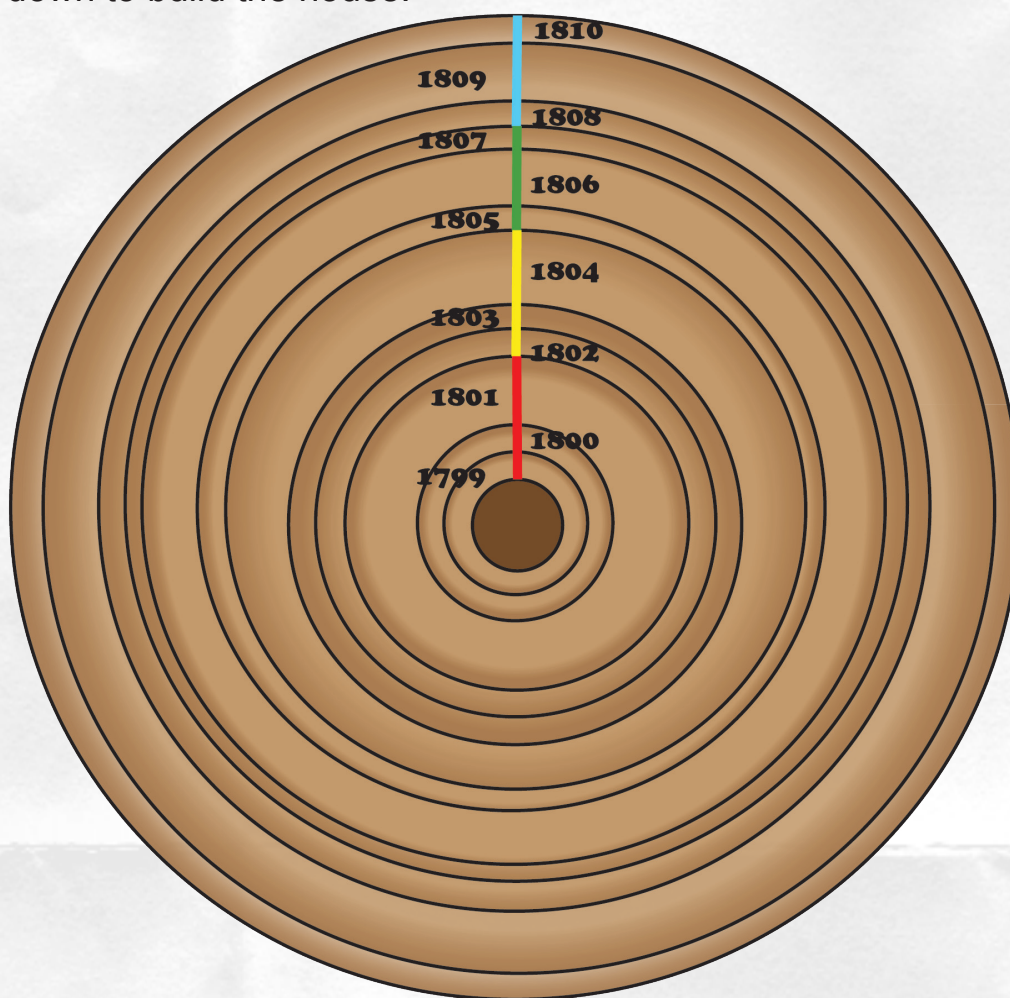


# THE MYSTERY OF THE STOLEN STONE

Madison and Aaron have asked you, their trusted friend and known tree-detective, to help them solve the mystery of the stolen stone.

## Task One: Finding Patterns

Exhibit A. This is a sample of a log from Aaron's uncle's house. The last year the tree grew was 1810. That was the year it was cut down to build the house.



N N W

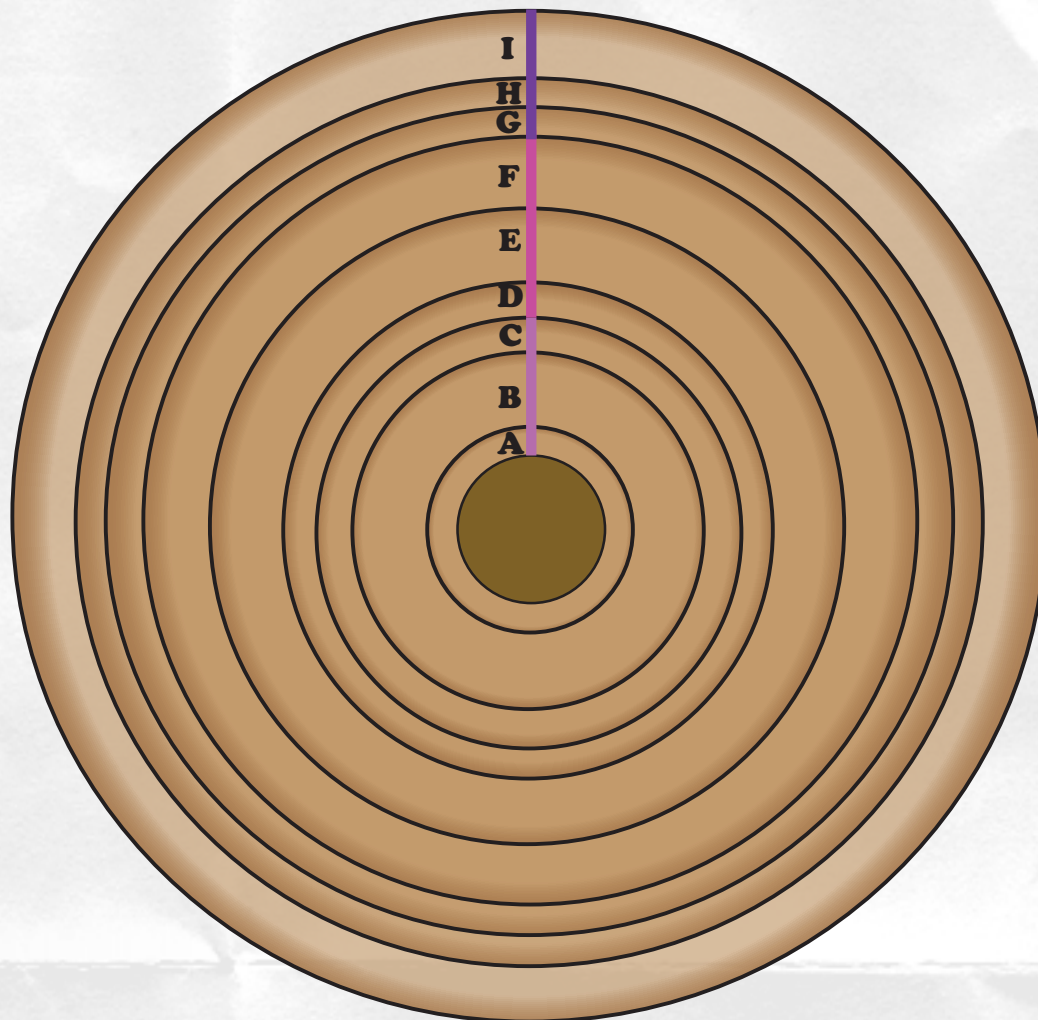
1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810

Write N if the ring from the matching year is narrow and W if it is wide.



## THE MYSTERY OF THE STOLEN STONE

Exhibit B. This is a log from the thief's house.  
The last year of growth was in year I. That was the year that the tree was cut down to build his house.



**A      B      C                  D      E      F                  G      H      I**

Cut along the dotted line on the previous page. Slide the pattern from Exhibit A beneath the pattern above to see when they start to match!