

## **A Dutch Elm Disease Timeline: 100+ Years- 1910-2012**

Goal: For middle school student to learn about the American Elm, how the Dutch Elm Disease got to Minneapolis, and learn from this discussion how we can avoid this happening with other trees.

Directions:

1. Have the pieces pre cut in the 6 square images (see below). One side should contain the words, the other side the corresponding image. It is important to print these two pages double sided or back to back. The words below the images should match the complete description on the other side of the image.
2. Place cards with pictures facing up.
3. Students must determine the proper order of the images. The goal is to place the images in a timeline from where DED originated to how it got to Minneapolis, Minnesota.
4. Once students think they have the right order tell them to flip the cards over and if the numbers in the upper right hand corner are in consecutive order, then they did it right!
5. Tell the students to read the back of the cards so they grasp a further understanding. If pictures are out of order, after reading the cards, they can explain to you (or each other) why the cards go in that order.
6. If they did do it right perhaps have them tell you (or each other) why they knew which cards went where and could even help explain to other groups to get groups to interact with each other.



Dutch Elm Disease is noticed in Europe



Isolated in the Netherlands



Infected logs were shipped to America



Moved westward and destroyed famous elms in "Elm City"



Moved westward to Minneapolis



Lost 80% of American Elms

1

First noticed in Europe in 1910  
And spread slowly. This first  
strain was a relatively mild one,  
which killed only a small  
proportion of elms, mostly  
just killing a few branches.

2

The disease was isolated in  
The Netherlands in 1921 by  
Bea Schwarz, who was a  
Dutch pioneer. This  
discovery from Schwarz  
would lead to how the  
disease got it's name Dutch  
Elm Disease

3

Disease was first reported in  
North America in 1928. The  
beetles believed to have arrived  
in a shipment of logs from The  
Netherlands that were going to  
be used in the furniture industry.

4

Over 400,000 trees were  
planted in Detroit when Dutch  
Elm Disease arrived in 1950's.  
Detroit responded by spraying  
their trees with DDT, which was  
legal at the time. After realizing  
the effects of it they stopped.  
The DDT only delayed the death  
of these trees long enough to  
remove the trees safely. There  
were cases where falling  
branches became a serious  
problem. Overall they lost 90%  
of their trees.

5

It was first found in Minneapolis  
in the 1960's on some branches  
of a tree that was brought in by  
a tree service company. The  
disease got here from either the  
beetles or wood that was  
contaminated with the fungus

6

After the disease reached  
Minneapolis it spread rapidly  
from there. Thousands of  
trees were killed and forests  
were wiped out. Now they  
are starting to come back  
slowly with a fungicide that  
prevents Dutch Elm  
Disease.