

The background of the slide features a stylized landscape. Two large trees with green foliage and brown trunks stand on either side of the central text. The ground is represented by dark green rolling hills. The sky is a light yellow-green color with two white, fluffy clouds. The title text is centered in the upper half of the image.

Dendrochronology

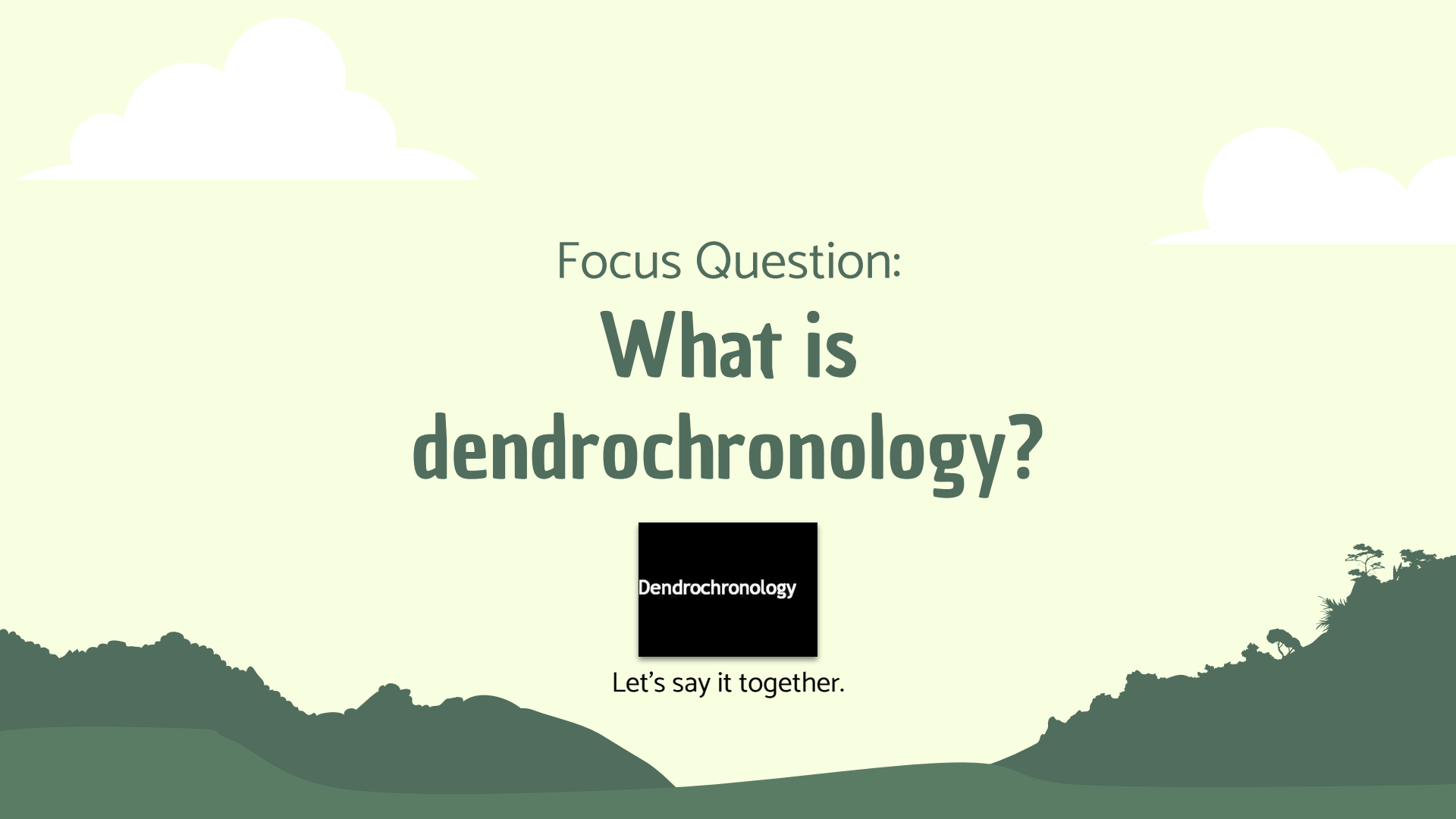
Tree Rings

Tell Stories

Grade 1 Science



ACTIVITY 1

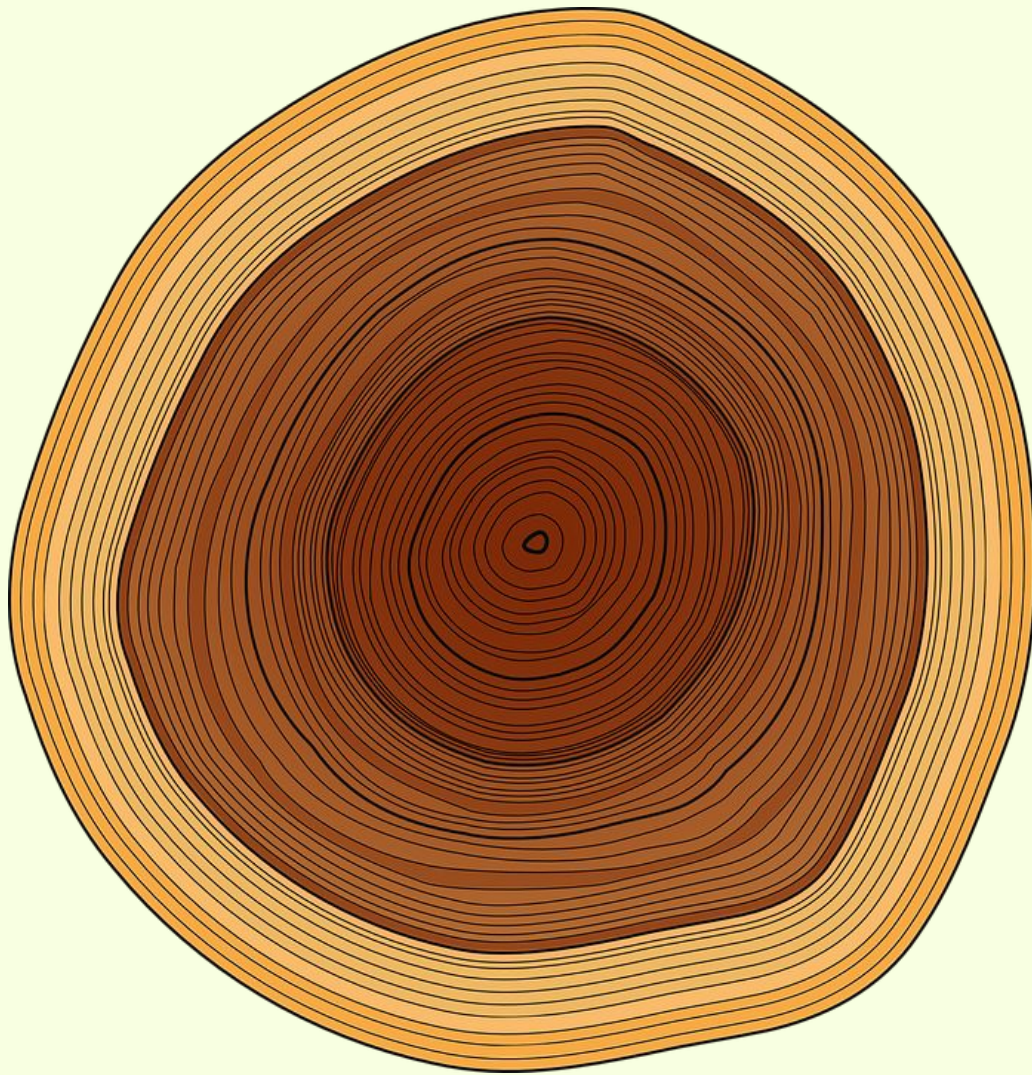


Focus Question:

What is dendrochronology?

Dendrochronology

Let's say it together.



What do you notice?

**What do you
wonder?**



What do you
notice?
What do you
wonder?



What do you
notice?
What do you
wonder?

Dendrochronology

Dendro = tree

Chrono = time

Ology = study of

Studying trees to tell what happened in its
environment over time





ACTIVITY 2



How are trees
and
plants related?

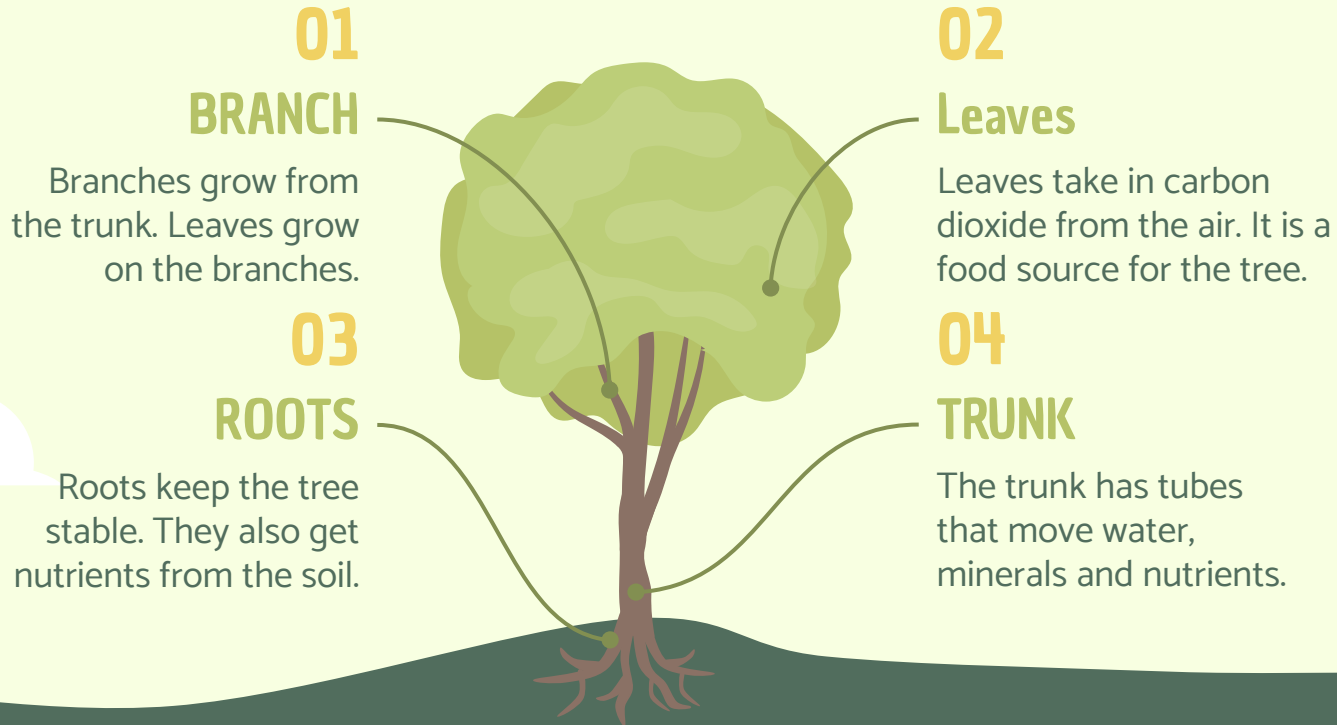
Turn and talk.

Are all trees also plants?

Are all plants also trees?

All trees are plants, but all plants are
NOT trees.

PARTS OF A TREE



1.



What is a tree ring?

2.

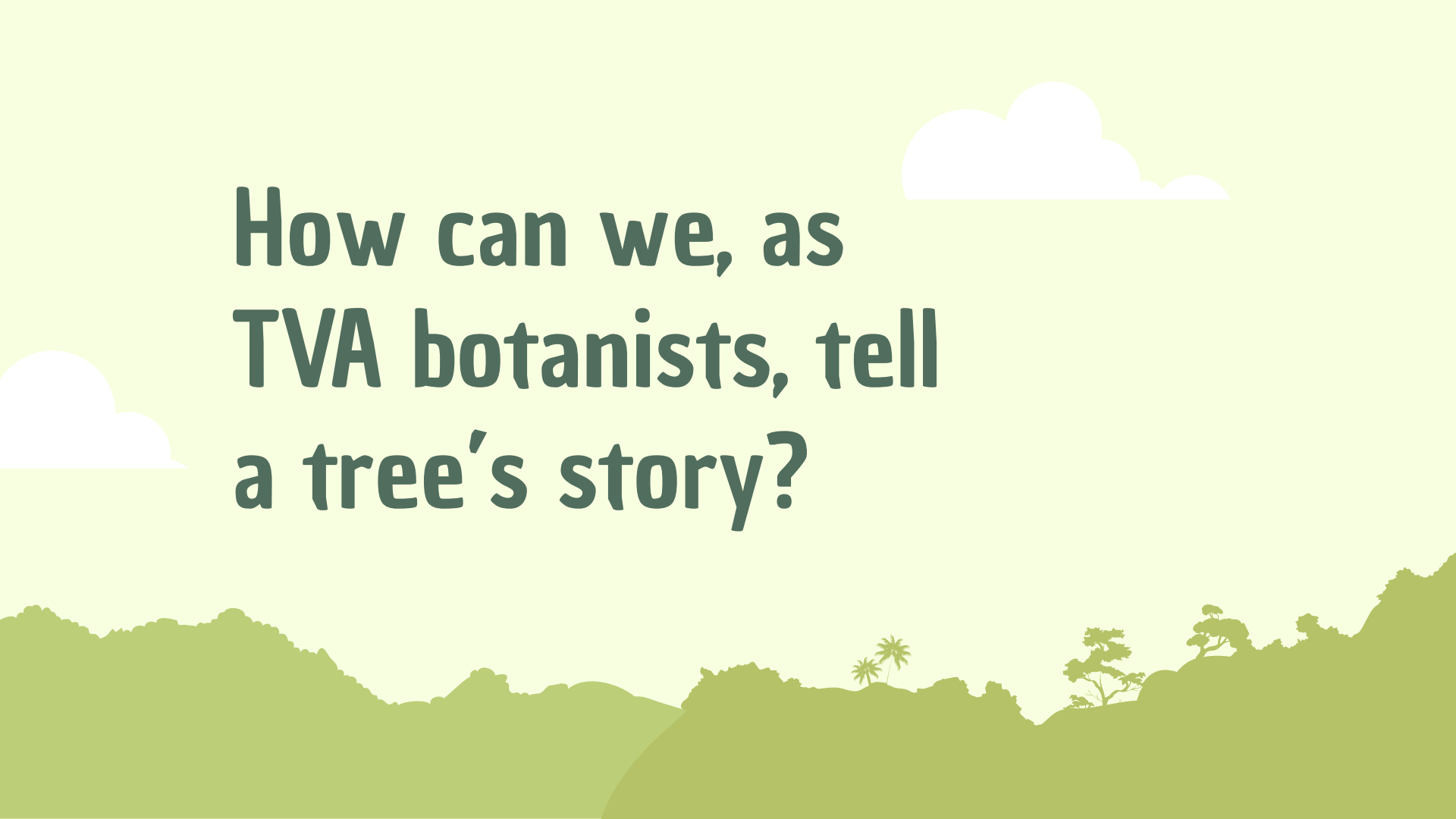


What do tree rings
tell us?

3.



Why do scientists
study tree rings?



**How can we, as
TVA botanists, tell
a tree's story?**

Reading the Rings of a Tree

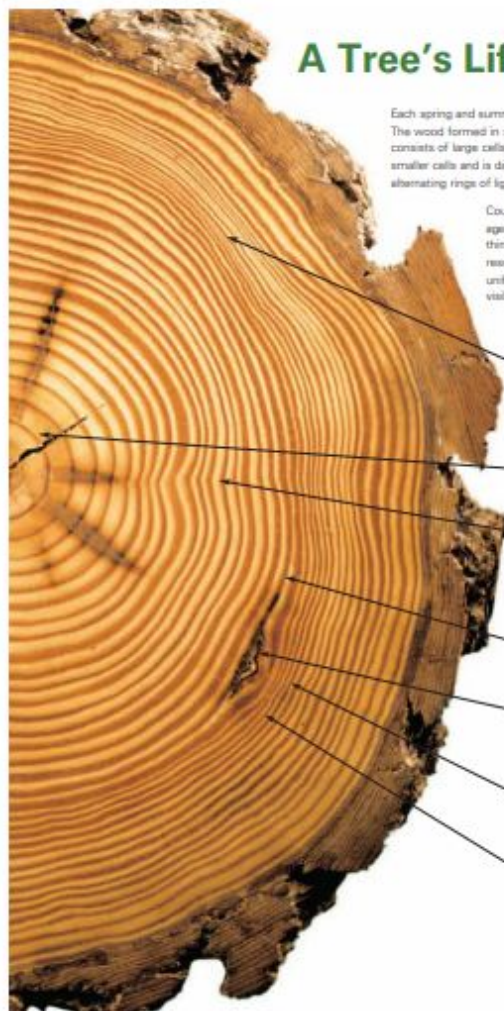
Just by reading a tree's rings, you can discover some amazing things! Because the layers of wood a tree forms in the spring grow fast and consist of large cells, the rings are lighter. The slower summer growth has denser cells so those rings are darker. You probably already know that by counting the dark rings on a cut tree, you can tell how old it is, but if you examine the shape and pattern of the rings you can piece together the tree's whole history – from sunny days to insect infestation.



A Tree's Life at a Glance

Each spring and summer, a tree adds new layers of wood to its trunk. The wood formed in spring grows fast and is lighter because it consists of large cells. In summer, growth is slower; the wood has smaller cells and is dark. So when the tree is cut, the layers appear as alternating rings of light and dark wood.

Count the dark rings and you'll determine a tree's age. Study them, and you'll learn much more. Many things can affect the way a tree grows and, as a result, will alter the shape, thickness, color and uniformity of the rings. A typical tree's history made visible by its rings might go something like this:



A A tree's rings that appear wider on one side than the other may indicate that something pushed against the tree as it was growing. The tree will build "reaction wood" to help support the side that's leaning.

B A tree that's happy getting lots of sunshine and rain, will show rings that are relatively broad, and evenly spaced.

C If all else looks good but the growth appears to have slowed nonetheless, it's possible that neighboring trees are providing too much shade while their crowns and root system take up the lion's share of water and sunshine.

D Remove the crowding trees, and you'll see wide, evenly spaced rings, indicating that the tree is growing rapidly and straight once more.

E A fire in the forest can be easily seen by scarring on the tree's bark. Year by year, the tree will create more and more wood to cover the scar, but it's there to see in the tree's history.

F Narrowed rings that go on for several seasons can indicate a drought. Few things can slow a tree's healthy growth like lack of water over a long period of time.













G Narrow rings can depict an insect infestation, too. The larvae of the sawfly, for example, eats the leaves and leaf buds of many kinds of coniferous trees.



Tell a tree's story.

Shared writing experience

Did we do our best work?

Story rubric		Did I do this?
Science Standard(s) 1.LS1.3 Analyze and interpret data from observations to describe how changes in the environment cause plants to respond in different ways.	<input type="checkbox"/> I made observations of the tree rings.	  
	<input type="checkbox"/> I can explain why the tree rings look the way they do.	  
ELA Standard 1.W.TTP.2 With prompting and support, write informative/explanatory texts, naming a topic, supplying some facts about the topic, and providing some sense of closure.	<input type="checkbox"/> I used my observations of the tree rings to tell a story about the tree.	  
	<input type="checkbox"/> My story has a beginning, middle, and end.	  

STEM Ready

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designed for TVA.

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