

# SEASONAL TREE CYCLE

One of the most noticeable ways we can observe the seasons changing is the way that leaves change on trees.

Deciduous trees have a very distinct cycle of leaves turning from green to orange and red, then falling during autumn (hence the term fall). This is also when fruit ripens. They then sprout new leaves and flower in spring.

These trees have adapted this very clever way of surviving harsh weather conditions, and in this unit we will find out why and how in more detail.

Once you have learnt about how the process works, you can use the final page as a coloring and writing exercise. Color how the tree would look, and write about what the tree is doing in each season.

## parent's tips:

This unit goes into a small amount of tree chemistry - if your child is not interested in this, just skip over the details. If they are interested in learning more, a more detailed article is listed in the 'further reading' section below.

## requirements



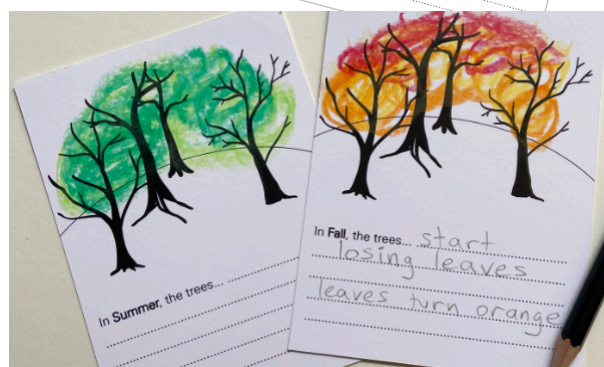
scissors



printed pages



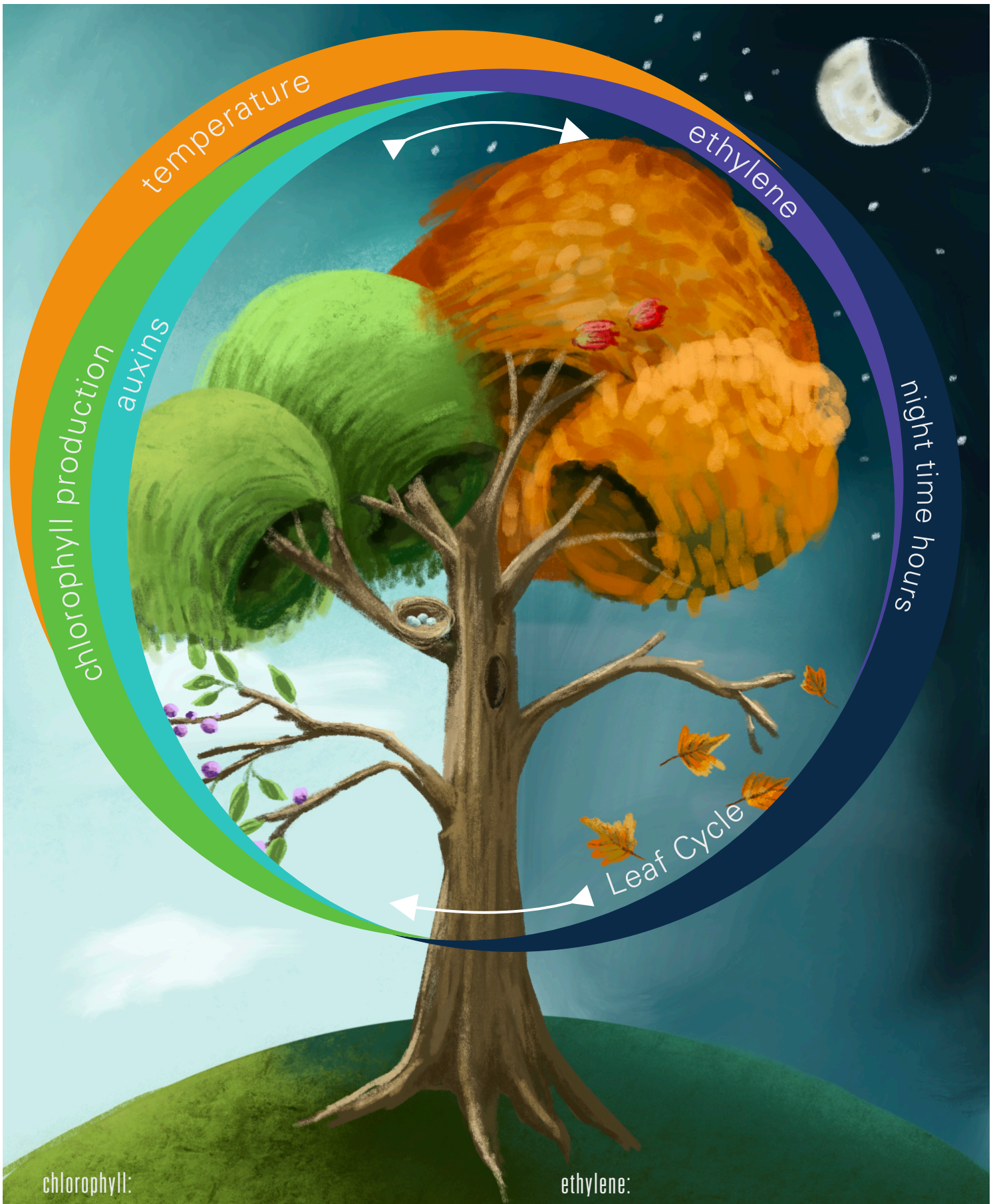
pens or pencil



## further reading...

[The Conversation's 'Curious Kids' website has an easy-to-understand article called 'Why Do Leaves Fall Off Trees?'](#)

[The Royal Society of Chemistry's Chemistry World website has a more in-depth look at this process in their article, 'The Chemistry of Autumn'](#)



### chlorophyll:

Chlorophyll is an essential part in the process of photosynthesis which is how plants use the sun to grow. It is also what makes leaves green.

### temperature / night time hours:

As the seasons change, so does the temperature and the length of night. These changes send signals to the tree about how to behave.

### ethylene:

Ethylene is a tree hormone which signals the tree to stop growing, drop leaves, and ripen fruit.

### auxin:

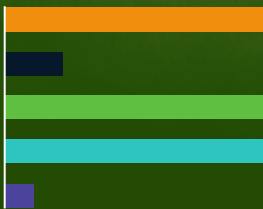
Auxin is a tree hormone which promotes healthy cell growth. As the night time hours increase, Auxin levels in the tree drop.



## SUMMER

Conditions are good for trees in summer when it is warm and there is lots of sunshine. They have plenty of green leaves.

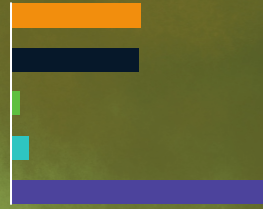
temperatures  
length of night  
chlorophyll  
auxin  
ethylene



## AUTUMN

As the night time hours start increasing in autumn, trees get the signal to start shedding their leaves to preserve their energy and survive the potentially cold, dark and windy weather ahead.

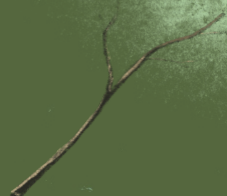
temperatures  
length of night  
chlorophyll  
auxin  
ethylene



## WINTER

After the shedding of leaves in autumn, winter is a time of dormancy for the trees. They hibernate, just like some animals.

temperatures  
length of night  
chlorophyll  
auxin  
ethylene

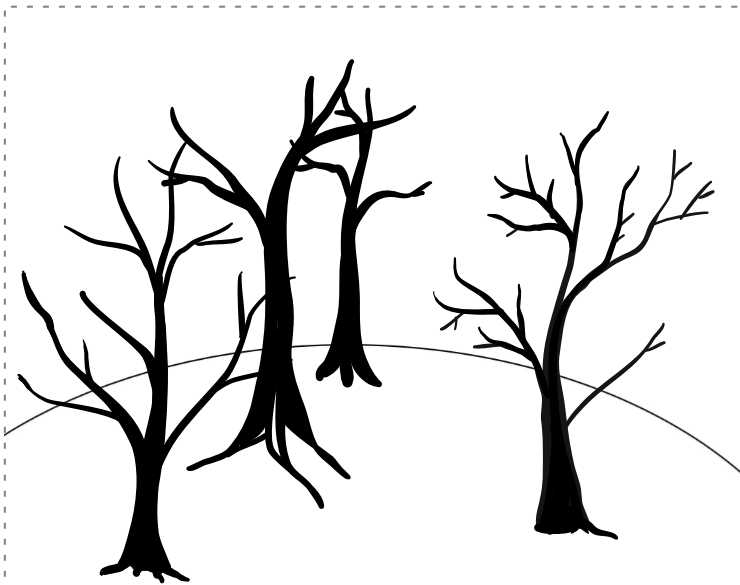


## SPRING

After trees have experienced a season of cold, the first warmer temperatures and the decrease in night time hours signals the trees to sprout new leaves and flowers.

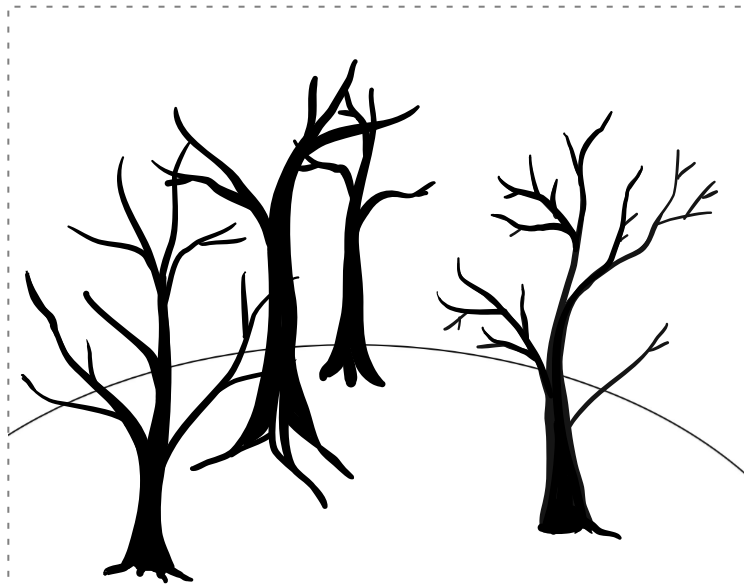
temperatures  
length of night  
chlorophyll  
auxin  
ethylene





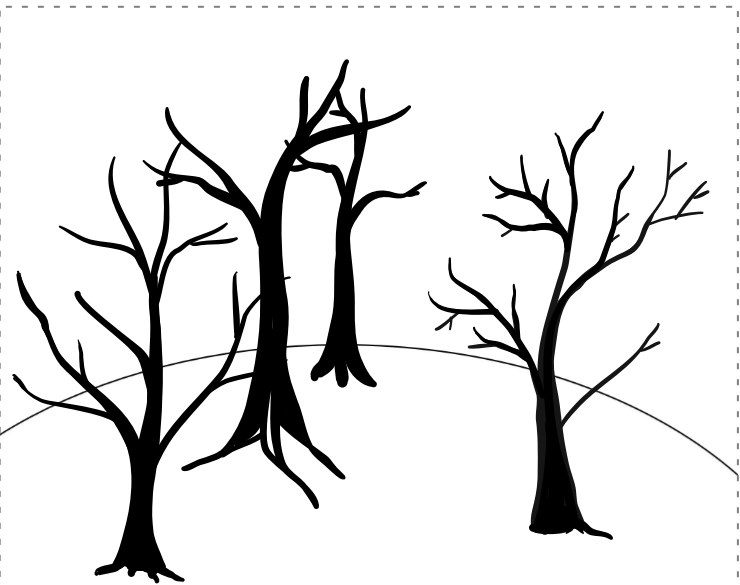
In **Summer**, the trees... ..

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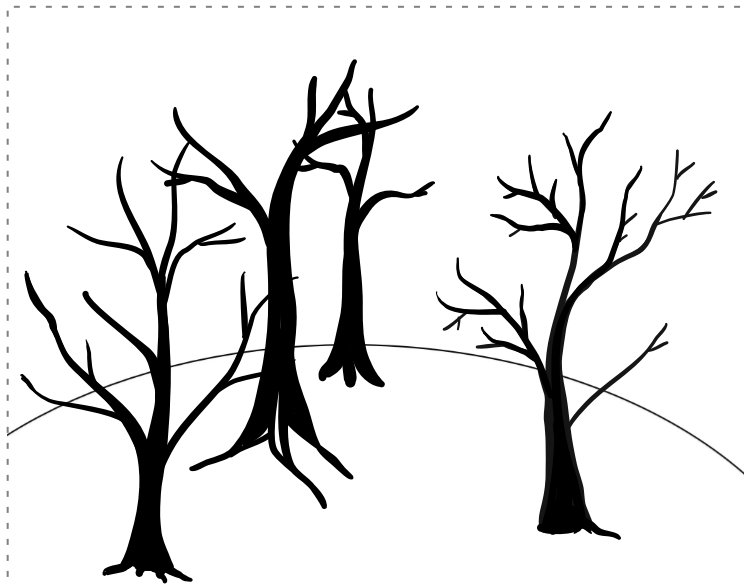
In **Autumn**, the trees... ..

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In **Spring**, the trees... ..

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In **Winter**, the trees... ..

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