Do they have names?

Yes, here are a few in Utah.

Pinon Pine

Utah Juniper

Blue spruce

Fir

And many, many, more!

One last cool fact!

Coniferous trees can out live *me* in cold weather.

Brrrrr!

Types of Trees

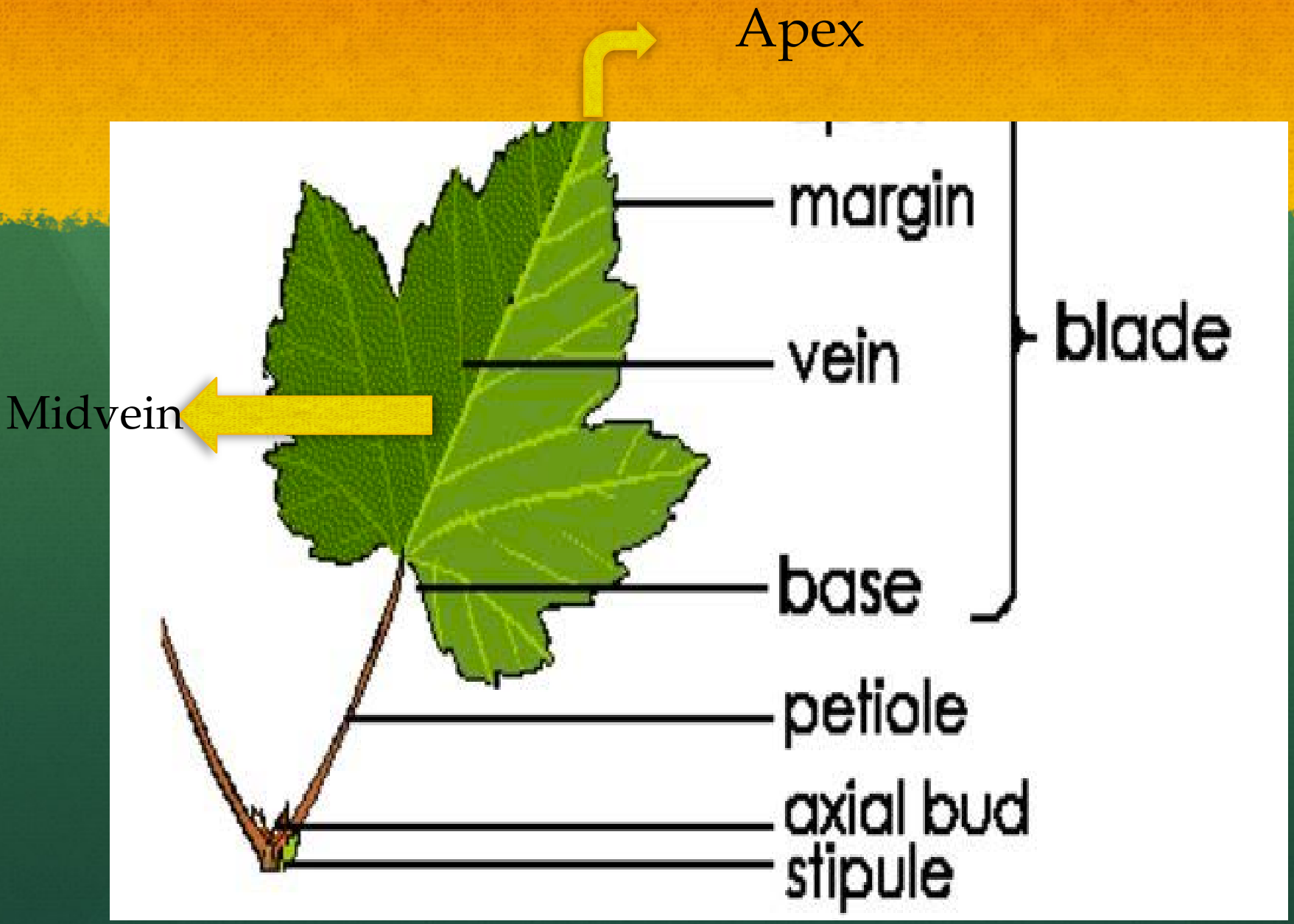
Deciduous

- These trees shed their leaves in cold or dry seasons
- The leafs usually change colour before they shed
- New leaves appear in spring
- Usually have wide shaped leaves
- Many different types

Labeling Leaves, Branching Patterns, and Tree Shapes

Leaves

- The most common feature for identifying the type of tree
- The surface of the leaf is called the Blade
- The stem of the leaf is called the Petiole
- The tip of the leaf is called the Apex
- The edge of the leaf is called the Margin
- The main lines in the middle is called the Midrib/Midvein
- The lines that branch out from the midvein are called the Vein

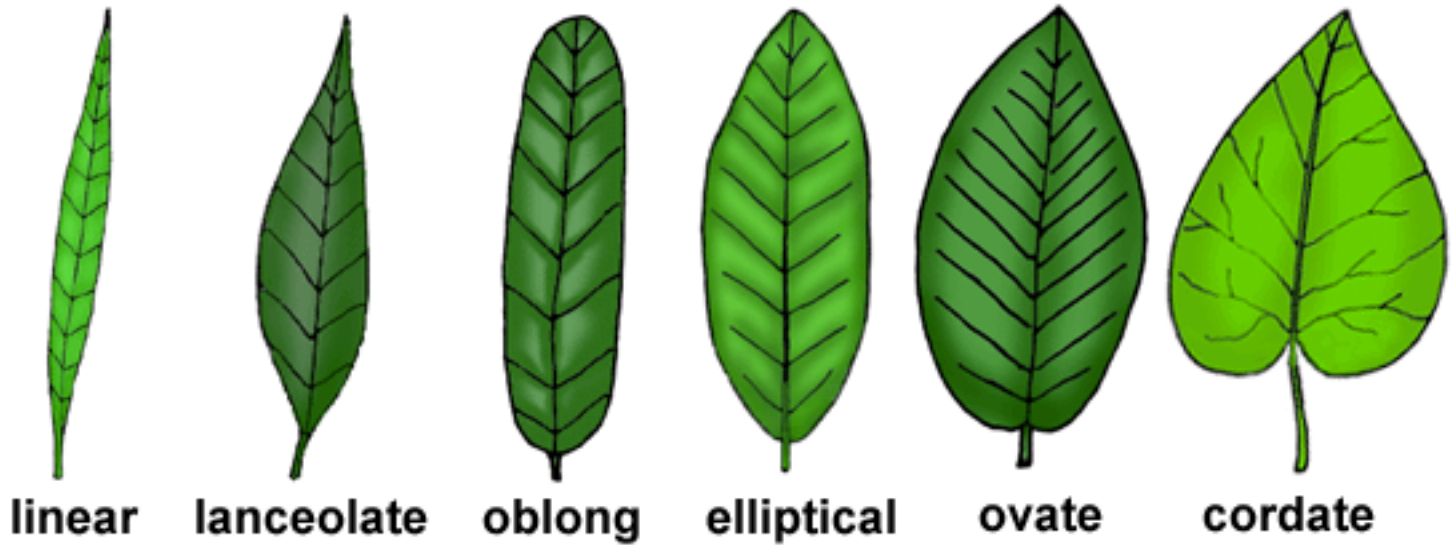

Apex
margin
vein
blade
Midvein
base
petiole
axial bud
stipule

Types of Leaves

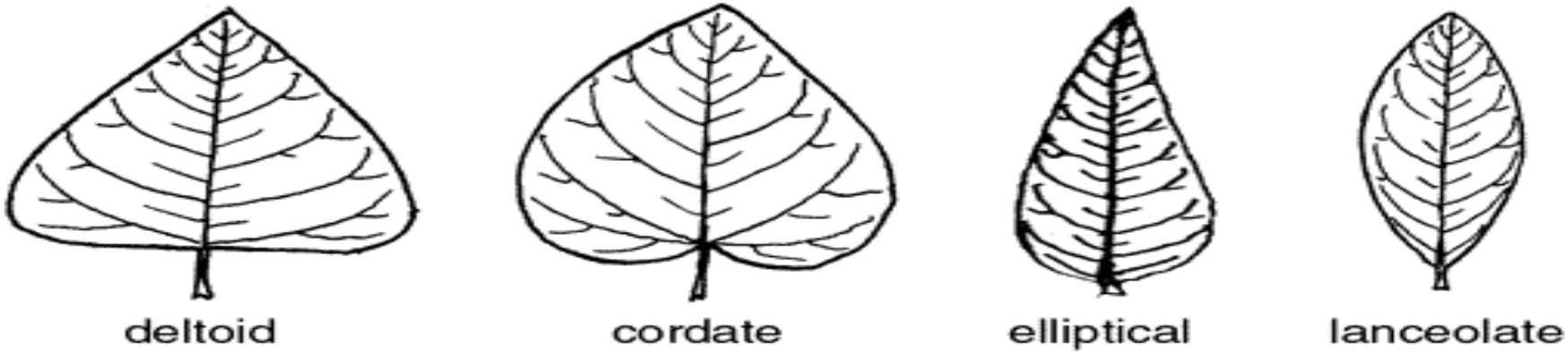
- Examining the different parts of the leaf can help you to determine the type of tree
- There are 10 different types of leaf shapes:

Linear, Oblong, Oval, Ovate,

Cordate/heart shaped, lobed, deltoid/triangle, orbicular/round, four-sided needles, flat needles


linear
lanceolate
oblong
elliptical
ovate
cordate


linear
oval
oblong
ovate
obovate


deltoid
cordate
elliptical
lanceolate

Linear

Oblong

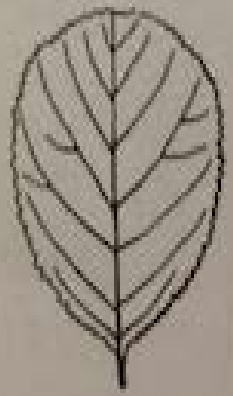
Oval

Ovate

Cordate
(Heart-shaped)

Lobed

Deltoid
(Triangular)



Orbicular
(Round)

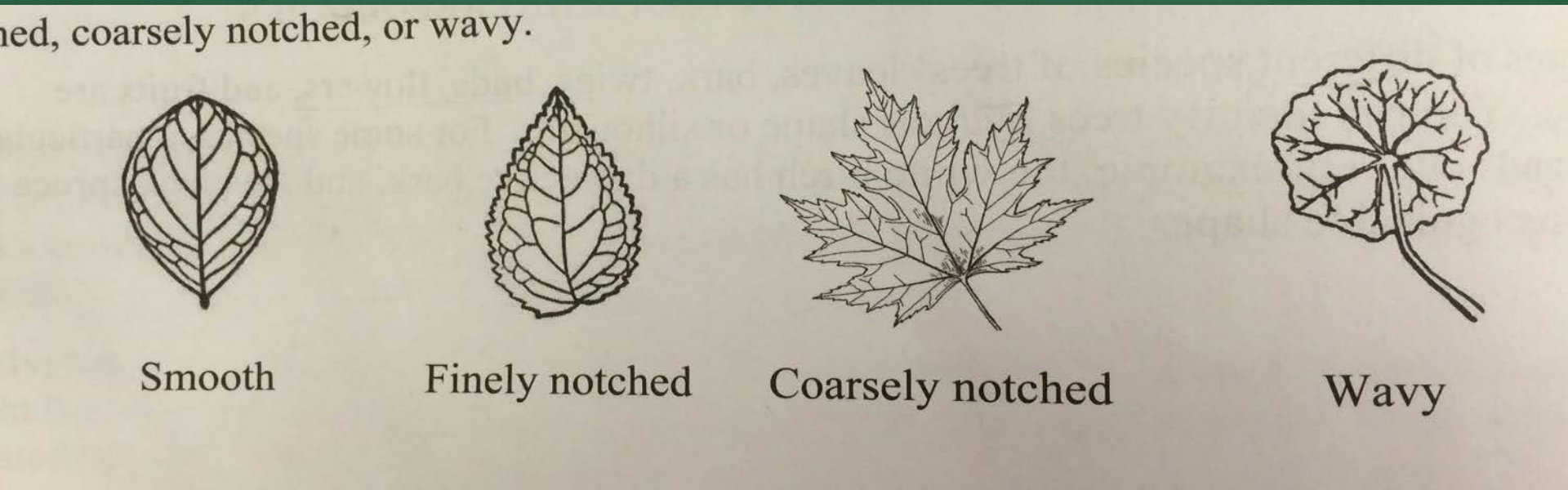
Four-sided
needles

Flat needles

Types of Leaves

You can use the margins to label leafs and identify trees.

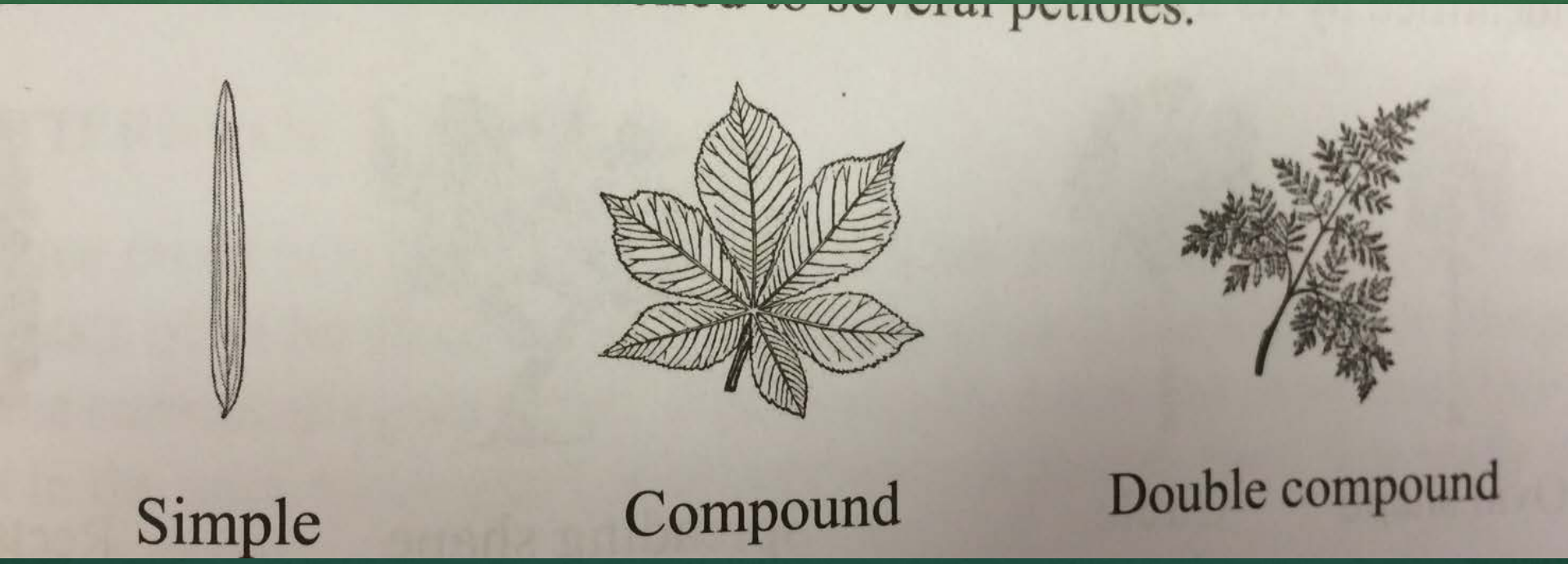
Margins can be: Smooth, Finely Notched, Coarsely Notched, or Wavy.



Types of Leaves

Leafs can be classified by three basic shape structure.

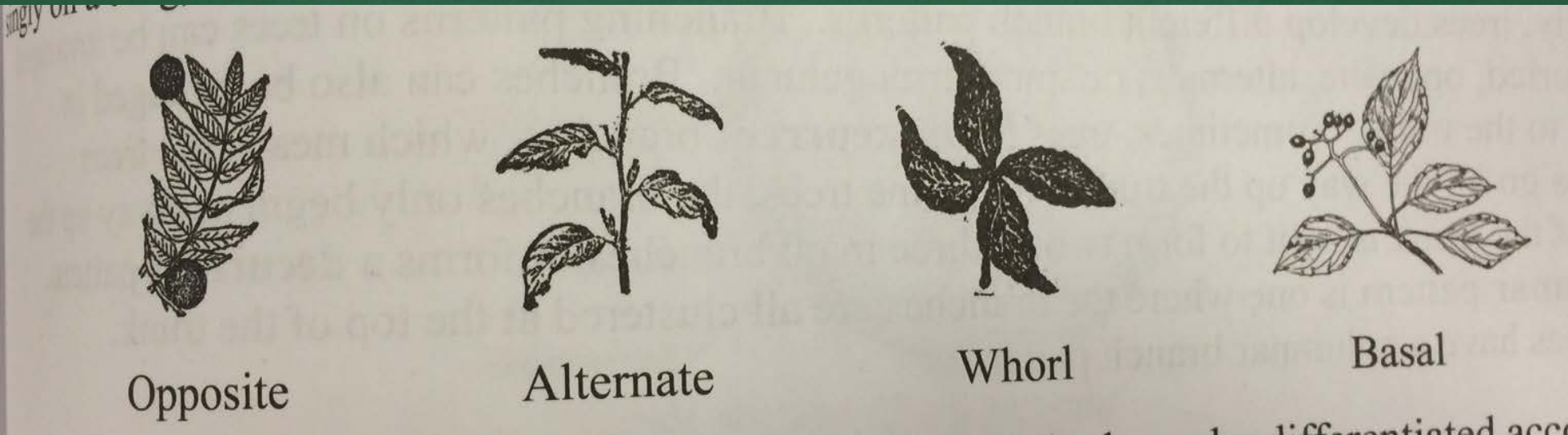
Simple, Compound, and Double Compound



Types of Leaves

Leaves are arranged differently on different trees. Some may be right across from another leaf on a branch or the may alternate sides.

They can be classified by: Opposite, Alternate, Whorl, Basal



Bark Patterns

Trees can also be identified by their bark.

Tree bark can be different colours (reddish brown/grey/white), textures (smooth or rough), and patterns (scaly, horizontal, horizontal and wavy, vertical, vertical and scaly.)

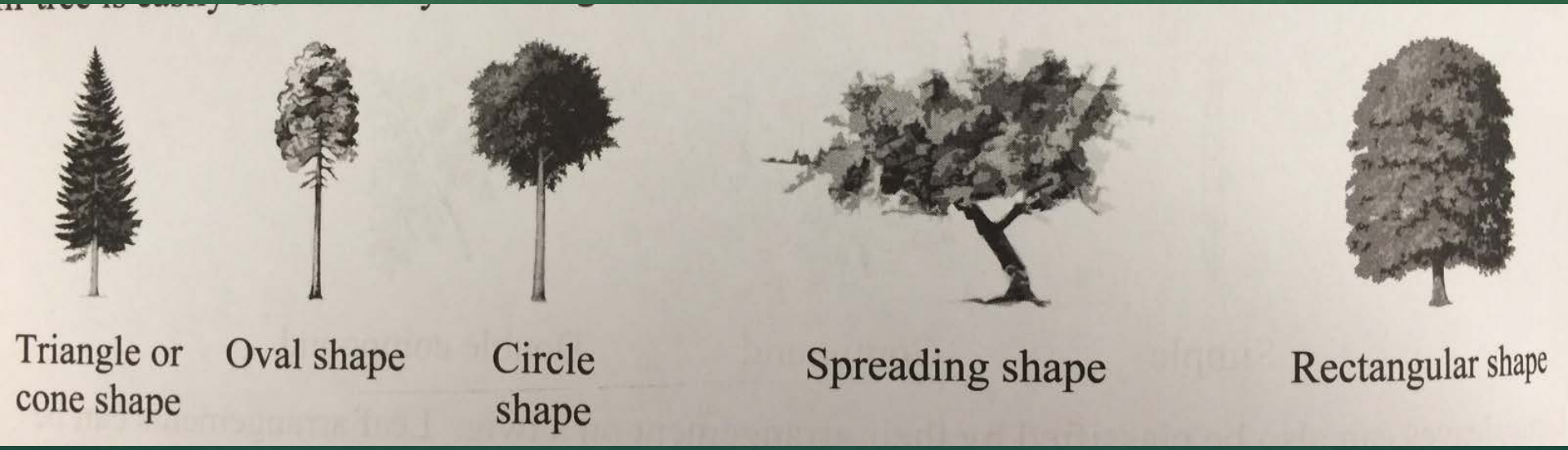
Tree bark changes colour, texture, usually thickens with age.

Tree bark patterns & textures (38)

Maritime Pine - *Pinus pinaster*

Tree Shapes

You can use the overall shape of a tree to help you identify a difference in tree species.



Branch Patterns

Like the way leaves grow on a branch, branches grow differently on different trees.

Branches can be organized in: whorl, opposite, alternate, and spiral

Excurrent Branches: the branches go all the way up the trunk from the bottom to the top

Decurrent Branches: the branches start midway or higher up the trunk

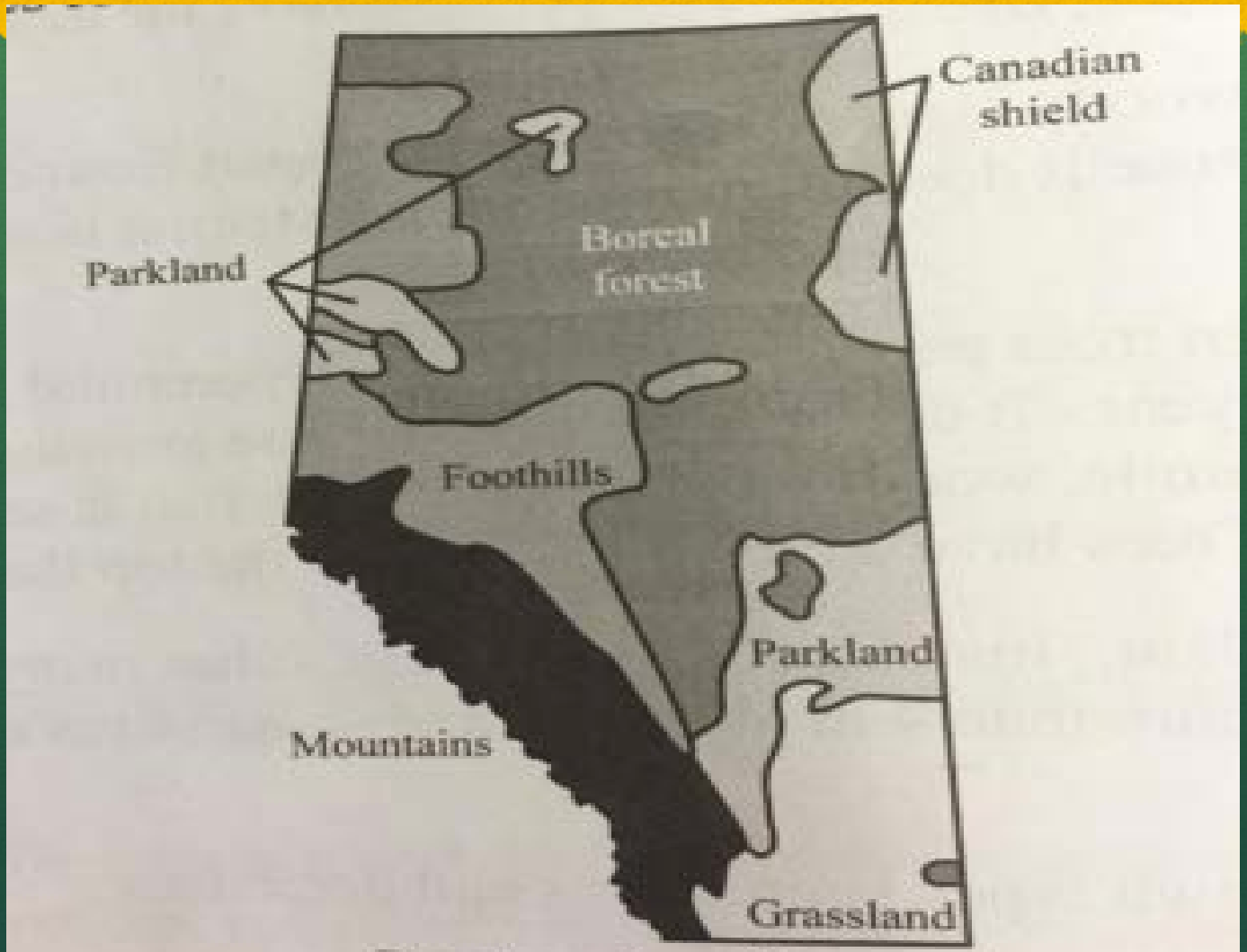
Columnar Pattern: all the branches are clumped together at the top of the trunk.

Palm tree:
columnar branch pattern

Kahikatea:
decurrent branch pattern

Pine:
excurrent branch pattern

What can be found in Alberta



Regions in Alberta

What can be found in Alberta

White Birch:

- Small-Med
- Many Stems
- They usually have narrow, oval shaped crowns with slender trunks
- Leave are simple, round, and have a fine tooth margin
- Bark is smooth, thin, and has brown horizontal lines
- Bark is light, strong, and flexible but peels off paper like strips
- First Nations would use the tree to build canoes
- They are not cone-bearing trees

What can be found in Alberta

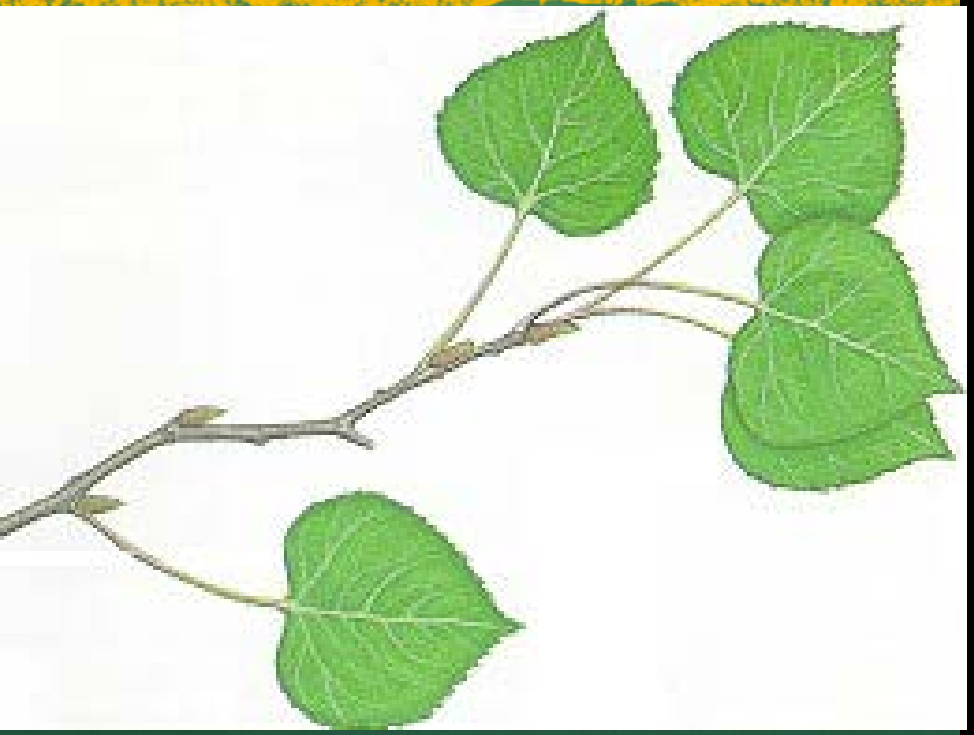
Poplar Tree

- Very common in Canada
- Used for paper, firewood, and natural medicine
- Oval shaped leaves with a fine-toothed margin
- Bark is yellowish and smooth
- Two types: Aspen Poplar and Balsam Poplar

Types of Poplar

Aspen Poplar:

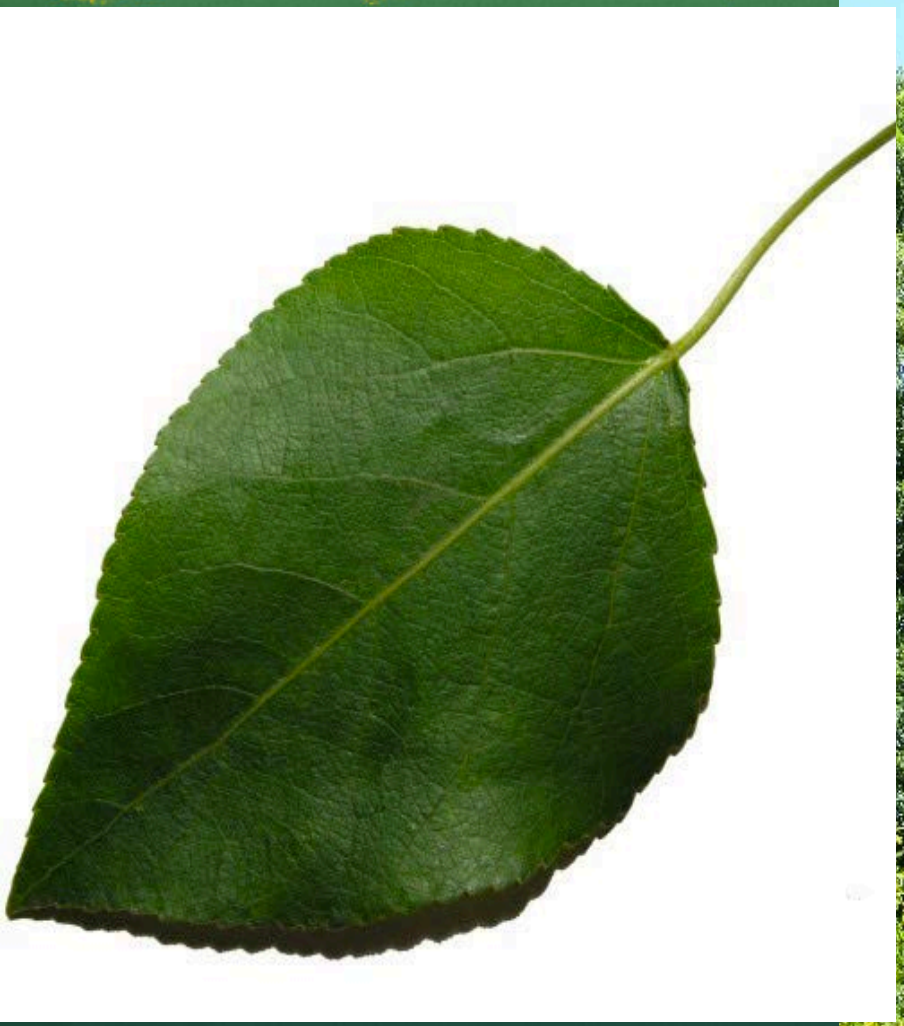
- Also known and white poplar, trembling aspen, white cottonwood, quivering/quaking aspen
- Leaves easily move in the breeze
- Leaves are simple and heart shaped with long flat stalks, margins are fine-toothed
- The tops of the leaves are dark green while the underside is light green
- Slender tree
- Greenish- white smooth bark that does not peel away
- Seeds are in green capsules that have cotton fluff in them



Types of Poplar

Balsam Poplar:

- Also called black poplar
- Straight trunks
- Greenish grey bark when young and brown with grooves when mature
- Has buds that contain sticky substance that has a nice smell
- Leaves are simple oval or wedge shaped with fine tooth margins
- Top of the leaf is dark green and the bottom is pale with rust like coloured marks



What can be found in Alberta

Spruce Trees

- Large with narrow cones
- Coniferous (CONES)
- Cones are light brown and scaly
- Has needles
- Needles are four sided, stiff, and sharp
- Needles grow in a spiral on the twig
- Bark is scaly and greyish brown
- Used for building
- Two types: White Spruce and Black Spruce

Types of Spruce

White Spruce:

- Found all over Alberta
- They grow in burned-out pine and aspen poplar forests

Black Spruce:

- Found in most forests especially northern parts of Canada
- Grows well in wetland areas (like bogs)

White Spruce

Black Spruce

What can be found in Alberta

Pine Trees

- Most common in Canada
- Cone-bearing
- Needles that appear in pairs
- Bark is thin and scaly
- Used for plywood, paneling, and furniture
- First Nations use them to build teepees
- They are the first tree to grow back after a forest fire
- Different types of Pine trees: Jack Pine and Lodgepole Pine

Types of Pine

Jack Pine:

- Grows in areas with sandy soil
- Very common in the Boreal forest

Lodgepole Pine:

- Tall and slim
- Grows 30m or more
- Used for power line pole, lodges, buildings
- Found in the Rocky Mountain/Foothills areas
- Provincial tree of Alberta

Jack pine and Lodgepole

What can be found in Alberta

Cultivated trees: These are trees that are not naturally from the area, someone brought them in and planted them. They have learned/adapt to live in the new area.

In Alberta you'll find these two cultivated trees:

Elm Tree

-Deciduous

-Broad-leaved

-Leaf is elliptical shape with serrated margins

-Leafs grow staggered on branch

-Calgary and Edmonton streets are lined with Elm trees

-Common danger for Elm trees is Dutch Elm disease

The other one

Crab Apple

-Deciduous

-Broad leaved

-Can have white or pink flowers

-multi-stemmed

-apples are ready for harvest late summer or early autumn

-leaf is dark green

-Leaf is oval or egg shaped with finely notched margin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Growth Patterns of Trees

- When you examine the inner rings of a tree you can understand it's life cycle in greater detail.
- The way the rings appear can tell the person how the tree was growing and whether or not the tree had any environmental factors the affected it.
- The rings of the tree can be called: cross sections, disks, or tree cookies.
- The tree cookies can tell the examiner whether the tree was affect by a fire, or went through a drought, or had something leaning against it.

Growth Patterns of Trees

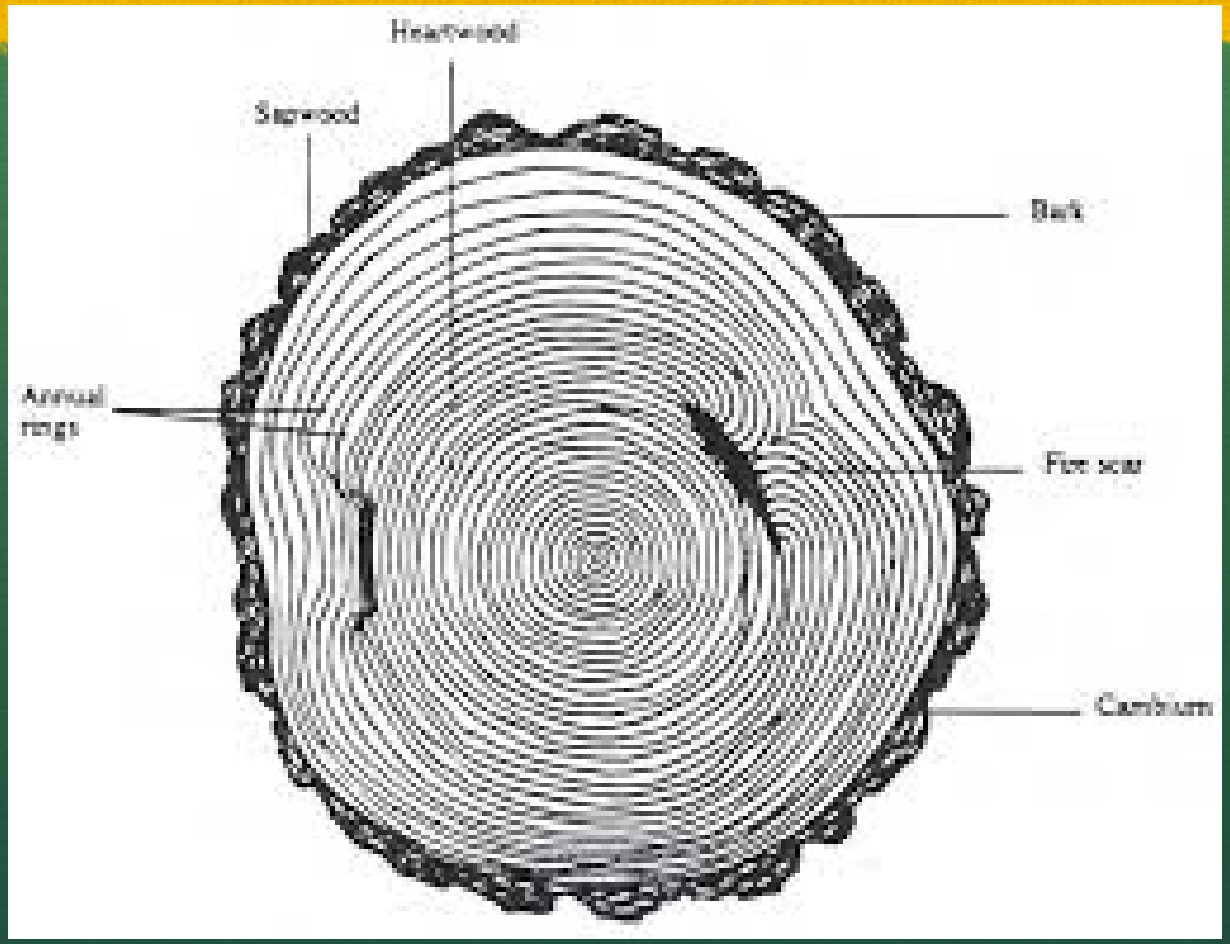
- The study of tree cookies is called dendrochronology.
- Trees form new wood in the spring and summer only
- Wood in the spring is lighter in colour that the wood in the summer
- The growth shows up in light (spring) and dark (summer) annual rings
- These rings vary in size depending of the growing season

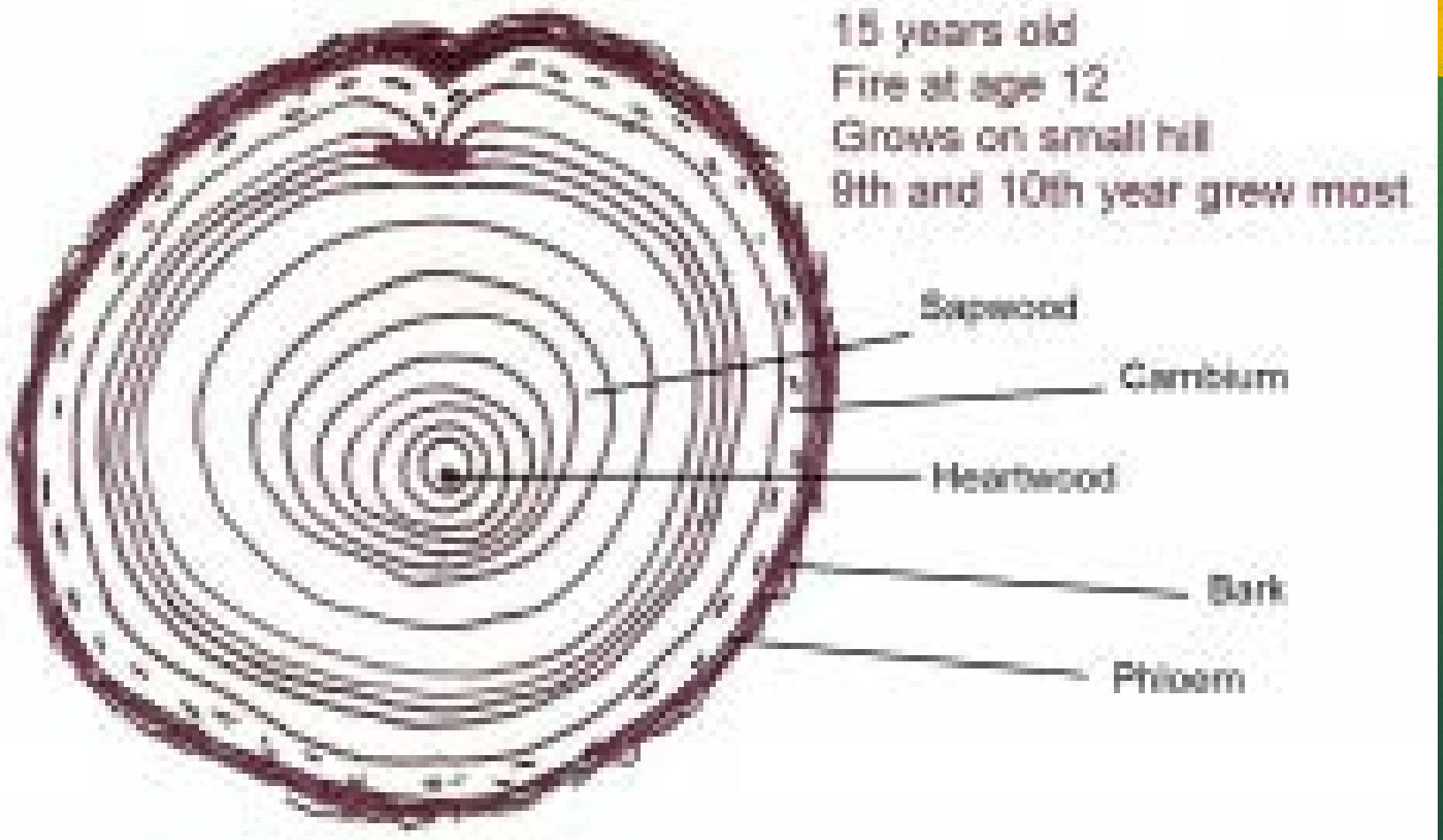
Growth Patterns of Trees

- Many things influence the size and shape of the annual rings. Such as: Weather, amount of growing space, soil conditions, insect attacks, fire, and side force (slope, something leaning against the tree)
- The center of the ring is the trees birth
- Evenly space rings shows us the tree had rapid growth

Growth Patterns of Trees

- Rings that are wider apart on one side can indicate that the tree was growing out of a slope or it had something leaning against it.
- Narrow rings could mean overpopulation (not enough space) or lack of water. Several narrow rings might prove a few drought season in a row.
- A dark black area with the following rings growing inward toward the black area could suggest fire damage (the black area is only one growth period)
- A dark black area that continues for a few growth seasons could suggest a branch that was broken off or died. (the black area can be found in multiple growth periods)


Heartwood
Sapwood
Bark
Annual rings
Fire scar
Cambium


15 years old
Fire at age 12
Grows on small hill
9th and 10th year grew most
Sapwood
Cambium
Heartwood
Bark
Phloem

Growth Patterns of Trees

- Another way to determine the age of the tree but is less reliable is looking at the growth pattern of the branches. This can only be done of broad leaf trees or by counting the whorls on an evergreen tree.
- Buds: They are the bump found on branches of a tree
- Buds become leaf, flower, or stem that will grow in the next season
- Buds form in late summer or early fall and remain on the tree during the winter

Growth Patterns of Trees

- When the bud opens the scale (like a shell) usually falls off leaving a tiny scar/groove
- Every year the tree grows there is a little scar made
- You can figure out the age of the branch by counting the scars
- This doesn't always work because as the branches grow they become thicker and since the scars can't stretch, they disappear

Growth Patterns of Trees

- On Evergreens (white spruce) the branches are arranged in whorls.
- You can count the whorls to determine the age
- This method is unreliable as Evergreen trees branches can break off and die