



## **SIMPLE FORESTRY:**

### **WHY DO ASPEN LEAVES CHANGE COLOR?**

In this activity we will discover why aspens change color, read a story about chlorophyll, and make some useable “nature art”.

#### **Discussion:**

Aspens are “deciduous” trees which means that they lose their leaves in the winter, unlike our evergreen “conifers” (cone producers) the pine, spruce, fir and Douglas fir.

Some people try to predict the time of this change, and although it is close to the same time each year – there are many factors such as moisture over the growing season, freezing temperatures, etc. Each aspen plant which can be many trees as they are an interconnected organism, changes color in its own time. You can identify one aspen organism in this way by observing which trees (stems) change at the same time. They are actually clones of genetically identical stems.

The change occurs as the photosynthetic process (food making) slows due to the shortening days of fall. The gold and yellow colors are always present in the leaf but show when the green chlorophyll fades away. A wet growing season with a cool dry sunny fall (without frost) seems to produce the most vibrant colors.

Some interesting facts about aspen are:

1. Aspens compose about 20% of Colorado’s forests
2. They grow at elevations of 6500-11.500 feet
3. A healthy, mature root system can put out up to 1 million shoots/acre
4. They can grow 10 feet tall in 5 years, so a lot faster than a conifer
5. Their common name is “quaking aspen” which is a translation from the Latin “Populus tremulus”

6. Their stems are flat rather than round which allows the leaves to flutter
7. The bark contains "salicin" (same as willow) which is what the chemical compound for aspen used as a model for synthesis; and the inner bark was chewed and used as a fever reducer for Native American people and pioneers
8. The white dusty coating on the bark of the aspen trunk is a sunscreen protecting the tree

## **READING (THE STORY OF CHLOROPHYLL ON VIDEO)**

### **ACTIVITY (on Video)**

We are going to make bookmarks, or suncatchers with our aspen leaves.

#### **MATERIALS**

- Gather aspen and other leaves with a variety of coloration, fresh leaves are best as they dry they become brittle
- Crayons
- Drawing paper
- Contact paper
- scissors

#### **PROCEDURE**

1. You will be using the leaves for rubbing as well as whole to place on contact paper
2. First place some interestingly shaped leaves under the drawing paper
3. Using the side of your crayon rub the paper that is over the leaf so that the outline as well as the veins and stem of the leaf show in your rubbing
4. Cover this with contact paper in the shape and size you wish
5. OR place some leaves on top and combine before covering with contact paper
6. Arrange some leaves directly on contact paper and fold so leaves are covered by paper without air holes
7. Cut for a bookmark or a suncatcher that you can hang in the window