No.1

Chlorophyll

In autumn, many trees change the color of their leaves. This is natural, and it happens every year. People can see it in many countries. Usually, leaves are green because they have *substances called chlorophyll. Chlorophyll is very important for the tree. It helps the tree make food from sunlight, water, and air. If the tree does not have chlorophyll, it cannot grow well.

When the days become shorter and the weather becomes cooler, trees make less chlorophyll. Then the green color slowly goes away. Other colors *appear, *such as yellow, orange, and red. Some trees show very bright colors, and they look beautiful. People enjoy watching these colors in parks, gardens, and forests. In some countries, tourists travel to see autumn leaves because they are famous and very *attractive.

The change of colors also helps trees get ready for winter. When the leaves fall, the tree loses less water and can live through the cold season. Trees can *rest during winter without leaves. Birds and animals use the fallen leaves for food or shelter. Small *insects hide under the leaves. The *soil becomes rich when the leaves break down and mix with the ground.

Scientists have studied autumn leaves for many years. They found that temperature, sunlight, and water can change the colors. Leaves with more sugar often turn red, while other leaves turn yellow. This is why trees in the same forest can look different. Autumn leaves are not only beautiful but also important for nature and for the life of many animals.

*substance	物質	*such as ～	～のような
*appear	現れる	*attractive	魅力的
*rest	休む	*insect	昆虫
*soil	土		

Q1. Why are leaves usually green?
(1) Because tourists enjoy green leaves.
(2) Because they are full of sugar.
(3) Because they are ready for winter.
(4) Because they have chlorophyll.

Q2. What happens when days become shorter and cooler?
(1) Trees make more chlorophyll and stay green.
(2) Trees grow faster and produce more food.
(3) Trees make less chlorophyll, and other colors appear.
(4) Trees lose all their leaves soon.

Q3. How does the change of colors help trees in winter?
(1) It helps trees lose less water and survive the cold season.
(2) It makes the soil rich before winter begins.
(3) It allows birds to fly south more easily.
(4) It makes tourists visit forests in winter.

Q4. What did scientists find about autumn leaves?
(1) Only temperature changes the colors.
(2) Sunlight has no effect on leaf colors.
(3) All trees in the same forest look exactly the same.
(4) Leaves with more sugar often turn red.

Q5. What is this story about?
(1) How to plant trees in gardens.
(2) Why autumn leaves are important.
(3) A famous scientist who studied forests.
(4) Why tourists like to travel in winter.

Q1. (4)　　Q2. (3)　　Q3. (1)　　Q4. (4)　　Q5. (2)

日本語訳

クロロフィル

秋になると、多くの木々の葉が色づきます。これは自然の現象で、毎年起こります。多くの国で見ることができます。通常、葉が緑色なのは、クロロフィルと呼ばれる特別な物質が含まれているためです。クロロフィルは木にとって非常に重要です。クロロフィルは木が日光、水、空気から栄養を作るのに役立ちます。クロロフィルがなければ、木はうまく成長できません。

日が短くなり、気温が下がると、木々はクロロフィルの生成量が少なくなります。すると、緑色は徐々に消えていきます。黄色、オレンジ、赤などの他の色が現れます。木によっては非常に鮮やかな色になり、美しく見えます。人々は公園、庭園、森林でこれらの色を楽しんでいます。紅葉は有名で魅力的なため、一部の国では観光客が紅葉を見に旅行することもあります。

色の変化は、木々が冬の準備をするのにも役立ちます。葉が落ちると、木は水分の損失が少なくなり、寒い季節を乗り切ることができます。葉がなければ、木々は冬の間休むことができます。鳥や動物は落ち葉を食料や隠れ場所として利用します。小さな昆虫が葉の下に隠れ、葉が分解されると土壌は豊かになります。

科学者たちは長年にわたり紅葉を研究し、気温、日光、水分によって紅葉の色彩が変化することを発見しました。糖分を多く含んだ葉は赤くなり、そうでない葉は黄色くなります。同じ森の木々でも、紅葉の姿が異なって見えるのはそのためです。紅葉は美しいだけでなく、自然にとって大切なものでもあります。