

LET'S TALK ABOUT HELPING THE EARTH

— Forests Are Full of Small Surprises —



The cover illustration is the winner of the annual eco-poster contest depicting thoughts about our irreplaceable earth.

Forests Are Hard Workers

–What Do They Do?

Among the many trees with the birds singing, it feels good to be in a forest. In a dense green forest, there are many discoveries. In fact, forests are deeply related to and play many roles in our lives. Forests are, perhaps, the hardest workers on this earth.



1 Forests link all living things

Trees, animals, birds, and insects – many animals and plants are found in a forest and are all linked to each other by what is called the “food chain.” Animals eat other animals and plants, and in turn become food for other animals and plants. That’s how forests stay alive and support many living things.

2 Forests create clean air

Forests absorb and store carbon dioxide, the cause of global warming. During photosynthesis, trees use carbon dioxide and work hard to produce oxygen. Thanks to forests, we can breathe clean air!

3 Trees are a source of energy

As an energy source that replaces petroleum and natural gas, “wood pellets” are now attracting attention. Wood pellets made from surplus trees and wood waste can be used as fuel for heating and power generation.

4 Forests are called “green dams”

Forests also work hard to prevent both flooding and water shortages. Rainwater is quickly absorbed in the soil and slowly released into rivers. That’s why forests are called “green dams.”

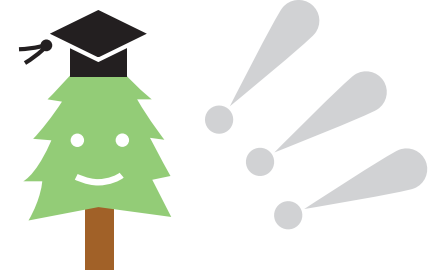
5 Forests make tasty water

Tasty spring water found in forests is made from rainwater. In the process of permeating the soil, rainwater is filtered by sand and clay and becomes clean water. This newborn water sustains the lives of fish, birds, and all human beings.

6 When feeling tired, come rest in a forest

Doesn’t it feel refreshing to walk in a forest? Trees and plants give off a substance called “phytoncide” which has a relaxing effect on human beings. When feeling tired, take a walk in a forest and perk up!

Wow! Really? More Surprising Stories...



Let's find out more about the wonders and secrets of forests and trees.

Be sure to tell your father and mother, and your friends too.



【Trees felled at the new moon last better】

Trees felled around the time of the new moon in winter are more resistant to mold and insects and do not split easily. It is said that wood harvested at the new moon is used in Horyuji Temple, Japan's oldest wooden structure.



【Baby trees grow on fallen trees】

A seed falls on a fallen tree or an old stump, and a baby tree sprouts – this is called “regeneration.” The uneven surface of a fallen tree or stump retains water, and without interference by other plants, a new tree can grow freely.



【How are trees strengthened?】

To ensure the sound growth of forests (planted trees that account for most of Japan's forests), it is necessary to cut some trees in dense areas. Without “thinning,” trees grow spindly, becoming unable to withstand wind and snow.



【What's a tree doctor?】

A tree doctor diagnoses a tree by listening to its voice. With proper care, a tree doctor can give life back to a dying tree. Lots of experience and knowledge of forests are required to become a tree doctor.



【The rings tell a tree's history】

A ring grows around a tree every year, so we can tell a tree's age by counting the rings. Not only that. By measuring the tree ring width, we can also know the temperature and amount of rainfall in the past.



【Where do chopsticks come from?】

Do you know how many disposable chopsticks are used in Japan every year? Approximately 28 billion pairs! And most of them are made from trees from other countries. As there is plenty of wood available from thinning in Japan, it would be nice if it can be put to good use, such as for chopsticks.



【Milk from a branch?】

A dead branch of a ZUMI (*Mals sieboldii*) tree contains 11.6% fat. That's why it's referred to as “branch milk.” The bark of this tree is also the favorite of dormouse, the mouse in Alice in Wonderland.



【A tree with wings?】

The NISHIKIGI (winged spindle tree) adorned with beautiful autumn leaves is one the best-looking trees in the forest. Its branches have thin wings like those on a rocket. These wings are hard corky tissue. If you find one, try touching it.

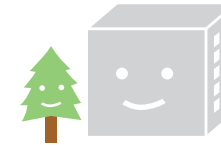
Let's take a look at Hitachi Group's Forests

Where do you imagine factories and research laboratories are located?

Hitachi Group factories and research laboratories

throughout Japan are found amidst rich natural environment.

You can even find spring-fed ponds and deer walking in the woods.



"Do not disturb good trees; build around them"

The founder of Hitachi, Mr. Namihei Odaira, born in the Meiji era, knew the importance of preserving nature long before it became widely known. Today, we still cherish the essence of his message, and plan construction of facilities with minimal disturbance to the natural environment.



Sanctuary of wild birds

Kyushu Works of Hitachi Metals, Ltd. has expanded its woods by planting trees over the years. Today, various wild birds visit our plant throughout the year. It has also been designated by Fukuoka Prefecture as an outstanding afforested plant.

Encounters with "Yezo-sika deer"

Look at cute Yezo-sika deer! Yezo-sika deer inhabit Hokkaido, a northern island of Japan. You can see a herd of Yezo-sika deer at the Urahoro Test Field of Hitachi Construction Machinery. They eat leaves, grass, and buds there!

Natural springs and swans!

The Hitachi Central Laboratory is located in natural landscape of Kokubunji, Tokyo. Water from the natural springs on site form a pond, and a source of the Tama River.

Home of a family of pheasants

The open grounds of Hitachi Koki Co.,Ltd. Sawa Plant in Ibaraki Prefecture have been inhabited by wild pheasants for more than ten years. As a natural environment preservation area, the company has left the place in its natural state without cutting the grass.

A garden with more than 10,000 trees

The Hitachi Institute of Management Development in Abiko, Chiba Prefecture is surrounded by 10,000 trees of more than 50 species, including a 300-year-old Chinese black pine. The expansive garden is open to the public twice a year, in spring and in fall, so be sure to come visit us.

Hitachi Group systems are working hard every day to preserve nature



"Wood Recycler"

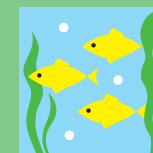
A powerful friend of wood recycling!



The wood recycler is a machine used to grind waste wood and logs. The ground wood is used to make compost, animal beds, etc.

"24-Hour Safety Support System"

keeps an eye on water safety



A TV camera monitors the movement of fish round-the-clock to check for any changes. If an emergency is detected, the water is automatically examined.

"Kakusan Suketto"

air diffusion simulation system forecasts air pollution



This computer system forecasts how pollutants spread in the air. It's widely used in environmental management of factories.











What's this tree?

Let's touch it, smell it, and find out!

Look closely at the trees in your neighborhood and on the streets.
There are sure to be many new discoveries.










Tasty trees

-  **Matebashii (Lithocarpus edulis)** · · Break the nut and stir fry it in a frying pan. 
-  **Pine** · · Squirrels love pinecones. Leftovers look like fried shrimps! 
-  **Azalea** · · Taste its sweet nectar. In the old days, people used to eat flowers as sweets. 
-  **Onigurumi walnut** · · Tasty nuts in hard shells. Mice love them too. 



Fragrant trees

-  **Fragrant olive** · · · Pretty yellow and orange flowers have a perfume-like fragrance. 
-  **White birch** · · · Trunks and branches smell nice. Its sap is full of minerals.
-  **Katsura tree** · · · Fallen leaves smell sweet, like cotton candy. 
-  **Camphor** · · · The entire tree is fragrant. The oil from the tree was used as insecticide. 

References

Japan Forest Technology Association
(JAFTA) website
<http://www.jafta.or.jp>
"Shinrin no 100 Fushigi" by JAFTA
Forestry Agency website
<http://www.rinya.maff.go.jp>

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Corporate Environmental Policy Division

1-18-13 Soto-kanda, Chiyoda-ku, Tokyo 101-8608

Phone: (81)3-4564-3214 E-mail: kankyohon@hdq.hitachi.co.jp

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