YEAR 8

SCIENCE LITERACY

Answer ALL questions in this section.

1. Literacy: Everyday Mysteries: What do you call a coconut?



Figure 1: Green coconuts still in the palm.

Question: Is a coconut a fruit? Or is it a nut? Or maybe a seed?
Answer: A coconut is a type of fruit known as a drupe. However, it can also sometimes be thought of as a nut or seed.

Still, scientists agree a coconut is really a drupe. A drupe is a fruit with a hard stone, or pit. The plant's seed is inside the stone. Cherries, peaches and plums are all examples of drupes.

The coconut plant is not a tree because it does not have bark or branches. Instead, it is a palm. Its trunk is actually a stem.

The Inside And Outside

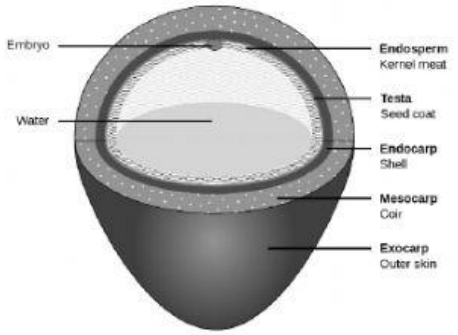


Figure 2: A cross-section showing the parts of a coconut.

The coconut you buy in the store does not look like what grows on a coconut palm. An untouched coconut has three parts. The outermost part is called the exocarp. It is usually smooth and green. The exocarp is wrapped around the husk, or mesocarp. The mesocarp surrounds a hard, woody part called the endocarp.

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The brown coconuts you see at the supermarket no longer have their exocarp and mesocarp. Both are removed before the coconuts make it to the store. What you see is just the endocarp.

The coconut seed is inside the endocarp. Inside the seed are the undeveloped root and leaves of a “baby” plant.

If you look at one end of the coconut, you will see three holes. These are called pores, or eyes. When the new plant inside the coconut grows, a shoot comes out from one of the coconut's pores.

There is also food inside the seed, which helps the new plant grow. This food is called the endosperm. The endosperm takes up most of the seed and is the yummy white stuff we eat.

It Is Not A True Nut

The name coconut can be confusing because the word “nut” is part of it. A nut can be thought of as a fruit with one seed. Looked at that way, a coconut can also be a nut.

However, a coconut is not a true nut, like an acorn or chestnut. The coconut has pores that the shoots poke through. A true nut does not open to release its seeds. Instead, its seed is released in two ways. Either the nut is eaten by an animal, which then poops out the seed. Or, the nut falls apart over time and releases its seed.

Scientists are not sure where the coconut came from. For over 200 years, they have been unable to decide if it came from the Old World or the New World. The Old World includes Asia, Europe and Africa. The New World is North and South America.

In the early 1900s, scientist Odoardo Beccari wrote that coconuts came from the Old World. He believed they first appeared in India or Polynesia.

Many scientists think Beccari was correct. They think so because there are more kinds of coconuts in India and Polynesia than in the Americas.

However, some scientists believe the coconut appeared in the New World first. They say it then spread west across the Pacific.

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Interesting Coconut Facts

People use every bit of the coconut. It can be used to make food, drinks, bedding, tools, instruments and much more. For that reason, the coconut palm is called the "Tree of Life."

In wartime, doctors have sometimes used coconut water as a medicine. They use it to treat sick or wounded soldiers. The sweet juice is injected into a patient's bloodstream.

Until the 1700s, the English word for coconut was "nargil."

A coconut takes about 12 months to develop fully.

There are over 80 kinds of coconut palms. They grow as far north as Hawaii and as far south as Madagascar.

i) Which word(s) is similar the word "fruit"?

(a) Coconut palm
(b) Offspring

ii) The picture to the right shows a coconut that has been shelled. What parts (compare with Figure 26 in the article) have been removed?



(a) Endocarp and embryo.
(b) Mesocarp and exocarp.

iii) Which sentence is an example of the word, "husk"?

(a) The girl peeled away the dry outer layer of the pumpkin seed.
(b) The boy climbed up the rough bark that formed the stem of the palm tree.

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iv) Which word is the most similar to the word, “yummy”?

(a) Flavor.
(b) Delicious.

v) The picture shows a palm.



It is a palm because:

(a) It grows in warm, tropical regions like Brunei.
(b) It has no branches from its stem

vi) One main idea of the article is that there are many surprising facts about coconuts. The section "Interesting Coconut Facts" supports this idea because it shows .....

(a) the different things coconuts can be used for.
(b) The many places where coconuts grow.
(c) The reasons scientists have studied coconuts
(d) The parts of the coconuts that are good to eat.

vii) Which option summarizes the MAIN idea of the section "It Is Not A True Nut"?

(a) Coconuts may have first come from India or Polynesia, but this is believed by only one scientist who studied coconuts long ago.
(b) Coconuts spread by their seeds in different ways than nuts, and scientists have studied how they spread around the world.
(c) Coconuts are different from nuts because they have pores that shoots poke through.
(d) Coconuts take a long time to develop fully and have been studied for over 200 years.

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viii) Look at the image of the parts of the coconut. What does the inner layer next to the endocarp represent?

(a) the embryo
(b) the endosperm
(c) the testa
(d) the shell

ix) Based on the article, what do we know about the exocarp of the coconut?

(a) it surrounds the hard and woody part.
(b) It is usually smooth and green.
(c) It is the part you get at the supermarket.
(d) It is the yummy white part you eat.

x) The origin of the coconut has been estimated based on:

(a) the distribution of the coconut around the world.
(b) Based on how it is used to make food and drinks in different countries around the world.
(c) On the observation that they appeared first in India and Polynesia.
(d) By looking at how it spread across the Pacific.

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