

# Fruit

From <http://www.biology-online.org/dictionary/Fruit>

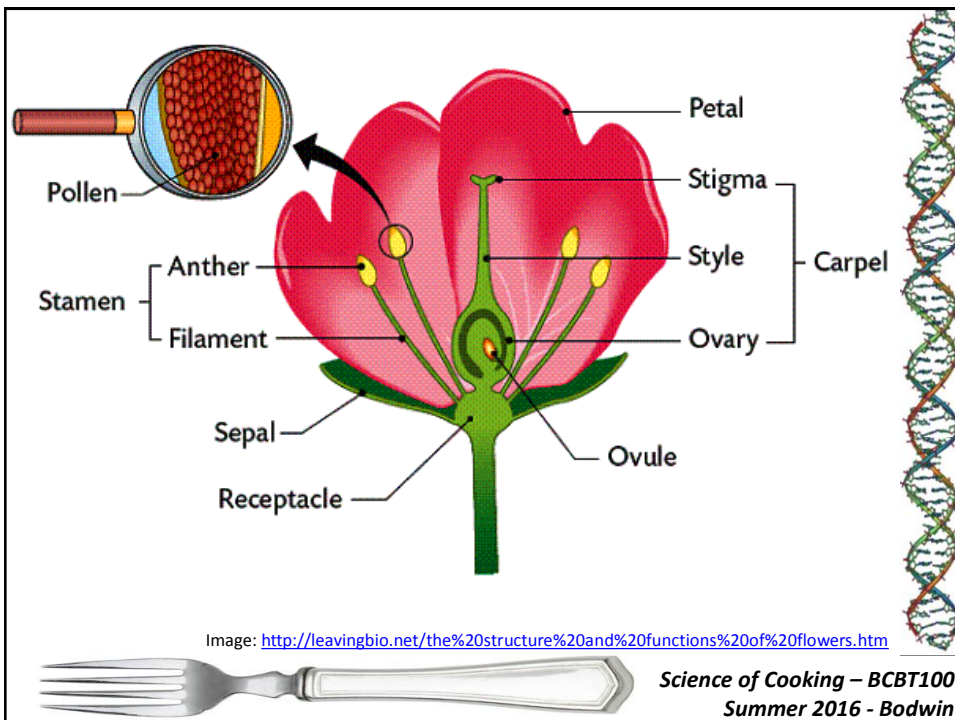
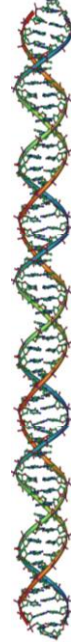
1. (botany) Seed-bearing structure in angiosperms formed from the ovary after flowering.
2. The edible, usually fleshy and sweet smelling part of a plant that may or may not contain seed(s).

**Fruit = Reproduction**

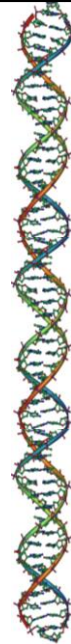
Evolved to spread seeds

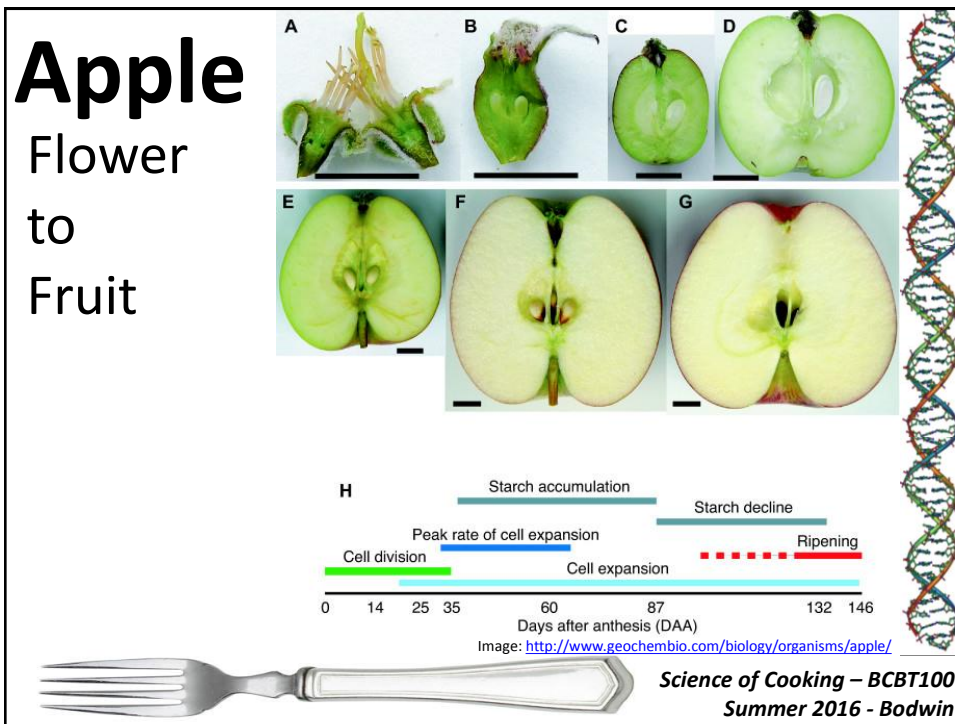
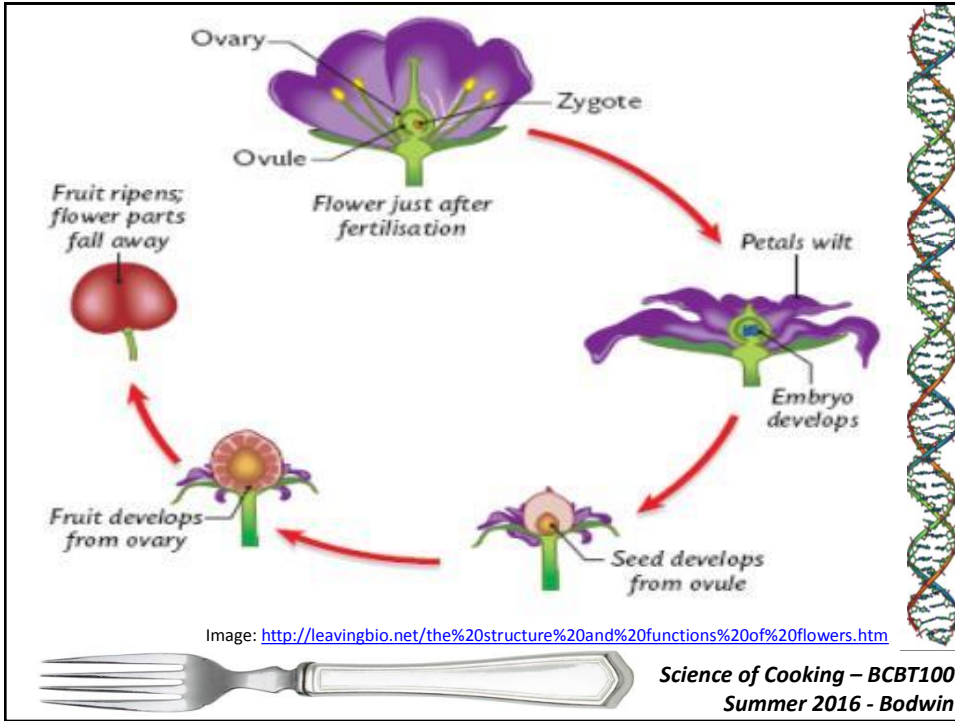


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# Fruits

Image: [http://www.aas.org/news/releases/2012/0628sp\\_tomato.shtml](http://www.aas.org/news/releases/2012/0628sp_tomato.shtml)

Image: <http://www.classroomscience.org/check-an-apple-for-pollination>

Image: [http://en.wikipedia.org/wiki/File:Cucumber\\_and\\_cross\\_section.jpg](http://en.wikipedia.org/wiki/File:Cucumber_and_cross_section.jpg)

Image: <http://www.citrech.it/English/Informations.htm>

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# Main Fruit Molecules

Reproductive bodies = energy

- Sugars
- Starch
- Carbohydrates
- Low protein
- Low fat\*

Image: <http://www.shannondelvesfitness.com/2011/04/10-day-raw-fruit-and-vegetable-cleanse/>

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# Fat in Fruits

Watermelon = 0.15% fat

Olives, pickled, canned or bottled, green - Fat

In 100g, Fat content = 15.32 g

Typical Fruits serving, 1 olive (or 2.7g), Fat content = 0.41 g

Avocados, raw, all commercial varieties - Fat

In 100g, Fat content = 14.66 g

Typical Fruits serving, 1 cup, cubes (or 150g), Fat content = 21.99 g

Roast beef = ~4-7% fat

from: <http://www.dietandfitnesstoday.com/fruits-high-in-fat.php>



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# Other Fruit Molecules

Nutrients

Vitamins – What type?

Minerals

Phytochemicals – often colored

Anti-oxidants

Hormone-like activity

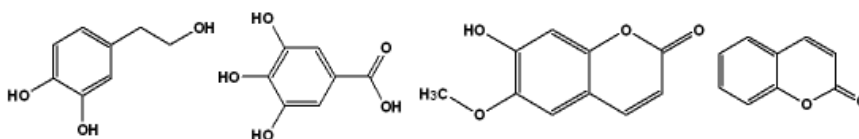


Image: <http://www.phytochemicals.info/>



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# Carotenoids

Alternating bonds =  
color

More = more color

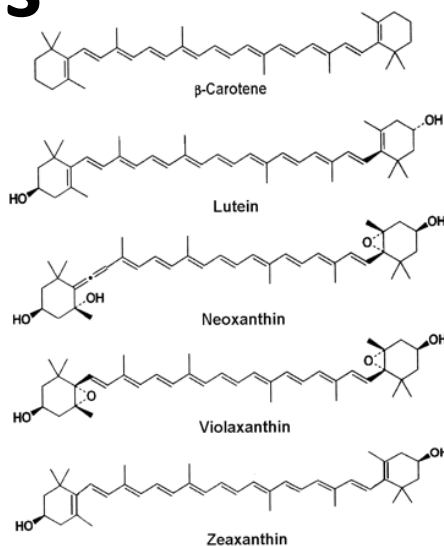


Image: <http://www.jbc.org/content/274/42/29613.full>



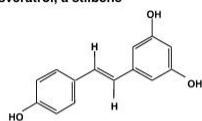
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# Hormone Mimics

Shape and polarity

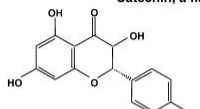
GRAPE:

Resveratrol, a stilbene



TEA (grapes):

Catechin, a flavanol



SOY:

Genistein, an isoflavone

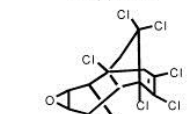
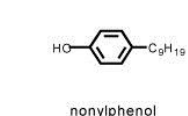
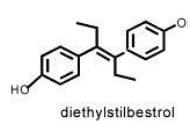
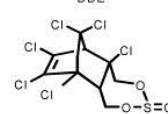
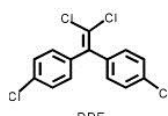
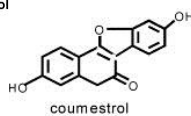
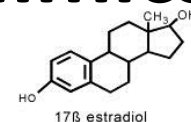
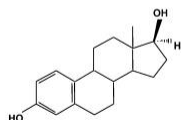
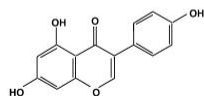


Image: <http://www.sciencedirect.com/science/article/pii/S0024320505012439>

endosulfan

Image: <http://www.sciencedirect.com/science/article/pii/S0039128X06002224>



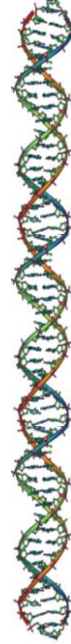
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# Properties of Fruits

Usually sweet

Often brightly colored

High water content



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