1. Are your two oranges still alive? How can you tell?
Yes, each was alive during all of the time that they were growing on orange trees and they will stay alive for an interval of one week after they're picked (depending on storage temperature; refrigeration extends their shelf-life). While they are still alive, you can listen to them by tapping gently on their sides with your fingers. If they are alive, you will hear a hollow sound. If they are dead, you will hear a dull sound.

What do we mean by saying an orange is alive? We mean that many of the metabolic processes of life inside the orange's cells are continuing, and that the orange is still breaking down available nutrients (undergoing respiration) to release energy that sustains its life. The seeds inside the fruit are also alive. It is hard to ascertain this without special scientific equipment and chemicals. However, you will know that an orange is no longer alive if it does not look and smell edible.

2. How are the sweet-smelling orange blossoms (white flowers) of an orange tree related to how oranges develop?
Plant science researchers who have studied many orange trees tell us that the following locations on an orange tree are the best for producing oranges:
(a) the side of the tree with the sweetest oranges, because the oranges on the north side are least sweet—this north-facing side is the least sunny and the least exposed to the sun's heat, and their potential is for trees for the oranges with the most juice and the least; (c) the same directional pattern is true for oranges with the most vitamin C and the least; and (d) the sweeter oranges grow at the top of the tree, as compared to the low-hanging fruit that you don't need a ladder to pick. So your "sweet" arrows should be pointed toward the top of your tree directed there.

3. What are the age possibilities for the trees that produce oranges? How many years does an orange tree bear fruit?

Plant scientists have found that growing oranges where there are cold nights with a low temperature of about 40ºF turns the skin color of oranges from green to bright orange. In contrast, oranges grown in hot, tropical Thailand remain green. Some varieties of oranges even have a red-orange skin. In short, the skin (rind) color of oranges tells us nothing about when they are ripe and full of mature juice.

4. Imagine standing in an orange grove, facing an orange tree full of oranges. Draw the shape of such an orange tree and then use arrows to point to the best place to pick the oranges.

5: Choose and hold one of your oranges in your hand so that the blossom end faces upward—just as it did when it was growing on the tree. Which parts of this orange would you choose if you wanted to eat only the sweetest part?

6. Examine the blossom end of your sliced naval orange. Can you see what some people call a "baby orange" inside of it, near the "navel" of the orange? What is the explanation for this very surprising "orange inside an orange?"
Plant science researchers who have studied many oranges tell us that the seedless orange is the result of spontaneous change in this fruit tree's genetic code (a mutation). The same mutation led to the formation of a kind of undeveloped mini-twin orange embedded in the orange's skin. "The baby orange" is visible from the outside of the orange, this smaller, undeveloped twin leaves a human-like navel-like concavity (opening) at the blossom end.

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8. Can oranges be green, red, or orange. What does an orange's color tell you?
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9. The two major U.S. orange-growing states are Florida and California. How might you be able to tell a Florida orange from a California orange?
In general, Florida oranges have a thinner skin (rind), higher sugar levels, and more juice than California oranges—making them sweeter. Florida Valencia oranges are best from March through May. California navels are market best from November to January; Florida Valencia oranges are best from March through May. California navels are market between 100 to 300 oranges per growing season for many decades.

10. Are your two oranges still alive? How can you tell?

11. What are the world's favorite food and drink flavors?

12. Are your two oranges still alive? How can you tell?

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