

What Microbe Are You? Personality Quiz Dichotomous Key

You'll be presented with a series of statements to help you find out which microbe is most like you. In each pair, click on the statement that best describes you.

1. Distinguish between prokaryotes and eukaryotes based on degree of internal cell organization
 - 1a. My bedroom is well-organized and everything is placed where it belongs. (Eukaryote—link to question 14)
 - 1b. My bedroom is messy and only I know where to find anything. (Prokaryote—link to question 2)
2. Distinguish between bacteria and archaea on basis of preferred water depth
 - 2a. In a bunk bed, I prefer the upper bunk. (Bacteria—link to question 3)
 - 2b. In a bunk bed, I like to sleep on the bottom. (Archaea—link to question 10)
3. Distinguish between autotrophic and heterotrophic bacteria
 - 3a. I enjoy home-cooked meals. (Autotroph—link to question 4)
 - 3b. I prefer to eat out. (Heterotroph—link to question 6)
4. Distinguish between solitary and colonial cyanobacteria
 - 4a. In my spare time, I enjoy hanging out by myself. (Link to question 5)
 - 4b. During my free time, I prefer to hang out with friends. (Link to *Trichodesmium erythraeum* profile)
5. Distinguish between *Prochlorococcus* and *Synechococcus* based on temperature tolerance
 - 5a. I don't like cold weather. (Link to *Prochlorococcus marinus* profile)
 - 5b. I like all sorts of weather. (Link to *Synechococcus* profile)
6. Distinguish between aerobic and anaerobic heterotrophic bacteria
 - 6a. I can hold my breath for a long time. (Anaerobe—link to question 9)
 - 6b. I can't hold my breath for a long time. (Aerobe—link to question 7)
7. Distinguish between aerobic heterotrophic bacteria based on gram stain
 - 7a. Purple is one of my favorite colors. (Link to *Salinispora tropica* profile)
 - 7b. I don't like the color purple. (Gram negative—link to question 8)

8. Distinguish between aerobic heterotrophic bacteria based on genome size
 - 8a. When I leave the house, I pack everything that I could possibly need during the day. (Link to *Ruegeria pomeroyi* profile)
 - 8b. I like to travel light and only take the bare essentials. (Link to *Pelagibacter ubique* profile)
9. Distinguish between anaerobic heterotrophic bacteria based on gas production
 - 9a. When I eat beans, I make a stinky gas. (Link to *Desulfovibrio desulfuricans* profile)
 - 9b. Not much upsets my stomach or makes me gassy. (Link to *Rhodoferrax ferrireducens* profile)
10. Distinguish between *Euryarchaeota* and *Crenarchaeota* based on range size
 - 10a. Most of my extended family live all over the country/world. (Crenarchaea - Link to question 11)
 - 10b. Most of my extended family live nearby. (Euryarchaea—link to question 13)
11. Distinguish between thermophilic and symbiotic Crenarchaea based on degree of cooperation with other organisms
 - 11a. I work well with others and see the benefits of team work. (Link to *Cenarchaeum symbiosum* profile)
 - 11b. I can achieve more on my own and prefer to work independently. (Thermophilic Crenarchaea—link to question 12)
12. Distinguish between two thermophilic Crenarchaea based on pH tolerance.
 - 12a. I like to drink milk. (Link to *Hyperthermus butylicus* profile)
 - 12b. I prefer to drink lemonade. (Acidophile—link to *Pyrodictium abyssi* profile)
13. Distinguish between methanogenic and halophilic Euryarchaea based on preferred salinity
 - 13a. I prefer swimming in pools and lakes/streams. (Link to *Methanococcus jannischii* profile)
 - 13b. Swimming in the ocean is the best. (Link to *Halobacterium salinarium* profile)
14. Distinguish between heterotrophic (e.g., forams, radiolarians) and phototrophic (e.g., diatoms, coccolithophores, and dinoflagellate) eukaryotes based on the time when most of the energy (sunlight vs. feeding) is acquired
 - 14a. I stay up late. (Heterotrophic eukaryote—link to question 15)
 - 14b. I go to bed early. (Phototrophic eukaryote—link to question 16)
15. Distinguish between foraminiferans and radiolarians based on skeleton shape
 - 15a. My hair is mostly straight. (Radiolarian—link to *Lamprocyclus maritima* profile)

- 15b. My hair is curly. (Foram—link to *Elphidium crispum* profile)
16. Distinguish between obligate and facultative phototrophs based on metabolic flexibility
- 16a. I am flexible and can adapt to change. (Facultative phototroph—link to question 17)
 - 16b. I avoid change and prefer stability. (Obligate phototroph—link to question 18)
17. Distinguish between facultative phototrophs (dinoflagellates) based on the ability to form red tides
- 17a. I generally go with the flow and follow the rules. (Link to *Fragilidium subglobosum* profile)
 - 17b. I'm mischievous and a bit of a trouble-maker. (Forms harmful algal blooms—link to *Akashiwo sanguineum* profile)
18. Distinguish between diatoms and coccolithophores based on presence/absence of silica
- 18a. I have very good vision. (Coccolithophore—link to *Emiliana huxleyi* profile)
 - 18b. I need to wear glasses. (Diatom—link to *Thalassiosira weissflogii* profile)

What Microbe Are You?! – Microbe relationship tree

Trace the path on the tree as you go through the questions on the dichotomous key below. The number/letter combinations refer to the responses on the dichotomous key that would take you to that position on the tree.



