

# Dr. Arnold O. Beckman's Revolutionary Tools

## In-Tour Activity: Matching Terms

**Directions:** Below you will find a set of terms and a list of clues. Based on what you learn during the Revolutionary Tools exhibit tour, match each term with its corresponding clue. The first one is completed for you as an example.

acidimeter	blacksmith	business	Caltech	chemistry	Cullom
glassblowing	incubators	institutes	Inventors	lemons	Mabel
Marines	matter	oxygen	phone	science	smog
space	spectrophotometer	submarines	supplements	ultracentrifuge	

1. Cullom Clue: Rural Illinois town where Arnold O. Beckman was born in 1900
2. blacksmith Clue: Profession of Arnold's father
3. chemistry Clue: Subject of the book that sparked Arnold's lifelong curiosity
4. Marines Clue: Branch of the military that 18-year-old Arnold joined during WWI
5. Caltech Clue: University where Arnold earned his PhD in photochemistry and later became a professor
6. matter Clue: Photochemistry is the study of how light interacts with this
7. glassblowing Clue: Dr. Beckman taught a world-renowned class on this skill
8. phone Clue: Type of systems that Dr. Beckman worked on quality control for while at Bell Labs in NYC
9. lemons Clue: Dr. Beckman's fraternity brother was interested in measuring the pH of this type of fruit
10. acidimeter Clue: Another name for a pH meter
11. business Clue: Dr. Beckman left Caltech to pursue this kind of opportunity
12. Mabel Clue: Name of Dr. Beckman's wife who also traveled cross-country with him to sell pH meters
13. oxygen Clue: The only gas that reacts to a magnetic field
14. submarines Clue: The oxygen analyzer helped these vessels stay submerged longer
15. incubators Clue: To help prevent premie blindness oxygen analyzers were used in these hospital devices
16. space Clue: Oxygen sensors are used for high altitude flight including this type of exploration mission
17. spectrophotometer Clue: Instrument that measures the interaction between light and materials
18. supplements Clue: Early use of the spectrophotometer measured the amount of Vitamin A in these
19. ultracentrifuge Clue: An instrument Dr. Beckman invested in that was used to prove the theory of DNA replication in cells
20. Inventors Clue: Dr. Beckman as inducted into this Hall of Fame (like Alexander Bell and Thomas Edison)
21. smog Clue: Dr. Beckman led a task force to understand causes of and find ways of improving this
22. institutes Clue: Dr. and Mrs. Beckman used their fortune to start a foundation, support young scientists and establish five of these across the nation
23. science Clue: Dr. Beckman's Revolutionary Tools may spark your interest in a career in this field