

Survey of Attitudes Toward Astronomy (Pre)

The questions below are designed to identify your attitudes about astronomy and science. The item scale has 5 possible responses; the responses range from 1 (strongly disagree) through 3 (neither agree nor disagree) to 5 (strongly agree). Please read each question. From the 5-point scale mark the response that most clearly represents your agreement with the statement. Use the entire 5-point scale. Try not to think too deeply about each response; there are no correct or incorrect answers.

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|--|---|---|---|---|---|
| 1. Astronomy is a subject learned quickly by most people. | 1 | 2 | 3 | 4 | 5 |
| 2. I will have trouble understanding astronomy because of how I think. | 1 | 2 | 3 | 4 | 5 |
| 3. Astronomy concepts are easy to understand. | 1 | 2 | 3 | 4 | 5 |
| 4. Astronomy is irrelevant to my life. | 1 | 2 | 3 | 4 | 5 |
| 5. I will get frustrated going over astronomy tests in class. | 1 | 2 | 3 | 4 | 5 |
| 6. I will be under stress during astronomy class. | 1 | 2 | 3 | 4 | 5 |
| 7. I will understand how to apply analytical reasoning to astronomy. | 1 | 2 | 3 | 4 | 5 |
| 8. Learning astronomy requires a great deal of discipline. | 1 | 2 | 3 | 4 | 5 |
| 9. I will have no idea of what's going on in astronomy. | 1 | 2 | 3 | 4 | 5 |
| 10. I will like astronomy. | 1 | 2 | 3 | 4 | 5 |
| 11. What I learn in astronomy will not be useful in my career. | 1 | 2 | 3 | 4 | 5 |
| 12. Most people have to learn a new way of thinking to do astronomy. | 1 | 2 | 3 | 4 | 5 |
| 13. Astronomy is highly technical. | 1 | 2 | 3 | 4 | 5 |
| 14. I will feel insecure when I have to do astronomy homework. | 1 | 2 | 3 | 4 | 5 |
| 15. I will find it difficult to understand astronomy concepts. | 1 | 2 | 3 | 4 | 5 |
| 16. I will enjoy taking this astronomy course. | 1 | 2 | 3 | 4 | 5 |
| 17. I will make a lot of errors applying concepts in astronomy. | 1 | 2 | 3 | 4 | 5 |
| 18. Astronomy involves memorizing a massive collection of facts. | 1 | 2 | 3 | 4 | 5 |
| 19. Astronomy is a complicated subject. | 1 | 2 | 3 | 4 | 5 |
| 20. I can learn astronomy. | 1 | 2 | 3 | 4 | 5 |
| 21. Astronomy is worthless. | 1 | 2 | 3 | 4 | 5 |
| 22. I am scared of astronomy. | 1 | 2 | 3 | 4 | 5 |
| 23. Scientific conclusions are rarely presented in everyday life. | 1 | 2 | 3 | 4 | 5 |
| 24. Scientific concepts are easy to understand. | 1 | 2 | 3 | 4 | 5 |
| 25. Science is not useful to the typical professional. | 1 | 2 | 3 | 4 | 5 |
| 26. The thought of taking a science course scares me. | 1 | 2 | 3 | 4 | 5 |
| 27. I like science. | 1 | 2 | 3 | 4 | 5 |
| 28. I find it difficult to understand scientific concepts. | 1 | 2 | 3 | 4 | 5 |
| 29. I can learn science. | 1 | 2 | 3 | 4 | 5 |

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| 30. Scientific skills will make me more employable. | 1 | 2 | 3 | 4 | 5 |
| 31. Science is a complicated subject. | 1 | 2 | 3 | 4 | 5 |
| 32. I use science in my everyday life. | 1 | 2 | 3 | 4 | 5 |
| 33. Scientific thinking is not applicable to my life outside my job. | 1 | 2 | 3 | 4 | 5 |
| 34. Science should be a required part of my professional training. | 1 | 2 | 3 | 4 | 5 |

Survey of Attitudes Toward Astronomy (Post)

The questions below are designed to identify your attitudes about astronomy and science. The item scale has 5 possible responses; the responses range from 1 (strongly disagree) through 3 (neither agree nor disagree) to 5 (strongly agree). Please read each question. From the 5-point scale mark the response that most clearly represents your agreement with the statement. Use the entire 5-point scale. Try not to think too deeply about each response; there are no correct or incorrect answers.

| | | | | | |
|--|---|---|---|---|---|
| 1. Astronomy is a subject learned quickly by most people. | 1 | 2 | 3 | 4 | 5 |
| 2. I had trouble understanding astronomy because of how I think. | 1 | 2 | 3 | 4 | 5 |
| 3. Astronomy concepts were easy to understand. | 1 | 2 | 3 | 4 | 5 |
| 4. Astronomy is irrelevant to my life. | 1 | 2 | 3 | 4 | 5 |
| 5. I got frustrated going over astronomy tests in class. | 1 | 2 | 3 | 4 | 5 |
| 6. I was under stress during astronomy class. | 1 | 2 | 3 | 4 | 5 |
| 7. I understood how to apply analytical reasoning to astronomy. | 1 | 2 | 3 | 4 | 5 |
| 8. Learning astronomy required a great deal of discipline. | 1 | 2 | 3 | 4 | 5 |
| 9. I had no idea of what's going on in astronomy. | 1 | 2 | 3 | 4 | 5 |
| 10. I like astronomy. | 1 | 2 | 3 | 4 | 5 |
| 11. What I learned in astronomy will not be useful in my career. | 1 | 2 | 3 | 4 | 5 |
| 12. Most people have to learn a new way of thinking to do astronomy. | 1 | 2 | 3 | 4 | 5 |
| 13. Astronomy was highly technical. | 1 | 2 | 3 | 4 | 5 |
| 14. I felt insecure when I have to do astronomy homework. | 1 | 2 | 3 | 4 | 5 |
| 15. I found it difficult to understand astronomy concepts. | 1 | 2 | 3 | 4 | 5 |
| 16. I enjoyed taking this astronomy course. | 1 | 2 | 3 | 4 | 5 |
| 17. I made a lot of errors applying concepts in astronomy. | 1 | 2 | 3 | 4 | 5 |
| 18. Astronomy involved memorizing a massive collection of facts. | 1 | 2 | 3 | 4 | 5 |
| 19. Astronomy was a complicated subject. | 1 | 2 | 3 | 4 | 5 |
| 20. I can learn astronomy. | 1 | 2 | 3 | 4 | 5 |
| 21. Astronomy is worthless. | 1 | 2 | 3 | 4 | 5 |
| 22. I was scared of astronomy. | 1 | 2 | 3 | 4 | 5 |
| 23. Scientific conclusions are rarely presented in everyday life. | 1 | 2 | 3 | 4 | 5 |
| 24. Scientific concepts are easy to understand. | 1 | 2 | 3 | 4 | 5 |
| 25. Science is not useful to the typical professional. | 1 | 2 | 3 | 4 | 5 |
| 26. The thought of taking a science course scares me. | 1 | 2 | 3 | 4 | 5 |
| 27. I like science. | 1 | 2 | 3 | 4 | 5 |
| 28. I find it difficult to understand scientific concepts. | 1 | 2 | 3 | 4 | 5 |
| 29. I can learn science. | 1 | 2 | 3 | 4 | 5 |

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|--|---|---|---|---|---|
| 30. Scientific skills will make me more employable. | 1 | 2 | 3 | 4 | 5 |
| 31. Science is a complicated subject. | 1 | 2 | 3 | 4 | 5 |
| 32. I use science in my everyday life. | 1 | 2 | 3 | 4 | 5 |
| 33. Scientific thinking is not applicable to my life outside my job. | 1 | 2 | 3 | 4 | 5 |
| 34. Science should be a required part of my professional training. | 1 | 2 | 3 | 4 | 5 |

Survey of Attitudes Toward Astronomy

The questions below are designed to identify your attitudes about astronomy and science. The item scale has 5 possible responses; the responses range from 1 (strongly disagree) through 3 (neither agree nor disagree) to 5 (strongly agree). Please read each question. From the 7-point scale mark the response that most clearly represents your agreement with the statement. Use the entire 5-point scale. Try not to think too deeply about each response; there are no correct or incorrect answers.

(Note: subscale indications were not given to or seen by the students. A “R” indicates that the item was reversed scored [1 becomes 5, 2 becomes 4, and so on] so that higher scores on all items corresponded to more positive attitudes.)

1. Astronomy is a subject learned quickly by most people. D
- 2R. I will have trouble understanding astronomy because of how I think. CC
3. Astronomy concepts are easy to understand. CC
- 4R. Astronomy is irrelevant to my life. V
- 5R. I will get frustrated going over astronomy tests in class. A
- 6R. I will be under stress during astronomy class. A
7. I will understand how to apply analytical reasoning to astronomy. CC
- 8R. Learning astronomy requires a great deal of discipline. D
- 9R. I will have no idea of what's going on in astronomy. CC
10. I will like astronomy. A
- 11R. What I learn in astronomy will not be useful in my career. V
- 12R. Most people have to learn a new way of thinking to do astronomy. D
- 13R. Astronomy is highly technical. D
- 14R. I will feel insecure when I have to do astronomy homework. A
- 15R. I will find it difficult to understand astronomy concepts. CC
16. I will enjoy taking this astronomy course. A
- 17R. I will make a lot of errors applying concepts in astronomy. CC
- 18R. Astronomy involves memorizing a massive collection of facts. D
- 19R. Astronomy is a complicated subject. D
20. I can learn astronomy. CC
- 21R. Astronomy is worthless. V
- 22R. I am scared of astronomy. A
- 23R. Scientific conclusions are rarely presented in everyday life. V
24. Scientific concepts are easy to understand. D
- 25R. Science is not useful to the typical professional. V
- 26R. The thought of taking a science course scares me. A
27. I like science. A
- 28R. I find it difficult to understand scientific concepts. CC
29. I can learn science. CC
30. Scientific skills will make me more employable. V
- 31R. Science is a complicated subject. D
32. I use science in my everyday life. V
- 33R. Scientific thinking is not applicable to my life outside my job. V
34. Science should be a required part of my professional training. V

The subscales with number of items are:

- A. Affect (A): Positive and negative feelings concerning astronomy/science.
- B. Cognitive Competence (CC): attitudes about intellectual knowledge and skills when applied to astronomy/science.
- C. Value (V): Attitudes about the usefulness, relevance, and worth of astronomy/science in personal and professional life.
- D. Difficulty (D): Attitudes about the difficulty of astronomy/science as a subject.