

SURVEY FOR PRACTICING PHYSICISTS

As a part of the Outreach activities of the Physics Department at Purdue University we are exploring the role and effectiveness that presentations which include the performing arts, including physics on the road, have in significantly enhancing science skills and school achievement in the elementary grades. The intent of this survey is to develop a better understanding of what experiences practicing physicists have had in **THEIR PRE HIGH SCHOOL YEARS** that led them to become a “practicing physicist.” “Practicing physicist” is defined as an individual doing research, employed by industry, teaching, or student (graduate or undergraduate). Your response will help physics outreach to better understand what is important in reaching young students, grades 1-6.

Name (Optional) _____ Age _____ Gender _____

What city and state did you go to elementary school? _____

The relative ages and gender of siblings: _____

Occupation (Circle one)

Research Industry Educator Graduate Student Undergraduate Student

Institution: _____

1. To what extent did each of the following stimulate your interest in physics and influence your career choice **BEFORE THE AGE OF 14?**

	Strongly	Moderately	Slightly	Did not Influence
Teacher(s)	1	2	3	4
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Lab Experience(s) in school	1	2	3	4
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Television	1	2	3	4
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Internet	1	2	3	4
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Newspapers, magazines, other media	1	2	3	4
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Books	1	2	3	4
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Enrichment class(es) in school	1	2	3	4
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Summer camps/programs	1	2	3	4
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Clubs/extracurricular activities	1	2	3	4
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Parent(s), home environment	1	2	3	4
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Field trip experience	1	2	3	4
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Public performances, stage productions, etc.	1	2	3	4
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Museum visits	1	2	3	4
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Toys or other similar activities	1	2	3	4
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Science Fairs	1	2	3	4
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Other (Please describe.)				
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2. Describe the persons who had the greatest impact on your career choice.

3. Describe the experiences that had the greatest impact on your career choice.

4. If a teacher had a positive impact on your *pre-high school* decision to study physics, what were the characteristics of the teacher?

	Very True	Somewhat True	Uncertain	Somewhat untrue	Very Untrue
Used acting skills	1	2	3	4	5
Passionate about the subject	1	2	3	4	5
Used humor to engage students	1	2	3	4	5
Knowledgeable about advances in the field	1	2	3	4	5
Went beyond the textbook	1	2	3	4	5
Offered hands-on experiences	1	2	3	4	5
Made learning relevant	1	2	3	4	5

Went the extra mile 1 2 3 4 5

Had high standards 1 2 3 4 5
for student performance

Presented intriguing theoretical 1 2 3 4 5
concepts about the physical
world that stimulated your
imagination and interest in science

5. How old were you when you first became intrigued in the physical sciences/physics?

_____ 5-10 years old

_____ 11-12 years old

_____ 13-15 years old

_____ 16-18 years old

6. Was there “an event” , “topic”, “observation” or “concept” from physics that particularly caught your attention during your “formative years” as a child? Describe.

7. Was the gender of an influencing teacher of significance? Explain.

8. Did you have a teacher *prior to high school* who provided you with a very positive science experience? If yes, was this experience influential in your decision to take more science during your high school years? Explain.

9. Based on your own experiences what type of education, activities etc would you recommend in order to interest children in physics in their pre high school years.

10. What do you think is the critical formative age range in order to cultivate the basic math skills and interest children in the physical world.

11. Do you think that the development of math skills at an early age is a key element in an eventual career in physics.

12. What math activities did you engage in at an early age that you now view as important (e.g. playing with bricks, number games, chess.....)

THANK YOU FOR YOUR HELP IN THIS IMPORTANT ACTIVITY

Background

Discovery, Engagement and Learning are the three primary goals of Purdue University. Each department is charged with the task of integrating these concepts into its strategic plan and to take a leadership role in their development in relation to its discipline. Learning is a core concept and educational enrichment and experiential learning are basic to our goals. Outreach to our community and state are an important element in the process of engagement for the purpose of learning. Each department spends time and money on programs that are aimed at bringing the community closer to us and to share what we know in a way that will be meaningful to residents. Primary among the types of outreach programs we engage in are educational programs for grades K-12. Both science and the arts involve thousands of area children in educational activities each year. These activities require designated staff and budget. We need to assess the impact of our

programs, refine our programs and determine whether we are reaching our goal of improving science education.

To this end, we are exploring how a person “becomes a physicist” in order to better understand the role of various learning and experiential elements in your decision to become a physics major when you entered college. In particular, we are interested in pre-high school years to determine if there were certain particularly highly effective people, events, experiences, etc. that had an important influence. For example, at a national workshop of folks who provide Physics on the Road visits, the Physics Nobel Prize laureate, Doug Oserhoff, shared, “It all started when one of your shows visited my small town.” In addition to this survey we will be obtaining information from pre high school and high school students and teachers and having special presentations such as the Super Scientific Circus, a professional theatrical presentation that focuses on teaching science concepts.

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OR

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