

## COMPARATIVE PERCEPTION OF PHYSICS BY BOYS AND GIRLS.

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It seems to be a prevalent notion that girls are not as capable of comprehending physics as are boys. I have heard this idea from many sources. Many boys have the notion; not a few girls have expressed such an idea to me, and one manufacturer of auto engines told me that no girl should be allowed to pursue the subject in the high school even. My own impression has been that the girls of my classes have made higher grades than the boys. In this study of the subject I have attempted to find some of the reasons for this impression.

In the Decatur High School the subject is elective, except for the engineering course which some boys elect and the entrance requirement for one of the State Normal Schools. In the past more boys have elected physics than have girls. It may be that those girls who have elected the subject are better prepared than the boys. With this thought in mind I have summarized the grades in physics and those in other subjects. Six grades are used in this school, six per cent to each grade, A, B, C, D, and E, below 71 per cent being failure and marked F. The numbers making each grade in physics appears in the accompanying tables, and below each the mean, highest and lowest grades in all *other* subjects. To obtain the latter items, the grade of each pupil in each subject was obtained, the mean for each one determined and the highest and lowest recorded. The number of A's, B's, etc., was then counted and the per cent making each grade computed. A perusal of the tables would seem to indicate that, this year, the boys are higher in physics and the girls higher in other subjects. This was where I got my surprise. But last year it was different. This year 6 per cent of the boys made A, none of the girls. 6 per cent of the boys, 5.3 per cent of the girls made B. Last year none of the boys made A and 20 per cent of the girls obtained the highest grade.

Last year the boys and girls were in classes by themselves. Was the work made easier for the girls? Were

they better prepared? Were they helped more than the boys? For the first question, the chief difference was in the laboratory work, and as I recall, fewer problems. As to the second question, 66 per cent of the girls last year made A & B, while only 11 per cent of the boys gained these marks. For the first semester of this year 5 per cent of the girls made similar grades in physics, but 55 per cent of them gained similar marks in other subjects; while 12 per cent of the boys had equal marks in physics and only 37 per cent of them did so well in other subjects.

When asked to state certain of the principals and definitions in light, the highest grades were obtained by the girls. One boy remarked that they might do better in memory work, but if I would give them problems to solve they would find out. I did so a few days later. I do not have the grades for these two tests but remember that that particular boy fell below the average of the girls.

The following test was given this week: 1. State Ohm's Law. (20). 2. Define ampere. (10). 3. Define ohm. (10). 4. Define volt. (5). 5. State Lenz's Law. (20). 6 and 7 Four diagrams were given, two to determine the direction of the current, and two to determine the necessary direction of the motion of a magnet by applying Lenz's Law; (to count 5 each). 8. An ammeter reads 1.3 amp. and a voltmeter across the ends of a coil of wire reads 19.5 volts. What is the resistance of the wire? In this test the average of the boys in the class having had three years of H. S. math. was 80.5, of the girls, 80.0. In the other classes the boys averaged 64.2 and the girls, 62.4.

The extent of the study is not sufficient to warrant a conclusive statement, but seems to indicate that there is little difference in the sexes as to physics, but that segregation on sex basis is beneficial to both.

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## ILLINOIS STATE ACADEMY OF SCIENCE

## SUMMARY OF GRADES FOR FIRST SEMESTER.

1925-6.

I. No.	No.	A	Boys.										Girls.					
			A	B	C	Semester I Physics.				A	B	C	D	E	F			
	%		3 6	3 6	14 28	D 17 34	E 6 12	F 7 14	Mean.	0	5.3	47.3	10.5	26.3	10.5			
	%		2 4.3	15 32.6	21 45.7	6 13.0	2 4.3	0	Other Subjects—	3 15.0	8 40.0	5 25.0	3 15.0	0	1 5.0			
	%		19 41.3	17 37.0	9 19.6	1 2.2	High. 0	0		11 55.0	6 30.0	1 5.0	1 5.0	0	1 25.0			
	%		1 2.2	5 10.9	18 39.1	12 26.0	46 8.7	6 13.0	Low.	1 5.0	4 20.0	7 35.0	3 15.0	0	5 25.0			
	%		0 0	6 10.7	15 26.8	20 35.7	10 17.9	5 8.9	Physics, Semester II, First Period—(Six Weeks).	0 0	1 4.8	7 33.3	7 33.3	5 23.8	1 4.8			
	%		2 3.9	16 31.4	18 35.3	12 23.5	1 2.0	2 3.9	Other Subjects—Mean.	0 0	11 52.4	9 42.9	1 4.8	0	0			
	%		23 45.1	14 27.5	10 19.6	2 3.9	High. 0	2 3.9		13 61.9	5 23.8	2 10.5	1 4.8	0	0			
	%		0 0	2 3.9	12 23.5	16 31.4	14 27.5	7 13.7	Low.	0 0	0	7 33.3	7 33.3	5 23.8	2 9.5			
	%		A 0	B 4	C 10	D 12	E 11	F 3	Physics Grades, School-year 1924-5, Semester I.	A 20.0	B 50.0	C 10.0	D 10.0	E 10.0	F 0			
	%		0 0	6 11.5	13 25.0	18 34.6	12 23.1	3 5.8	Semester II.	2 22.2	4 44.4	0	1 11.1	2 22.2	0			
	%		Semester I, Average, Boys 80.2								Girls, 83.6							
	%		Semester II, Average, Boys 81.3								Girls, 88.0							