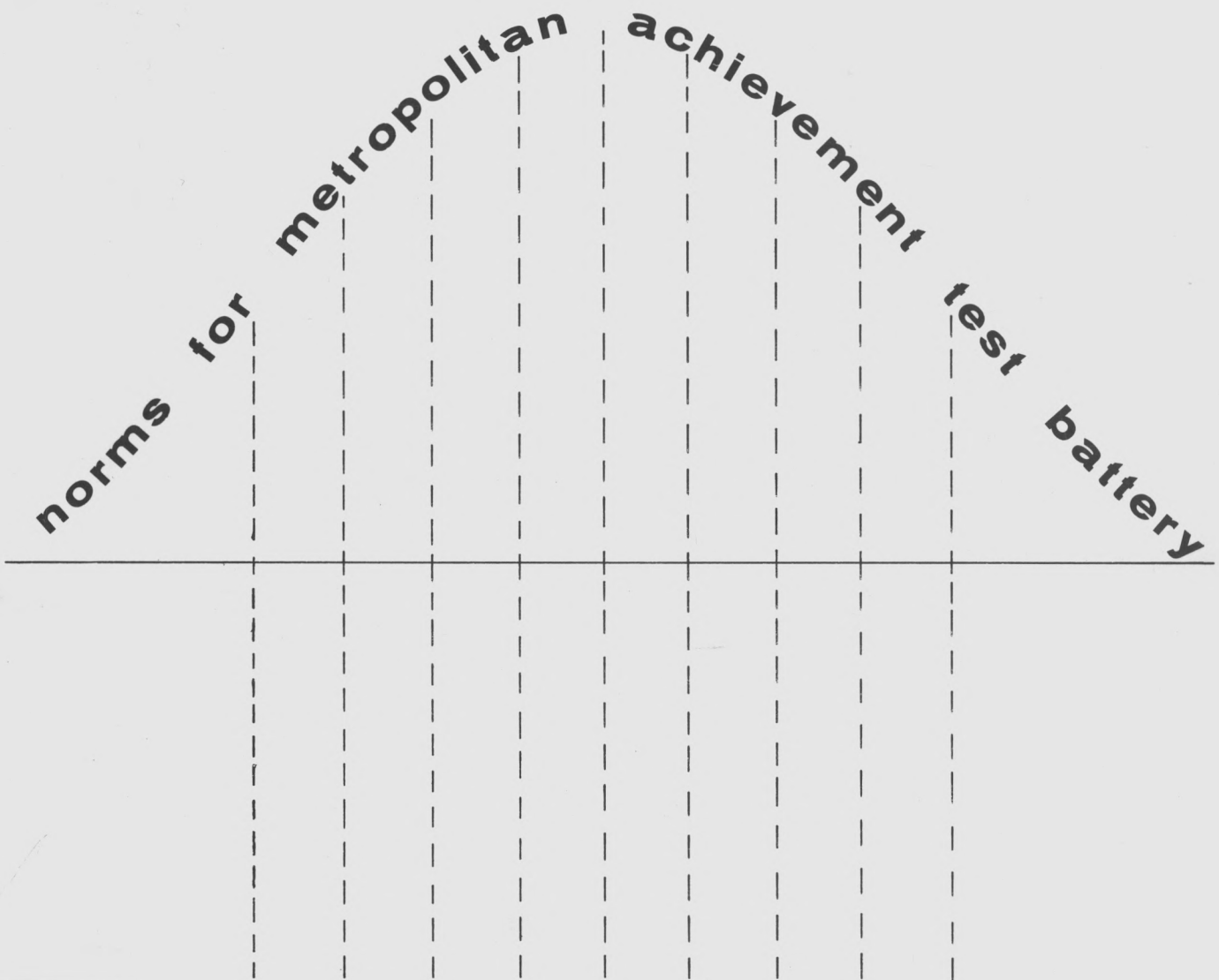




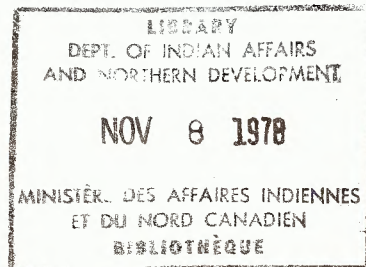
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# NORTHWEST TERRITORIES TESTING PROGRAM



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EDUCATION DIVISION  
Northern Administration Branch  
Department of Indian Affairs  
and Northern Development  
OTTAWA



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NORTHWEST TERRITORIES TESTING PROGRAM

1966-67 NORMS FOR

METROPOLITAN ACHIEVEMENT TEST BATTERY

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## FOREWORD

This report contains Norms and tables derived from the second consecutive administration of the Metropolitan Achievement Test Battery to pupils in selected grades in schools in the Northwest Territories during November 1966.

The tables contained on this report should help principals, teachers and superintendents add a degree of objectivity and northern relevance to the measurement of the achievement of the pupils in their care.

A project of this size and complexity is successful because of the full co-operation of the Superintendents, principals and teachers it is designed to help.

Handling such a large mass of data is possible only by using the most advanced Electronic Data Processing equipment. Our thanks are due to Mr. Macdonald the project co-ordinator, Mr. A.H. Netherton, M.A. (Oxon) of the Computer Information Systems Division of the Department, who designed the computer program and advised on the statistical analysis of the data and to Mr. P.E. Elmhurst who also worked on the computer program.



D.W. Simpson,  
Chief, Education Division

## CONTENTS

	<u>Page</u>
Foreword .....	1
Table of contents .....	ii
Introduction .....	1
Stanines .....	2
Project Design .....	4
Aims .....	4
Background .....	4
Analysis .....	6
Small Schools Study .....	8
Population .....	10
Date of Testing .....	14
Administration .....	14
Standardization .....	14
How to Use the Norms .....	15
- Examples	
Stanine Tables - Northwest Territories .....	17
Arctic District .....	26
Mackenzie District .....	31
Small Schools .....	44
Appendix A - Average Scores on Selected Sub-Tests and Distribution of Pupils by Grade, Age and Ethnic Origin .....	47
Appendix B - Average Scores on Sub-Tests by District and Ethnic Origin .....	57

### INTRODUCTION

During November 1966, 1,788 pupils in Grades II, IV AND VI in the schools in the Northwest Territories were tested using the Metropolitan Achievement Test Battery. From the results of this testing project a series of stanine tables have been calculated.

### NOTE ON NORMS

Measurements of behavioural characteristics (in this case "achievement") lack both an absolute zero (there is not likely to be NO achievement) and any guarantee that the units are equal throughout the range of the scale. For example, a gain of from 30 to 40 items correct on a test does not necessarily reflect the same change in underlying performance ability as does an increase in score from 90 to 100 items correct on the same test. Because of these conditions, the test score achieved by any one person has no meaning until it is interpreted in terms of the performance of other individuals. These "other individuals" should have characteristics similar to those of the tested person and it is for the purpose of this type of comparison with an appropriate group that these tables have been produced. Remember that it is also appropriate to compare an individual's score not only with that of a group to which he already belongs but with that of a group to which he may aspire.

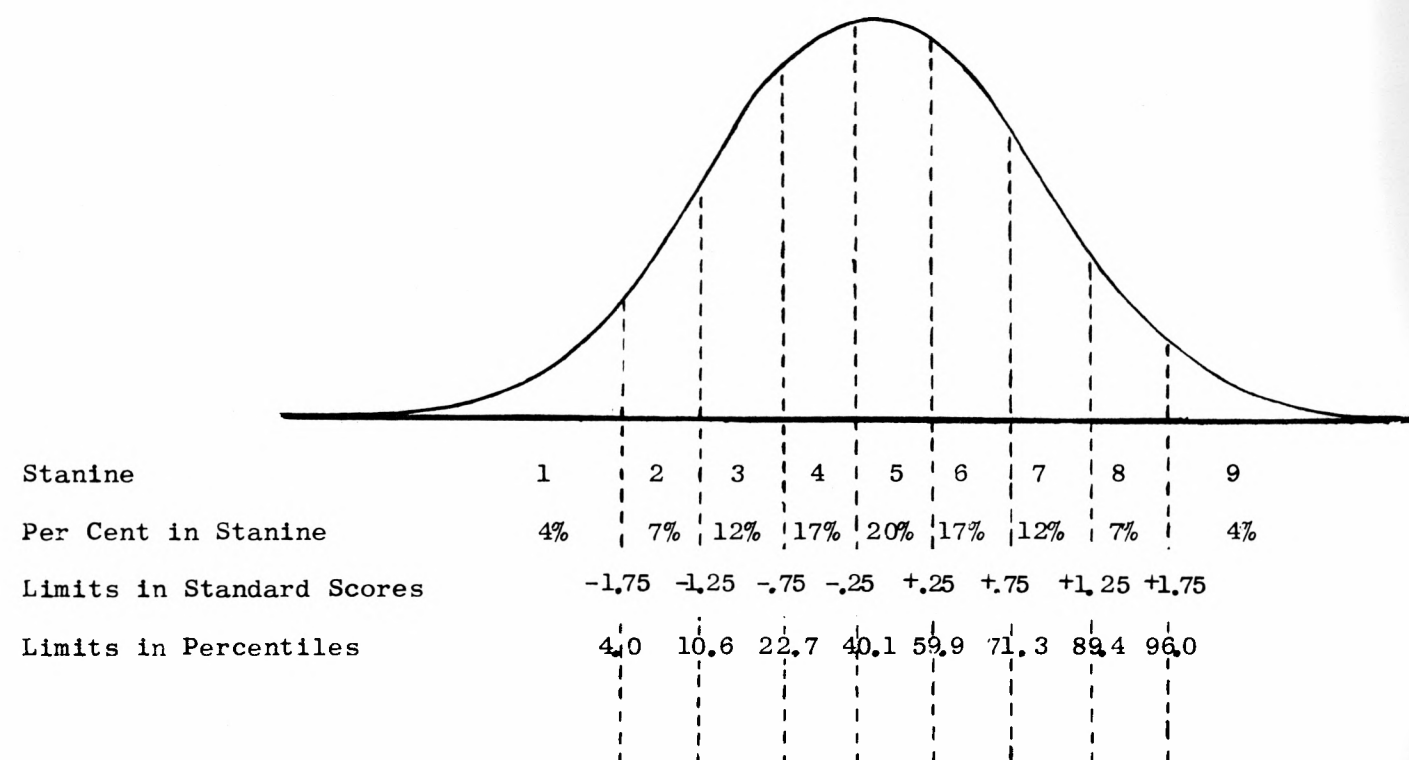
### STANINES

The norms are reported on a nine-point scale called a stanine scale, with the approximate percentage of the total norm group in each stanine as follows:

<u>Stanine</u>	<u>Percentage of Cases</u>	
1	4	Lowest
2	7	
3	12	
4	17	
5	20	
6	17	
7	12	
8	7	
9	4	
		Highest

Thus if a pupil scores at stanine 6 for his appropriate group, his score is between the 60th and 77th percentiles.

Figure 1: The Stanine Scale



Technically, stanines are normalized standard scores having a mean of five and a standard deviation of two (almost). The stanine scale is a nine-point scale extending along the baseline of a normal distribution, with stanine five centred on the mean. Each stanine is one-half a standard deviation in width, except that stanine one includes all cases below a standard score of -1.75, and stanine nine includes all cases above a standard score of +1.75.

Notes on the method of calculating stanines are published in Curriculum News Vol. 5 No. 1, January 1967. This publication should be available in the school or can be obtained from the Curriculum Section.

## PROJECT DESIGN

### AIMS

The purposes of this aspect of the testing program are:

- (1) To give teachers a diagnostic tool to aid in their teaching.
- (2) To establish a pattern of regular evaluation of the achievement of pupils in the schools in N.W.T.
- (3) To give teachers and supervisors a standard for comparisons of levels of achievement of pupils throughout the Territories and in the two Districts.

This report is an aid to fulfilling the last of the above objectives. Standard comparisons are contained in the tables of norms which are reported for administrative regions in stanine form, by sub-test, grade and by ethnic origin and for a group of Eskimo pupils in selected schools.

These norms can be used to compare pupils' performance on the Metropolitan Achievement Test Battery with the performance of pupils of similar ethnic origin, geographic location, and grade. They are a supplement to the publisher's norms.

NOTE: The results of the tests may encourage speculation on the causes of differences. Great care should be taken to ensure that this speculation does not result in ill-founded conclusions. The results may suggest hypothesis which may be tested later.

### BACKGROUND

This report and set of tables is not a technical report of a formal norming study. It is a summary of the results of an administration of the Metropolitan Achievement Test Battery to all pupils in selected grades in the schools in

the Northwest Territories.

This is the second consecutive year a large-scale testing program has been conducted in the schools in the Northwest Territories. Several significant changes in the design of the project were made as a result of last year's experience.

- 1) Raw score norms have been calculated.
- 2) The tests were administered only to Grades II, IV AND VI.
- 3) An age cut-off was established for each grade.
- 4) The minimum size of norm group was changed from 100 to 70 pupils.
- 5) It was found that the differences between the average scores of pupils of different ethnic origin made norm groups containing all of the pupils (general norms) meaningless, and these are discontinued.
- 6) An analysis was made of a group of schools selected because they are of similar size (six rooms or less) and have similar, largely Eskimo populations.

ANALYSIS

The scores made by each pupil on each sub-test were coded in the Education Division and punched on computer cards by Dominion Bureau of Statistics. The computer programming was done by Mr. A.H. Netherton, M.A. (Oxon) of the Computer Information System Division of this Department. Mr. Netherton was assisted by Mr. P.E. Elmhurst.

It was agreed at a meeting of senior Education officers of the Department that the analysis of this data would be more meaningful if an age grade cut-off was applied. This was done and the scores of pupils who were older than the following age limits were not included in the first part of the analysis:

Grade II - 11 years;

Grade IV - 13 years;

Grade VI - 15 years.

Frequency distributions were produced. That is, a count was made of the number of pupils making each score on each sub-test, in each of the selected grades and ethnic origins, in the Northwest Territories as a whole and for the Districts and Regions.

The distribution of scores on each sub-test was tested for skewness and kurtosis and all distributions which appeared non-normal were noted. A distribution of pupils by age group was made and average scores were calculated for each age group.

The scores made by pupils in 1966 were compared with the scores made by pupils of similar ethnic origin, region and grade in 1965.

A comparison was made between the mean scores of different ethnic groups in each grade and Region on each sub-test.

To make these comparisons of mean scores, the appropriate "t" test statistical technique was used and the five per cent level of confidence was accepted as significant. (Such differences may be expected to happen by chance only once in 20 times.)

On the basis of this preliminary analysis it was decided to calculate stanines and average scores on the sub-test from the 1966 Raw Scores of pupils on each of the sub-tests for each of the sub-groups.



Small Schools

Because there are some unique aspects of education associated with small schools in the North it was decided to analyse the results of this group separately. As an experiment, schools having no more than six rooms and having a population almost all Eskimo were selected. It was hypothesized that pupils in these schools would produce similar results regardless of their geographic location; that the average score of the group containing all Eskimos in the Northwest Territories, and similarly the component "small school" sample from the two Districts, would be different from the "all Eskimo" sample for the two Districts.

The mean scores were compared using the "t" test of the significance of the differences. The following table summarizes the analysis:

## Comparison of Mean Scores

Small Schools vs Other Schools  
Eskimo - MACKENZIE
GRADE II

	Mean Small	Mean Other	Ns	No	't'	Sig. Level
Word Knowledge	18.5	22.3	50	46	3.212	.01
Word Discrimination	25.8	30.9	50	46	5.421	.01
Reading: Sentences	24.0	30.7	49	46	3.462	.01
Reading: Stories	19.5	24.8	44	46	4.586	.01
Spelling	16.2	19.3	49	43	2.797	.01
Arithmetic Part A	21.8	27.9	49	46	5.127	.01
Arithmetic Part B	38.0	45.9	49	46	3.622	.01

GRADE IV

Word Knowledge	22.7	28.4	44	65	4.416	.01
Word Discrimination	20.8	25.2	44	65	3.696	.01
Reading	18.0	22.9	44	65	4.198	.01
Spelling	27.3	33.7	44	65	3.869	.01
Language Part A	14.5	19.2	43	65	4.291	.01
Language Part B	23.8	27.8	45	65	3.328	.01
Total (A+B)	12.5	15.0	45	65	3.265	.01
Arithmetic Computation	21.5	26.0	45	65	5.501	.01
Arithmetic Problem						
Solving and Concepts	34.0	41.0	45	65	5.299	.01

It should be noted that in this comparison no age cut-off was applied. There was no statistical differences between groups in grade VI. Based on this analysis stanine tables were produced for the small school samples for Grades II and IV only. It is recommended that Eskimo pupils in small schools in both Districts be compared with this group.

## Comparison of Mean Scores

Small Schools vs. Other Schools  
Eskimo - ARCTIC
GRADE II

	Mean Small	Mean Other	Ns	No	't'	Sig. Level
Word Knowledge	11.9	8.8	233	89	4.689	.01
Word Discrimination	20.2	15.8	238	91	4.739	.01
Reading: Sentences	16.0	13.7	233	92	2.470	.05
Reading: Stories	14.8	9.5	230	90	5.618	.01
Spelling	19.9	14.9	209	92	5.628	.01
Arithmetic Part A	20.7	15.2	220	92	5.605	.01
Arithmetic Part B	39.1	30.1	237	92	5.222	.01

GRADE IV

Word Knowledge	18.9	18.1	184	54	0.821	
Word Discrimination	15.6	16.0	184	54	0.463	
Reading	16.3	17.0	183	54	0.791	
Spelling	25.1	24.2	183	53	0.601	
Language Part A	14.4	13.8	182	53	0.617	
Language Part B	28.1	24.7	182	53	2.750	.01
Total (A+B)	12.5	12.1	181	53	0.664	
Arithmetic Computation	20.9	21.4	181	53	0.528	
Arithmetic Problem						
Solving and Concepts	32.9	33.1	181	53	0.185	



Despite the reduced returns from the Mackenzie, norms will be reported for the regions and districts where there are sufficient numbers of pupils.

Number in Project

<u>Northwest Territories</u>			
<u>Grade</u>	<u>Actual September 30</u>	<u>Sample</u>	<u>Percentage</u>
II	1,004	773	77.3
IV	881	647	73.4
VI	498	368	74.2
<u>Arctic</u>			
II	388	366	94.8
IV	319	256	80.5
VI	98	82	83.9
<u>Mackenzie</u>			
II	616	417	67.8
IV	562	391	69.8
VI	400	286	71.5
Total	2,383	1,788	75.5

Analysis of the distribution of scores on the sub-tests indicate that the "general" group is not normally distributed. The comparisons of the mean scores of the different ethnic groups indicate significant differences. For these reasons, it has been decided not to report "general" norms as was done last year but to continue to report "Ethnic" norms.

1966-67 Stanines are Available for the following groups:

<u>Norm Groups</u>	<u>Ethnic Origin</u>	<u>Grades</u>
Northwest Territories	Indian	II, IV, VI
	Eskimo	II, IV, VI
	White	II, IV, VI
<u>Arctic District</u>	Eskimo	II, IV
Arctic Quebec Region	Eskimo	II
Frobisher Bay Region	Eskimo	II
Keewatin Region	Eskimo	IV
<u>Mackenzie District</u>	Eskimo	II, IV
	Indian	II, IV, VI
	White	II, IV, VI
Inuvik Region	Eskimo	IV
Fort Smith Region	Indian	II, IV
Small Schools (six rooms and less)	Eskimo	II, IV

DATE OF TESTING

The testing was carried out between November 1 and November 30, 1966. The norms are applicable only to test results obtained during this period.

ADMINISTRATION

The Test Batteries were administered to the following grades:

Grade II	Primary II Battery
Grade IV	Elementary Battery
Grade VI	Intermediate Battery - Partial

STANDARDIZATION

For the following reasons it was decided to ask the teacher to be involved in the administration and scoring of the tests:

- (1) Teachers have the necessary rapport with the pupils to create a natural and relaxed testing situation.
- (2) The battery of tests are primarily of use in the classroom situation. Having administered and scored the tests, the teachers are made aware of areas requiring remedial work.
- (3) Because of the vast distances involved, it is impractical for a team of testers to travel from school to school to administer the tests.

In trying to assure that the administration of the tests was standardized, the Testing and Evaluation Specialist of the Education Division had meetings with the district and regional superintendents of schools, the principals-at-large, teachers-at-large and with many of the principals of the schools. At these meetings, a common method of administration was agreed upon and everyone understood the importance of adhering to sound

(3) continued

testing practices. The classroom administration and scoring was under the supervision of the principals of the larger schools. Whenever possible either the testing and evaluation specialist, a principal-at-large or a teacher-at-large was available to assist and supervise the administration and scoring of the tests in the smaller schools.

A five per cent sample of the test papers was checked and the scoring found to be satisfactory.

HOW TO USE THE NORMS

It is assumed on the basis of last year's analysis, that the small differences observed between the average scores of boys and girls on the Test Battery are not significant and therefore both sexes should be referred to the same set of norms.

The choice of an appropriate group with which to compare a pupil's score can only be done by the teachers, principals and superintendents who know the background, aspirations, age in relation to grade, number of years in school and other pertinent data which will affect the pupils' future. For example: it may be useful for some purposes to compare the score of an Indian or Eskimo pupil with the Norms of the sample of White pupils.

\*\*\*\*\*  
\* Note \*  
\* \*  
\* This year the norms are calculated from the Raw Scores on the tests. \*  
\* \*  
\* Teachers simply score the tests, record the scores and consult the appropriate \*  
\* table in this publication. \*  
\* \*  
\*\*\*\*\*

Here are some examples.

I. Simonie - Age 15 - Eskimo - Grade IV - Sir Alexander Mackenzie School,  
Inuvik - Reading Score 19.

The choice of an appropriate norm group for Simonie is difficult and can best be done by his teacher or principal. Sir Alexander Mackenzie School is a large school, Simonie is above the age-grade cut-off applied to the norms in this report. It is possible that Simonie's home is in a small community on the coast. It could well be that the "small school" norm tables (there was no age-cut-off applied) would be the most appropriate in this case. The small school norms are on Page 46 and Simonie is in stanine 6.

when compared to Eskimo pupils in the Inuvik Region Simonie is in stanine 4

when compared to Eskimo pupils in the Northwest Territories Simonie is in stanine 5

II. John - Age 15 - Indian Grade VI - Thomas Simpson School -  
Reading Score 20.

The teacher may consider that the most appropriate group with which to compare John's score is "NWT Indian" - the table appears on Page 23 John scores in the 5th stanine.

It may be known that John plans to attend secondary school and for this purpose it may be informative to compare his score with White pupils in the Northwest Territories - John places in the 3 stanine.

III. Davidee - Age 10 - Eskimo Grade II - Whale Cove School -  
Reading Score 18.

Since Whale Cove is a small school, the teacher would probably wish to compare Davidee's score with other Eskimo pupils in small schools. The table of norms is on Page 45 .

A score of 18 places Davidee in the 5th stanine in this group.

STANINES CORRESPONDING TO RAW SCORES									
N.W.T. ESKIMO GRADE 2					N.W.T. ESKIMO NORMS				
					NOVEMBER 1966				
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL		
9	-27	-34	-39	-30	-35	-29	-59		
8	26-23	33-32	38-32	29-28	34-32	28-26	58-54		
7	22-18	31-29	31-25	27-24	31-27	25-24	53-48		
6	17-15	28-24	24-19	23-19	26-23	23-20	47-40		
5	14-12	23-19	18-15	18-13	22-18	19-16	39-33		
4	11- 9	18-14	14-12	12- 8	17-13	15-11	32-25		
3	8- 6	13-10	11- 8	7- 5	12-10	10- 8	24-18		
2	5- 3	9- 6	7- 5	4- 3	9- 8	7- 6	17-12		
1	2-	5-	4-	2-	7-	5-	11-		



STANINES CORRESPONDING TO RAW SCORES

N.W.T. ESKIMO GRADE 4		N.W.T. ESKIMO NORMS							NOVEMBER 1966	
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT COMPUT.		A	LANGUAGE B	TOTAL	
9	-37	-32	-30	-40	-26	-38	-20	-32	-50	
8	36-32	31-30	29-27	39-39	25-24	37-35	19-18	31-29	49-46	
7	31-28	29-26	26-23	38-37	23-20	34-32	17-17	28-27	45-42	
6	27-24	25-21	22-20	36-34	19-16	31-29	16-15	26-25	41-38	
5	23-20	20-17	19-16	33-27	15-13	28-25	14-13	24-23	37-34	
4	19-17	16-14	15-13	26-21	12-11	24-21	12-11	22-20	33-30	
3	16-15	13-12	12-11	20-14	10- 9	20-17	10- 9	19-17	29-26	
2	14-11	11- 9	10- 8	13- 9	8- 6	16-12	8- 7	16-14	25-21	
1	10-	8-	7-	8-	5-	11-	6-	13-	20-	

N.W.T.  
ESKIMO  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

N.W.T. ESKIMO GRADE 6				N.W.T. ESKIMO NORMS				NOVEMBER 1966			
STA- NINE	WORD KNOW.	READ- ING	SPELL- ING	A	LANGUAGE B C		TOTAL	LANG. STUDY	ARITHMETIC CONPT. COMP.	SOCIAL STUDY	
9	-42	-33	-51	-28	-10	-31	-65	-23	-37	-34	-22
8	41-38	32-30	50-49	27-27	9- 9	30-30	64-62	22-20	36-34	33-31	21-20
7	37-34	29-27	48-45	26-25	8- 8	29-28	61-56	19-18	33-29	30-29	19-18
6	33-30	26-24	44-43	24-23	7- 6	27-26	55-53	17-16	28-26	28-27	17-16
5	29-25	23-21	42-36	22-21	5- 5	25-24	52-50	15-13	25-23	26-23	15-14
4	24-21	20-19	35-31	20-19	4- 4	23-23	49-45	12-11	22-18	22-20	13-13
3	20-15	18-15	30-27	18-15	3- 3	22-21	44-38	10-10	17-15	19-15	12-11
2	14-13	14-13	26-20	14- 2	2- 2	20-18	37-33	9- 8	14-11	14-11	10- 9
1	12-	12-	19-	1-	1-	17-	32-	7-	10-	10-	8-

N.W.T.  
ESKIMO  
GRADE 6

STANINES CORRESPONDING TO RAW SCORES

N.W.T. INDIAN GRADE 2		N.W.T. INDIAN NORMS					NOVEMBER 1966	
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL	
9	-26	-34	-39	-28	-37	-26	-61	
8	25-22	33-33	38-34	27-26	36-34	25-23	60-54	
7	21-19	32-30	33-28	25-22	33-30	22-20	53-47	
6	18-16	29-26	27-22	21-17	29-26	19-17	46-42	
5	15-13	25-22	21-17	16-13	25-23	16-13	41-37	
4	12-10	21-17	16-13	12- 9	22-19	12-10	36-31	
3	9- 8	16-14	12- 9	8- 6	18-15	9- 8	30-23	
2	7- 6	13-11	8- 6	5- 4	14-12	7- 6	22-18	
1	5-	10-	5-	3-	11-	5-	17-	

N.W.T.  
INDIAN  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

N.W.T. INDIAN GRADE 4		N.W.T. INDIAN NORMS					NOVEMBER 1966		
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-36	-34	-32	-41	-27	-37	-19	-30	-48
8	35-32	33-31	31-30	40-39	26-25	36-35	18-18	29-28	47-43
7	31-28	30-28	29-27	38-37	24-22	34-33	17-17	27-26	42-39
6	27-24	27-23	26-22	36-32	21-18	32-30	16-14	25-24	38-37
5	23-21	22-19	21-18	31-24	17-15	29-26	13-12	23-22	36-34
4	20-18	18-15	17-15	23-18	14-12	25-23	11-10	21-19	33-31
3	17-16	14-13	14-13	17-12	11-10	22-18	9- 9	18-17	30-27
2	15-11	12- 9	12-11	11- 8	9- 7	17-13	8- 8	16-11	26-20
1	10-	8-	10-	7-	6-	12-	7-	10-	19-

N.W.T.  
INDIAN  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

N.W.T. INDIAN GRADE 6											
N.W.T.				INDIAN NORMS				NOVEMBER 1966			
STA- NINE	WORD KNOW.	READ- ING	SPELL- ING	A	LANGUAGE B	C	TOTAL	LANG. STUDY	ARITHMETIC CONPT. COMP.	SOCIAL STUDY	
9	-44	-36	-52	-28	- 9	-33	-65	-22	-34	-34	-21
8	43-39	35-32	51-50	27-27	8- 8	32-31	64-63	21-19	33-32	33-31	20-19
7	38-34	31-28	49-46	26-25	7- 7	30-29	62-57	18-17	31-29	30-28	18-17
6	33-30	27-24	45-40	24-22	6- 6	28-26	56-52	16-16	28-26	27-26	16-16
5	29-27	23-21	39-37	21-20	5- 5	25-24	51-49	15-13	25-23	25-23	15-14
4	26-22	20-19	36-33	19-18	4- 4	23-22	48-45	12-11	22-19	22-19	13-12
3	21-18	18-17	32-29	17-16	3- 3	21-20	44-40	10- 9	18-15	18-14	11-11
2	17-12	16-15	28-23	15-14	2- 2	19-17	39-32	8- 5	14-13	13-11	10-10
1	11-	14-	22-	13-	1-	16-	31-	4-	12-	10-	9-

N.W.T.  
INDIAN  
GRADE 6

STANINES CORRESPONDING TO RAW SCORES

N.W.T. WHITE GRADE 2							
N.W.T.				WHITE NORMS			NOVEMBER 1966
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-33	-35	-46	-30	-38	-25	-60
8	32-30	34-34	45-43	29-28	37-36	24-22	59-57
7	29-26	33-32	42-36	27-24	35-33	21-19	56-52
6	25-20	31-30	35-27	23-20	32-30	18-17	51-46
5	19-14	29-26	26-20	19-16	29-25	16-14	45-39
4	13-11	25-22	19-14	15-11	24-20	13-10	38-31
3	10- 7	21-17	13- 9	10- 7	19-17	9- 8	30-25
2	6- 4	16-11	8- 4	6- 3	16-13	7- 4	24-17
1	3-	10-	3-	2-	12-	3-	16-

N.W.T.  
WHITE  
GRADE 2



STANINES CORRESPONDING TO RAW SCORES

N.W.T. WHITE GRADE 4										N.W.T. WHITE NORMS										NOVEMBER 1966									
STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC		LANGUAGE		TOTAL	CONCEPT		COMPUT.		A	B														
9	-47	-36	-41	-41	-31	-37	-22	-33	-54																				
8	46-44	35-35	40-38	40-40	30-28	36-34	21-21	32-31	53-52																				
7	43-41	34-33	37-35	39-39	27-24	33-32	20-20	30-29	51-48																				
6	40-35	32-31	34-31	38-36	23-20	31-30	19-19	28-27	47-44																				
5	34-29	30-27	30-26	35-30	19-17	29-28	18-16	26-24	43-40																				
4	28-23	26-22	25-22	29-23	16-14	27-26	15-13	23-22	39-35																				
3	22-18	21-16	21-16	22-16	13-11	25-22	12-11	21-19	34-31																				
2	17-13	15-12	15-13	15- 9	10- 8	21-19	10-10	18-17	30-28																				
1	12-	11-	12-	8-	7-	18-	9-	16-	27-																				

N.W.T.  
WHITE  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

N.W.T. WHITE GRADE 6												N.W.T. WHITE NORMS										NOVEMBER 1966									
STA- NINE	WORD KNOW.	READ- ING	SPELL- ING	A	LANGUAGE			TOTAL	LANG. STUDY	ARITHMETIC CONPT. COMP.	SOCIAL STUDY																				
					B	C																									
9	-53	-42	-52	-31	-11	-34	-69	-24	-43	-37	-26																				
8	52-52	41-40	51-50	30-29	10-10	33-32	68-67	23-23	42-39	36-34	25-24																				
7	51-50	39-38	49-48	28-27	9- 9	31-31	66-62	22-21	38-36	33-32	23-21																				
6	49-45	37-34	47-45	26-25	8- 8	30-28	61-59	20-19	35-32	31-29	20-19																				
5	44-37	33-29	44-40	24-23	7- 6	27-26	58-54	18-17	31-28	28-26	18-17																				
4	36-31	28-24	39-34	22-21	5- 5	25-24	53-50	16-14	27-24	25-21	16-15																				
3	30-25	23-20	33-28	20-18	4- 4	23-22	49-45	13-11	23-19	20-17	14-13																				
2	24-15	19-15	27-24	17-16	3- 2	21-20	44-37	10- 9	18-17	16-15	12-11																				
1	14-	14-	23-	15-	1-	19-	36-	8-	16-	14-	10-																				

N.W.T.  
WHITE  
GRADE 6

STANINES CORRESPONDING TO RAW SCORES

ARCTIC  
ESKIMO  
GRADE 2

ARCTIC      ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-20	-33	-28	-28	-33	-29	-60
8	19-17	32-29	27-24	27-24	32-29	28-26	59-54
7	16-15	28-25	23-20	23-20	28-25	25-24	53-48
6	14-12	24-21	19-17	19-15	24-20	23-20	47-39
5	11-10	20-17	16-13	14-10	19-15	19-15	38-31
4	9- 7	16-13	12-10	9- 7	14-12	14-10	30-23
3	6- 4	12- 9	9- 7	6- 4	11- 9	9- 8	22-17
2	3- 2	8- 6	6- 4	3- 2	8- 7	7- 5	16-11
1	1-	5-	3-	1-	6-	4-	10-

ARCTIC  
ESKIMO  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

ARCTIC  
ESKIMO  
GRADE 4

ARCTIC      ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-29	-27	-27	-39	-25	-38	-20	-30	-46
8	28-26	26-24	26-24	38-37	24-21	37-35	19-18	29-28	45-43
7	25-23	23-21	23-21	36-35	20-17	34-32	17-16	27-26	42-39
6	22-20	20-17	20-18	34-28	16-14	31-29	15-14	25-23	38-35
5	19-17	16-14	17-15	27-23	13-12	28-24	13-12	22-21	34-31
4	16-15	13-12	14-13	22-17	11-11	23-20	11-10	20-18	30-28
3	14-12	11-10	12-11	16-12	10- 9	19-16	9- 9	17-16	27-25
2	11-10	9- 8	10- 8	11- 6	8- 7	15-12	8- 7	15-12	24-20
1	9-	7-	7-	5-	6-	11-	6-	11-	19-

ARCTIC  
ESKIMO  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

ARCTIC Q.  
ESKIMO  
GRADE 2

ARCTIC Q.    ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-19	-32	-28	-27	-36	-29	-65
8	18-17	31-29	27-24	26-25	35-33	28-27	64-58
7	16-14	28-26	23-20	24-21	32-29	26-25	57-51
6	13-12	25-22	19-18	20-16	28-24	24-22	50-46
5	11-10	21-18	17-14	15-12	23-15	21-18	45-34
4	9- 7	17-15	13-11	11- 7	14-12	17-13	33-24
3	6- 5	14-13	10- 8	6- 4	11-10	12- 9	23-18
2	4- 2	12-10	7- 6	3- 3	9- 9	8- 4	17-15
1	1-	9-	5-	2-	8-	3-	14-

ARCTIC Q.  
ESKIMO  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

KEEWATIN  
ESKIMO  
GRADE 4

KEEWATIN    ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-29	-26	-26	-40	-24	-39	-21	-30	-47
8	28-26	25-24	25-24	39-39	23-22	38-36	20-18	29-28	46-44
7	25-23	23-21	23-21	38-36	21-17	35-33	17-17	27-26	43-40
6	22-21	20-18	20-18	35-29	16-14	32-28	16-15	25-22	39-36
5	20-17	17-15	17-15	28-24	13-13	27-24	14-13	21-20	35-33
4	16-15	14-12	14-13	23-19	12-11	23-21	12-12	19-18	32-30
3	14-13	11- 9	12-11	18- 9	10- 8	20-17	11-10	17-16	29-27
2	12- 9	8- 8	10- 8	8- 5	7- 5	16-12	9- 6	15-12	26-24
1	8-	7-	7-	4-	4-	11-	5-	11-	23-

KEEWATIN  
ESKIMO  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

FROBISHER  
ESKIMO  
GRADE 2

FROBISHER      ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-22	-34	-26	-28	-32	-28	-57
8	21-19	33-31	25-23	27-23	31-29	27-26	56-52
7	18-16	30-26	22-20	22-19	28-26	25-24	51-47
6	15-12	25-21	19-16	18-13	25-21	23-20	46-39
5	11-10	20-16	15-12	12- 9	20-16	19-16	38-32
4	9- 6	15-11	11- 9	8- 5	15-13	15-12	31-23
3	5- 3	10- 6	8- 5	4- 2	12-10	11- 9	22-21
2	2- 2	5- 2	4- 3	1- 2	9- 7	8- 7	20-14
1	1-	1-	2-	1-	6-	6-	13-

FROBISHER  
ESKIMO  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
ESKIMO  
GRADE 2

MACKENZIE      ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-30	-35	-44	-31	-36	-26	-60
8	29-28	34-33	43-40	30-30	35-34	25-25	59-57
7	27-26	32-32	39-37	29-29	33-31	24-23	56-51
6	25-23	31-31	36-31	28-26	30-27	22-20	50-45
5	22-19	30-29	30-26	25-21	26-23	19-18	44-39
4	18-16	28-25	25-19	20-18	22-19	17-14	38-33
3	15-13	24-22	18-15	17-15	18-17	13-12	32-28
2	12- 9	21-15	14-14	14-12	16-15	11- 8	27-23
1	8-	14-	13-	11-	14-	7-	22-

MACKENZIE  
ESKIMO  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
ESKIMO  
GRADE 4

MACKENZIE      ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-39	-33	-34	-41	-28	-37	-22	-32	-52
8	38-36	32-32	33-30	40-40	27-25	36-34	21-21	31-30	51-49
7	35-32	31-30	29-27	39-39	24-23	33-31	20-19	29-28	48-46
6	31-29	29-27	26-24	38-37	22-20	30-29	18-17	27-26	45-42
5	28-26	26-24	23-21	36-34	19-16	28-26	16-14	25-24	41-38
4	25-22	23-20	20-18	33-30	15-14	25-23	13-12	23-22	37-35
3	21-20	19-17	17-15	29-23	13-11	22-19	11- 9	21-20	34-31
2	19-17	16-14	14-11	22-17	10- 8	18-17	8- 7	19-17	30-26
1	16-	13-	10-	16-	7-	16-	6-	16-	25-

MACKENZIE  
ESKIMO  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
INDIAN  
GRADE 2

MACKENZIE      INDIAN NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-26	-34	-39	-28	-37	-26	-60
8	25-22	33-33	38-34	27-26	36-35	25-23	59-54
7	21-19	32-30	33-27	25-22	34-31	22-20	53-47
6	18-16	29-26	26-21	21-17	30-27	19-17	46-42
5	15-13	25-22	20-16	16-13	26-24	16-13	41-37
4	12-10	21-17	15-12	12- 9	23-20	12-10	36-31
3	9- 8	16-14	11- 8	8- 6	19-15	9- 8	30-22
2	7- 6	13-11	7- 6	5- 4	14-13	7- 6	21-18
1	5-	10-	5-	3-	12-	5-	17-

MACKENZIE  
INDIAN  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
INDIAN  
GRADE 4

MACKENZIE INDIAN NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-37	-34	-32	-41	-27	-37	-19	-30	-48
8	36-33	33-31	31-30	40-39	26-25	36-35	18-18	29-28	47-43
7	32-29	30-28	29-27	38-37	24-22	34-33	17-17	27-26	42-39
6	28-25	27-23	26-23	36-33	21-18	32-30	16-14	25-24	38-37
5	24-21	22-19	22-19	32-25	17-15	29-26	13-12	23-22	36-34
4	20-18	18-15	18-15	24-18	14-12	25-23	11-10	21-19	33-31
3	17-16	14-13	14-13	17-12	11- 9	22-18	9- 9	18-17	30-28
2	15-11	12- 9	12-11	11- 8	8- 7	17-13	8- 8	16-11	27-20
1	10-	8-	10-	7-	6-	12-	7-	10-	19-

MACKENZIE  
INDIAN  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
INDIAN  
GRADE 6

MACKENZIE INDIAN NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	READ- ING	SPELL- ING	A	LANGUAGE B	C	TOTAL	LANG. STUDY	ARITHMETIC CONPT. COMP.	SOCIAL STUDY
9	-44	-36	-52	-28	- 9	-33	-65	-22	-34	-21
8	43-39	35-32	51-50	27-27	8- 8	32-31	64-63	21-19	33-32	33-31
7	38-34	31-28	49-46	26-25	7- 7	30-29	62-57	18-17	31-29	30-28
6	33-30	27-24	45-40	24-22	6- 6	28-26	56-52	16-16	28-26	27-26
5	29-27	23-21	39-37	21-20	5- 5	25-24	51-49	15-13	25-23	25-23
4	26-22	20-19	36-33	19-18	4- 4	23-22	48-45	12-11	22-19	22-19
3	21-18	18-17	32-29	17-16	3- 3	21-20	44-40	10- 9	18-15	18-14
2	17-12	16-15	28-23	15-14	2- 2	19-17	39-32	8- 5	14-13	13-11
1	11-	14-	22-	13-	1-	16-	31-	4-	12-	10-

MACKENZIE  
INDIAN  
GRADE 6



STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
WHITE  
GRADE 2

MACKENZIE WHITE NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-33	-35	-46	-30	-39	-25	-60
8	32-30	34-34	45-43	29-29	38-36	24-22	59-56
7	29-26	33-32	42-36	28-25	35-33	21-19	55-51
6	25-20	31-29	35-27	24-20	32-30	18-17	50-45
5	19-14	28-25	26-19	19-16	29-25	16-14	44-38
4	13-11	24-21	18-13	15-11	24-20	13-10	37-31
3	10- 7	20-17	12- 8	10- 7	19-17	9- 8	30-25
2	6- 4	16-11	7- 4	6- 3	16-13	7- 4	24-17
1	3-	10-	3-	2-	12-	3-	16-

MACKENZIE  
WHITE  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
WHITE  
GRADE 4

MACKENZIE WHITE NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC		A	LANGUAGE B	TOTAL
					CONCEPT	COMPUT.			
9	-47	-36	-41	-41	-30	-37	-22	-33	-54
8	46-44	35-35	40-38	40-40	29-27	36-34	21-21	32-31	53-52
7	43-41	34-33	37-36	39-39	26-23	33-32	20-20	30-29	51-48
6	40-35	32-31	35-31	38-36	22-20	31-30	19-19	28-27	47-45
5	34-29	30-27	30-26	35-30	19-17	29-28	18-16	26-25	44-41
4	28-23	26-22	25-22	29-23	16-15	27-26	15-13	24-23	40-36
3	22-18	21-17	21-16	22-16	14-12	25-22	12-11	22-21	35-32
2	17-13	16-12	15-13	15- 9	11- 9	21-19	10- 9	20-18	31-29
1	12-	11-	12-	8-	8-	18-	8-	17-	28-

MACKENZIE  
WHITE  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

MACKENZIE  
WHITE  
GRADE 6

MACKENZIE WHITE NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	READ- ING	SPELL- ING	A	LANGUAGE		TOTAL	LANG. STUDY	ARITHMETIC CONPT. COMP.	SOCIAL STUDY
					B	C				
9	-54	-42	-52	-32	-11	-35	-70	-25	-43	-38
8	53-52	41-40	51-50	31-29	10-10	34-32	69-67	24-24	42-39	37-35
7	51-49	39-37	49-48	28-27	9- 9	31-31	66-62	23-22	38-36	34-33
6	48-45	36-33	47-45	26-25	8- 8	30-28	61-59	21-19	35-32	32-29
5	44-36	32-27	44-41	24-23	7- 6	27-26	58-54	18-17	31-28	28-26
4	35-31	26-22	40-35	22-21	5- 5	25-24	53-50	16-14	27-24	25-21
3	30-25	21-18	34-28	20-17	4- 4	23-22	49-45	13-11	23-19	20-17
2	24-21	17-14	27-24	16-15	3- 2	21-19	44-36	10- 8	18-16	16-15
1	20-	13-	23-	14-	1-	18-	35-	7-	15-	14-

MACKENZIE  
WHITE  
GRADE 6

STANINES CORRESPONDING TO RAW SCORES

FORT SMITH  
INDIAN  
GRADE 2

FORT SMITH INDIAN NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-26	-33	-35	-28	-38	-25	-61
8	25-23	32-31	34-30	27-26	37-36	24-21	60-57
7	22-18	30-27	29-23	25-23	35-32	20-18	56-48
6	17-15	26-24	22-20	22-17	31-27	17-15	47-42
5	14-12	23-20	19-15	16-11	26-25	14-11	41-36
4	11- 9	19-16	14-11	10- 8	24-19	10- 9	35-29
3	8- 8	15-13	10- 6	7- 6	18-14	8- 7	28-20
2	7- 4	12-10	5- 4	5- 3	13-12	6- 4	19-16
1	3-	9-	3-	2-	11-	3-	15-

FORT SMITH  
INDIAN  
GRADE 2



STANINES CORRESPONDING TO RAW SCORES

FORT SMITH  
INDIAN  
GRADE 4

FORT SMITH INDIAN NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-36	-34	-33	-41	-28	-37	-19	-31	-47
8	35-33	33-31	32-31	40-39	27-26	36-35	18-18	30-28	46-43
7	32-29	30-28	30-28	38-37	25-23	34-33	17-17	27-26	42-39
6	28-25	27-23	27-23	36-32	22-19	32-30	16-14	25-24	38-37
5	24-20	22-18	22-18	31-23	18-15	29-27	13-12	23-21	36-34
4	19-17	17-15	17-15	22-17	14-12	26-23	11-10	20-18	33-31
3	16-13	14-12	14-13	16-13	11-11	22-18	9- 9	17-17	30-28
2	12-11	11- 8	12- 9	12- 9	10- 8	17-10	8- 8	16-11	27-19
1	10-	7-	8-	8-	7-	9-	7-	10-	18-

FORT SMITH  
INDIAN  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

FORT SMITH  
WHITE  
GRADE 2

FORT SMITH WHITE NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL
9	-32	-35	-46	-30	-39	-22	-57
8	31-27	34-33	45-39	29-25	38-36	21-19	56-53
7	26-21	32-31	38-28	24-23	35-32	18-18	52-48
6	20-15	30-28	27-20	22-18	31-30	17-15	47-43
5	14-12	27-24	19-15	17-13	29-25	14-10	42-34
4	11- 9	23-19	14-10	12- 9	24-19	9- 8	33-28
3	8- 5	18-14	9- 5	8- 4	18-16	7- 7	27-24
2	4- 4	13-11	4- 3	3- 2	15-12	6- 3	23-16
1	3-	10-	2-	1-	11-	2-	15-

FORT SMITH  
WHITE  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

FORT SMITH  
WHITE  
GRADE 4

FORT SMITH WHITE NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-47	-36	-39	-41	-30	-37	-22	-34	-54
8	46-43	35-35	38-37	40-40	29-27	36-34	21-21	33-31	53-51
7	42-39	34-33	36-33	39-38	26-22	33-32	20-20	30-29	50-46
6	38-31	32-30	32-28	37-35	21-18	31-30	19-18	28-27	45-42
5	30-26	29-26	27-23	34-27	17-16	29-28	17-15	26-24	41-38
4	25-21	25-20	22-18	26-20	15-12	27-24	14-12	23-22	37-33
3	20-17	19-14	17-15	19-14	11-10	23-21	11-11	21-19	32-31
2	16-13	13-11	14-11	13- 8	9- 8	20-17	10-10	18-18	30-25
1	12-	10-	10-	7-	7-	16-	9-	17-	24-

FORT SMITH  
WHITE  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

INUVIK  
ESKIMO  
GRADE 4

INUVIK ESKIMO NORMS

NOVEMBER 1966

STA- NINE	WORD KNOW.	WORD DISC.	READ- ING	SPELL- ING	ARITHMETIC CONCEPT	COMPUT.	A	LANGUAGE B	TOTAL
9	-39	-33	-33	-41	-29	-37	-22	-32	-52
8	38-36	32-32	32-29	40-40	28-26	36-34	21-20	31-31	51-49
7	35-33	31-30	28-27	39-39	25-24	33-31	19-18	30-29	48-46
6	32-30	29-28	26-24	38-37	23-21	30-29	17-16	28-27	45-42
5	29-27	27-25	23-21	36-34	20-17	28-26	15-14	26-25	41-38
4	26-23	24-21	20-18	33-31	16-15	25-23	13-12	24-24	37-36
3	22-20	20-19	17-15	30-25	14-13	22-20	11- 9	23-22	35-33
2	19-19	18-16	14-10	24-18	12-10	19-18	8- 8	21-20	32-28
1	18-	15-	9-	17-	9-	17-	7-	19-	27-

INUVIK  
ESKIMO  
GRADE 4

STANINES CORRESPONDING TO RAW SCORES

SMALL SCHOOLS  
ESKIMO  
GRADE 2

N.W.T.

ESKIMO NORMS

NOVEMBER 1966

STANINE	WORD KNOW.	WORD DISC.	READING	SPELLING	ARITH. (COMP)	ARITH. (CONPT)	ARITH. TOTAL
9	-26	-34	-38	-29	-30	-35	-63
8	25-21	33-32	37-29	28-27	29-28	34-32	62-57
7	20-18	31-29	28-24	26-23	27-26	31-28	56-52
6	17-15	28-24	23-19	22-19	25-23	27-24	51-46
5	14-12	23-20	18-15	18-14	22-19	23-19	45-36
4	11- 9	19-15	14-12	13- 9	18-13	18-15	35-28
3	8- 5	14-11	11- 8	8- 5	12- 9	14-10	27-20
2	4- 3	10- 6	7- 4	4- 3	8- 6	9- 7	19-11
1	2-	5-	3-	2-	5-	6-	10-

SMALL SCHOOLS  
ESKIMO  
GRADE 2

STANINES CORRESPONDING TO RAW SCORES

SMALL SCHOOLS  
ESKIMO  
GRADE 4

N.W.T.

ESKIMO NORMS

NOVEMBER 1966

STANINE	WORD KNOW.	WORD DISC.	READING	SPELLING	ARITHMETIC (COMP)	ARITHMETIC (CONPT)	A	LANGUAGE B	TOTAL
9	-32	-30	-27	-40	-27	-42	-20	-30	-47
8	31-28	29-26	26-24	33-39	26-23	41-38	19-18	29-27	46-43
7	27-24	25-21	23-21	38-36	22-18	37-34	17-16	26-25	42-39
6	23-21	20-18	20-18	35-31	17-15	33-30	15-14	24-23	38-35
5	20-18	17-15	17-15	30-24	14-13	29-27	13-12	22-20	34-31
4	17-15	14-13	14-13	23-18	12-11	26-23	11-10	19-18	30-28
3	14-12	12-10	12-11	17-11	10- 9	22-19	9- 8	17-16	27-25
2	11- 9	9- 7	10- 9	10- 8	8- 6	18-13	7- 6	15-12	24-19
1	8-	6-	8-	7-	5-	12-	5-	11-	18-

SMALL SCHOOLS  
ESKIMO  
GRADE 4

APPENDIX A

AVERAGE SCORES ON SELECTED SUB-TESTS AND

DISTRIBUTION OF PUPILS BY GRADE, ETHNIC ORIGIN AND AGE GROUP

Differences in average scores should be interpreted with great care.

These averages are reported to indicate trends and to allow teachers to see how older pupils perform in a given grade throughout the system.

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 2 INDIAN

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	ARITH. CONCEPT	ARITH. TOTAL
6.6- 6.11	4	14.8	27.3	8.7	36.7
7.0- 7. 5	14	11.7	13.7	11.4	34.5
7.6- 7.11	18	14.3	18.0	16.6	43.2
8.0- 8. 5	26	13.9	19.2	15.4	36.9
8.6- 8.11	20	17.5	20.7	17.3	43.8
9.0- 9. 5	25	13.6	21.8	12.6	36.3
9.6- 9.11	13	13.2	18.4	11.8	34.2
10.0-10. 5	8	11.7	16.0	13.8	33.5
10.6-10.11	9	18.6	26.2	15.1	42.0
11.0-11. 5	3	17.7	17.7	19.0	49.0
12.0-12. 5	2	19.0	17.5	15.0	37.0
13.0-13. 5	1	9.0	26.0	24.0	56.0
TOTAL	143	14.4	19.6	14.4	38.6

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 2 ESKIMO

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	ARITH. CONCEPT	ARITH. TOTAL
7.0- 7. 5	5	10.8	21.2	13.8	36.4
7.6- 7.11	24	14.5	22.0	16.7	36.9
8.0- 8. 5	62	14.2	18.7	16.8	35.5
8.6- 8.11	70	12.3	16.9	15.8	33.2
9.0- 9. 5	51	12.8	17.5	15.9	33.8
9.6- 9.11	56	13.3	18.7	19.1	40.6
10.0-10. 5	31	12.3	14.8	17.3	37.4
10.6-10.11	23	11.8	18.6	19.6	41.3
11.0-11. 5	23	11.7	16.1	18.8	37.7
11.6-11.11	17	14.7	18.5	22.7	41.9
12.0-12. 5	8	10.0	19.7	21.1	42.4
12.6-12.11	12	15.2	18.8	20.2	41.7
13.0-13. 5	7	13.3	18.4	25.1	51.1
13.6-13.11	6	14.7	12.5	25.5	48.5
14.0-14. 5	5	19.6	31.0	28.8	61.6
14.6-14.11	1	15.0	12.0	27.0	43.0
15.0-15. 5	4	11.5	14.0	25.5	42.8
17.6-17.11	2	13.5	24.0	29.0	57.0
19.0-19. 5	1	3.0	12.0	26.0	34.0
NOT GIVEN	2	12.0	15.0	0.8	33.5
TOTAL	418	13.2	18.0	18.2	37.8

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 2 WHITE

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	ARITH. CONCEPT	ARITH. TOTAL
6.0- 6. 5	2	29.0	32.0	10.0	37.5
6.6- 6.11	17	14.5	17.6	12.9	33.1
7.0- 7. 5	68	18.7	26.3	14.9	40.6
7.6- 7.11	78	18.6	27.1	14.5	42.7
8.0- 8. 5	16	11.4	14.4	13.6	39.8
8.6- 8.11	7	13.1	16.1	16.7	41.7
9.0- 9. 5	3	9.3	15.3	15.0	44.0
9.6- 9.11	6	17.7	20.0	19.2	47.7
10.0-10. 5	1	6.0	19.0	24.0	56.0
11.0-11. 5	2	14.0	14.5	22.0	49.0
TOTAL	200	17.3	24.1	14.7	41.2

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 4 INDIAN

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. TOTAL	ARITH. COMPT.	ARITH. CONCEPT
8.6- 8.11	2	38.0	28.0	40.0	29.5	18.0
9.0- 9. 5	8	25.4	26.3	33.9	30.3	19.0
9.6- 9.11	17	24.4	20.4	38.1	25.9	17.5
10.0-10. 5	18	24.3	21.7	33.8	28.5	17.2
10.6-10.11	10	22.5	24.1	37.4	21.0	13.9
11.0-11. 5	21	23.0	18.6	33.0	27.2	15.9
11.6-11.11	15	17.2	15.7	30.8	25.7	14.4
12.0-12. 5	7	19.3	16.9	32.9	23.6	15.1
12.6-12.11	10	20.5	20.7	33.8	32.3	17.1
13.0-13. 5	3	19.0	16.8	27.7	30.0	19.7
13.6-13.11	7	23.9	18.6	35.1	27.3	13.7
14.0-14. 5	2	13.5	9.5	21.0	17.5	8.5
14.6-14.11	2	22.0	14.0	34.0	19.5	9.5
15.0-15. 5	1	21.0	14.0	24.0	25.0	9.0
TOTAL	123	22.4	19.8	33.9	26.7	15.9



AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

NORTHWEST TERRITORIES

GRADE 4 ESKIMO

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. ICIAL	ARITH. COMPT.	ARITH. CONCEPT
8.6- 8.11	4	27.0	21.5	36.5	20.5	14.0
9.0- 9. 5	5	25.4	22.2	40.2	19.6	13.4
9.6- 9.11	14	25.2	21.8	36.6	27.6	17.6
10.0-10. 5	32	23.7	19.7	36.1	25.4	15.7
10.6-10.11	32	20.7	16.9	34.2	24.8	14.4
11.0-11. 5	32	22.7	18.2	35.2	27.9	15.5
11.6-11.11	40	23.1	19.6	36.4	26.7	16.1
12.0-12. 5	46	20.8	17.1	35.1	25.5	14.2
12.6-12.11	33	19.0	15.1	34.2	27.3	14.3
13.0-13. 5	23	18.8	15.1	31.1	27.0	14.2
13.6-13.11	19	18.9	18.8	32.1	28.6	15.6
14.0-14. 5	12	18.1	15.9	31.7	26.3	15.3
14.6-14.11	16	19.3	17.5	35.7	30.9	16.3
15.0-15. 5	11	16.5	16.6	30.8	31.0	15.3
15.6-15.11	9	19.8	17.2	31.6	23.2	11.5
16.0-16. 5	5	20.2	15.8	28.8	27.0	14.8
16.6-16.11	1	20.0	17.0	40.0	44.0	16.0
17.0-17. 5	2	20.5	17.5	31.5	29.0	14.0
17.6-17.11	2	16.5	17.0	29.5	30.0	15.5
18.6-18.11	1	12.0	20.0	27.0	27.0	16.0
NOT GIVEN	6	20.8	23.5	42.8	40.2	23.8
TOTAL	347	21.0	17.9	34.6	27.0	15.2

AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

NORTHWEST TERRITORIES

GRADE 4 WHITE

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. TCTAL	ARITH. COMPT.	ARITH. CONCEPT
8.0- 8. 5	1	44.0	37.0	51.0	25.0	20.0
8.6- 8.11	25	32.9	29.2	43.0	27.2	17.5
9.0- 9. 5	53	35.9	31.5	44.1	30.7	21.4
9.6- 9.11	43	33.2	28.4	41.7	28.0	20.6
10.0-10. 5	19	28.5	23.2	38.4	25.9	16.2
10.6-10.11	17	24.6	21.4	35.6	26.4	15.4
11.0-11. 5	9	24.0	18.9	32.6	23.1	12.9
11.6-11.11	4	18.5	23.0	39.2	28.0	16.8
12.6-12.11	2	15.0	12.5	30.5	24.5	12.0
13.6-13.11	1	19.0	20.0	24.0	20.0	9.0
TOTAL	174	31.6	27.4	40.9	28.0	18.8

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 6 INDIAN

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. TOTAL	ARITH. COMPT.	ARITH. CONCEPT
10.6-10.11	7	30.9	25.9	53.1	24.1	27.4
11.0-11.5	15	30.2	26.4	53.9	23.1	24.8
11.6-11.11	14	31.4	25.1	46.4	25.1	24.3
12.0-12.5	11	30.1	25.7	51.8	21.5	21.9
12.6-12.11	10	29.5	23.2	50.4	20.5	23.7
13.0-13.5	14	25.9	23.1	47.4	25.2	22.9
13.6-13.11	10	25.1	20.0	50.0	21.7	21.6
14.0-14.5	10	23.3	19.4	45.0	20.5	22.8
14.6-14.11	4	27.3	19.2	43.2	19.3	21.7
15.0-15.5	10	20.2	16.3	40.4	20.4	20.1
15.6-15.11	3	22.0	16.7	44.7	25.0	22.7
17.6-17.11	1	16.0	18.0	40.0	13.0	12.0
NOT GIVEN	1	13.0	11.0	36.0	5.0	10.0
TOTAL	110	27.2	22.6	48.3	22.3	22.9

## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 6 ESKIMO

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. TOTAL	ARITH. COMPT.	ARITH. CONCEPT
11.0-11.5	2	30.0	27.0	58.0	29.0	33.5
11.6-11.11	4	34.7	27.5	57.7	24.5	26.7
12.0-12.5	9	33.6	25.0	54.0	25.7	26.4
12.6-12.11	6	31.2	23.5	54.2	27.0	26.8
13.0-13.5	16	27.2	21.1	47.1	22.7	22.6
13.6-13.11	16	24.9	22.9	50.7	24.3	25.2
14.0-14.5	15	24.9	21.7	47.1	23.5	22.3
14.6-14.11	17	24.9	21.8	49.6	24.1	23.2
15.0-15.5	7	22.1	18.9	51.9	29.3	26.3
15.6-15.11	12	21.9	17.7	48.8	23.6	23.5
16.0-16.5	5	14.0	15.8	43.6	12.4	15.2
16.6-16.11	4	22.2	23.7	51.3	26.3	29.5
17.0-17.5	1	27.0	21.0	42.0	12.0	15.0
17.6-17.11	2	19.0	20.0	44.0	27.0	23.5
18.0-18.5	1	7.0	12.0	34.0	16.0	21.0
18.6-18.11	1	17.0	10.0	37.0	38.0	20.0
NOT GIVEN	5	22.6	18.6	41.0	17.8	16.0
TOTAL	123	25.3	21.3	49.2	23.8	23.7



## AVERAGE RAW SCORES AND DISTRIBUTION OF PUPILS, BY AGE

## NORTHWEST TERRITORIES

## GRADE 6 WHITE

AGE GROUP YEAR/MONTH	NO. PUPILS	WORD KNOW.	READ- ING	LANG. TOTAL	ARITH. CUMPT.	ARITH. CONCEPT
9.6- 9.11	1	49.0	38.0	53.0	28.0	34.0
10.0-10. 5	5	42.6	33.2	63.0	31.4	33.6
10.6-10.11	10	43.5	33.4	59.5	28.2	32.7
11.0-11. 5	40	41.5	31.5	58.6	27.3	30.8
11.6-11.11	36	40.2	30.4	56.1	26.6	29.1
12.0-12. 5	12	33.7	25.0	53.7	24.5	23.5
12.6-12.11	11	32.0	24.8	51.4	23.7	26.5
13.0-13. 5	3	20.0	19.0	45.0	22.7	25.0
13.6-13.11	2	32.0	28.0	45.0	22.0	26.5
14.0-14. 5	6	29.8	25.8	49.9	26.1	27.6
14.6-14.11	2	19.0	20.5	43.5	22.5	21.5
15.0-15. 5	1	25.0	28.0	49.0	29.0	28.0
TOTAL	129	38.2	29.5	55.8	26.5	29.1

APPENDIX BAVERAGE SCORES ON SUB-TESTS BY  
DISTRICT AND ETHNIC ORIGIN

These tables indicate average scores on the sub-tests grouping the pupils first of all by District then by grade then by ethnic origin. Again it should be stressed that differences in average score should be interpreted very carefully. Care should be taken not to reach conclusions which cannot be verified. These data could be used to construct hypothesis which may be tested by experiment later.

AVERAGE SCORES BY ETHNIC ORIGIN

NORTHWEST TERRITORIES

GRADE II

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL	NO. PUPIL
GENERAL	14.6	22.8	20.2	15.7	22.9	15.7	38.1	666
INDIAN	14.3	22.6	19.6	15.3	24.3	14.2	38.3	137
ESKIMO	13.1	21.2	18.0	15.2	20.1	17.1	36.3	330
WHITE	17.4	25.6	24.2	16.9	26.4	14.6	41.1	198

GRADE IV

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITHMETIC CONCEPT	ARITHMETIC COMPUT.	L A N G U A G E			NO. PUPIL
							A	B	TOTAL	
GENERAL	25.4	22.0	21.7	28.1	16.6	26.9	14.1	23.3	37.1	519
INDIAN	22.6	20.6	20.3	26.6	16.3	26.8	12.7	22.1	34.3	108
ESKIMO	22.0	19.3	18.2	27.8	15.1	26.1	13.3	22.5	35.4	238
WHITE	31.7	26.6	27.5	29.5	18.8	28.0	16.1	25.2	41.0	173

AVERAGE SCORES BY ETHNIC ORIGIN

NORTHWEST TERRITORIES

GRADE VI

ETHNIC ORIGIN	WORD KNOW.	READ-ING	SPELL-ING	L A N G U A G E				LANG STUDY	ARITHMETIC CONPT.	ARITHMETIC COMP.	SOCIAL STUDY	NO. PUPIL
				A	B	C	TOTAL					
GENERAL	32.2	25.7	39.0	21.8	5.5	25.3	52.3	15.3	26.0	24.7	16.0	307
INDIAN	28.3	23.6	38.0	20.5	5.0	24.6	49.4	13.8	23.5	22.7	14.8	95
ESKIMO	27.2	22.5	37.6	21.4	4.9	24.2	50.2	14.3	24.2	24.2	15.4	84
WHITE	38.3	29.5	40.7	23.1	6.3	26.7	55.9	17.0	29.1	26.4	17.4	128

## AVERAGE SCORES BY ETHNIC ORIGIN

## ARCTIC DISTRICT

## GRADE II

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL	NO. PUPIL
GENERAL	11.0	19.1	15.5	12.7	18.9	17.0	35.1	268
INDIAN	11.3	21.3	22.3	13.2	19.7	17.5	37.2	6
ESKIMO	10.5	18.7	14.8	12.8	18.4	16.8	34.3	244
WHITE	16.9	23.4	23.9	12.2	26.6	18.8	45.2	18

## GRADE IV

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITHMETIC CONCEPT	ARITHMETIC COMPUT.	L A N G U A G E			NO. PUPIL
							A	B	TOTAL	
GENERAL	20.3	17.2	17.2	25.4	14.1	26.3	12.9	21.4	33.9	168
INDIAN	20.0	15.5	17.5	22.0	15.0	27.5	9.0	18.0	27.0	2
ESKIMO	19.1	16.3	16.2	24.5	13.4	26.0	12.6	21.2	33.2	151
WHITE	32.9	25.7	26.6	30.2	20.6	28.9	16.7	24.5	41.1	15

## AVERAGE SCORES BY ETHNIC ORIGIN

## ARCTIC DISTRICT

## GRADE VI

ETHNIC ORIGIN	WORD KNOW.	READ-ING	SPELL-ING	L A N G U A G E				LANG STUDY	ARITHMETIC CONPT.	ARITHMETIC COMP.	SOCIAL STUDY	NO. PUPIL
				A	B	C	TOTAL					
GENERAL	26.5	23.5	34.9	20.6	4.9	24.2	49.6	13.9	23.2	23.4	16.1	57
ESKIMO	22.8	21.0	34.0	20.1	4.3	23.7	47.9	12.9	21.5	22.8	15.2	43
WHITE	38.0	31.1	37.5	22.4	6.7	25.5	54.6	17.0	28.2	25.4	18.6	14

AVERAGE SCORES BY ETHNIC ORIGIN

MACKENZIE DISTRICT

GRADE II

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITH. CONCEPT	ARITH. COMPUTATION	ARITH. TOTAL	NO. PUPIL
GENERAL	17.1	25.3	23.3	17.8	25.4	14.9	40.2	393
INDIAN	14.5	22.7	19.5	15.4	24.5	14.1	38.3	131
ESKIMO	20.4	23.4	27.4	22.3	24.8	17.7	42.1	86
WHITE	17.4	25.8	24.2	17.4	26.4	14.3	40.7	189

GRADE IV

ETHNIC ORIGIN	WORD KNOW.	WORD DISC.	READ-ING	SPELL-ING	ARITHMETIC CONCEPT	ARITHMETIC COMPUT.	L A N G U A G E			NO. PUPIL
							A	B	TOTAL	
GENERAL	27.8	24.3	23.9	29.4	17.8	27.2	14.7	24.2	38.6	351
INDIAN	22.6	20.7	20.4	26.7	16.3	26.8	12.8	22.1	34.5	106
ESKIMO	27.2	24.6	21.5	32.7	18.0	26.2	14.4	24.8	39.2	87
WHITE	31.6	26.7	27.5	29.4	18.6	27.9	16.1	25.2	41.0	158

AVERAGE SCORES BY ETHNIC ORIGIN

MACKENZIE DISTRICT

GRADE VI

ETHNIC ORIGIN	WORD KNOW.	READ-ING	SPELL-ING	L A N G U A G E				LANG STUDY	ARITHMETIC CONPT.	ARITHMETIC COMP.	SOCIAL STUDY	NO. PUPIL
				A	B	C	TOTAL					
GENERAL	33.5	26.3	39.9	22.1	5.7	25.6	52.9	15.6	26.6	24.9	16.0	250
INDIAN	28.3	23.6	38.0	20.5	5.0	24.6	49.4	13.8	23.5	22.7	14.8	95
ESKIMO	31.7	24.2	41.4	22.7	5.6	24.7	52.5	15.8	27.0	25.6	15.6	41
WHITE	38.4	29.3	41.1	23.2	6.2	26.3	56.0	17.0	29.2	26.6	17.3	114