

Analysis of 1998, 1999 Intermediate Science Criterion Referenced Tests

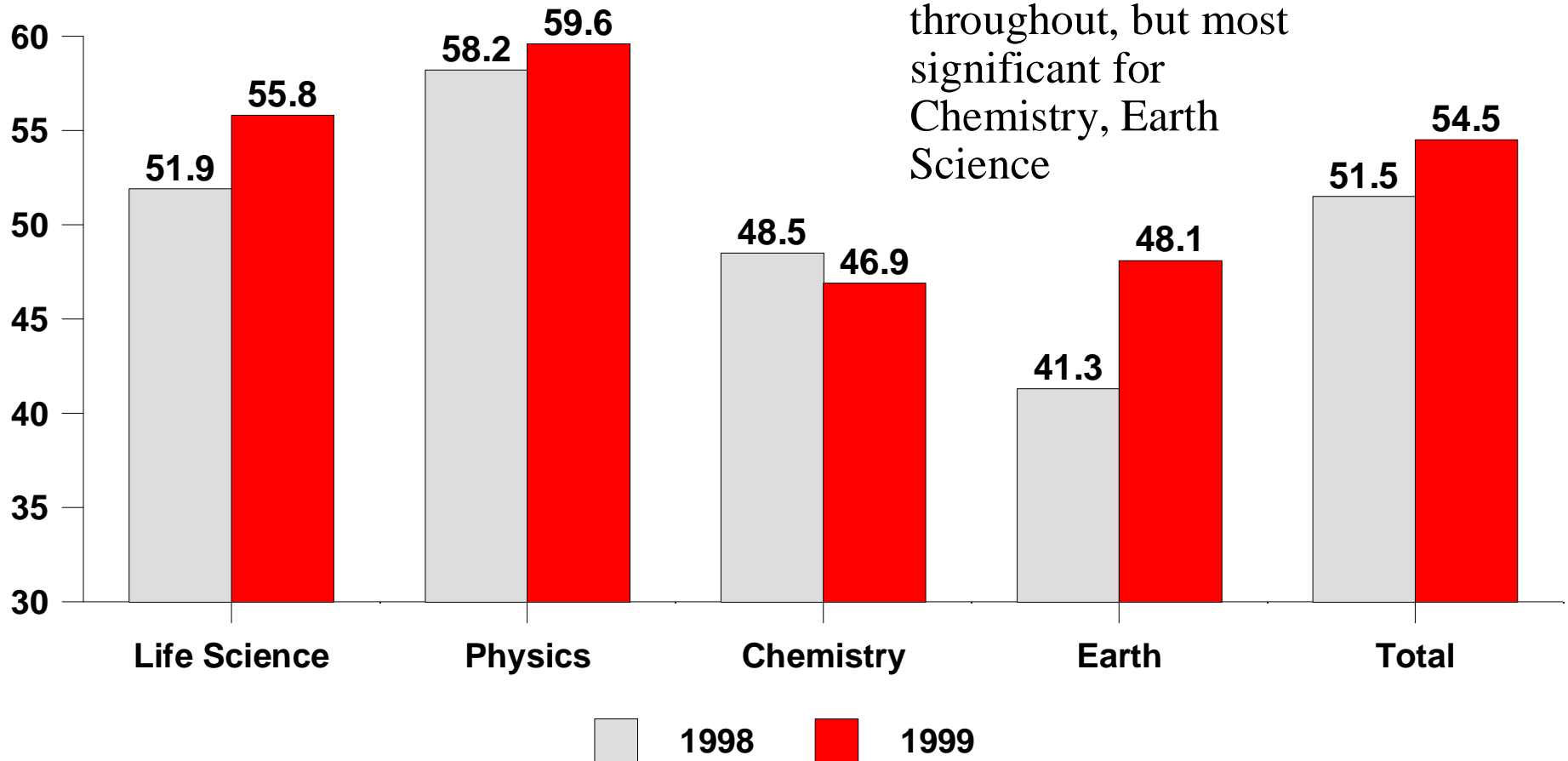
Guiding Question

How much is the curriculum a factor in the Intermediate Science Criterion Referenced Test scores?

PROVINCIAL RESULTS

Grade 9 Science CRT

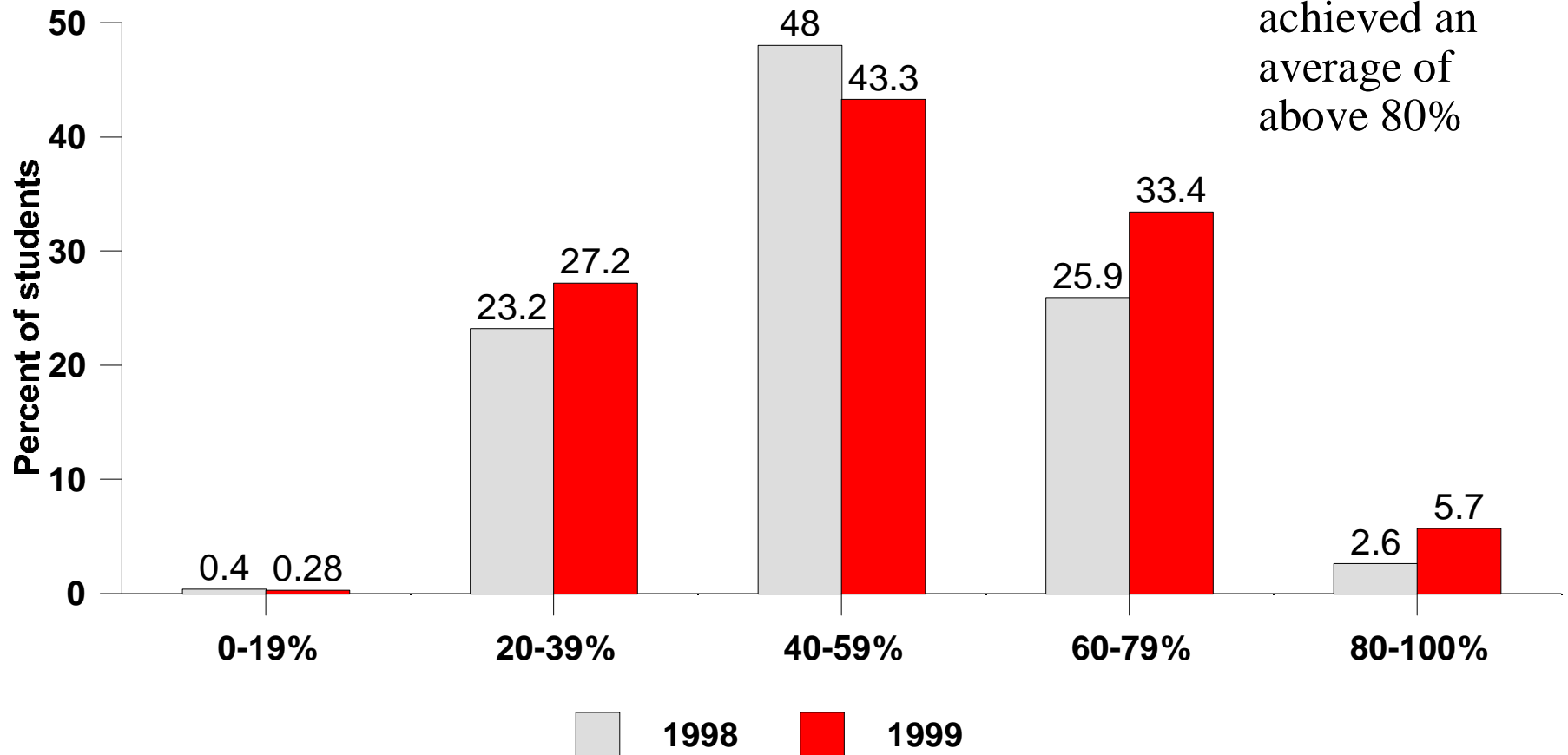
Low averages throughout, but most significant for Chemistry, Earth Science



Student Score Distribution

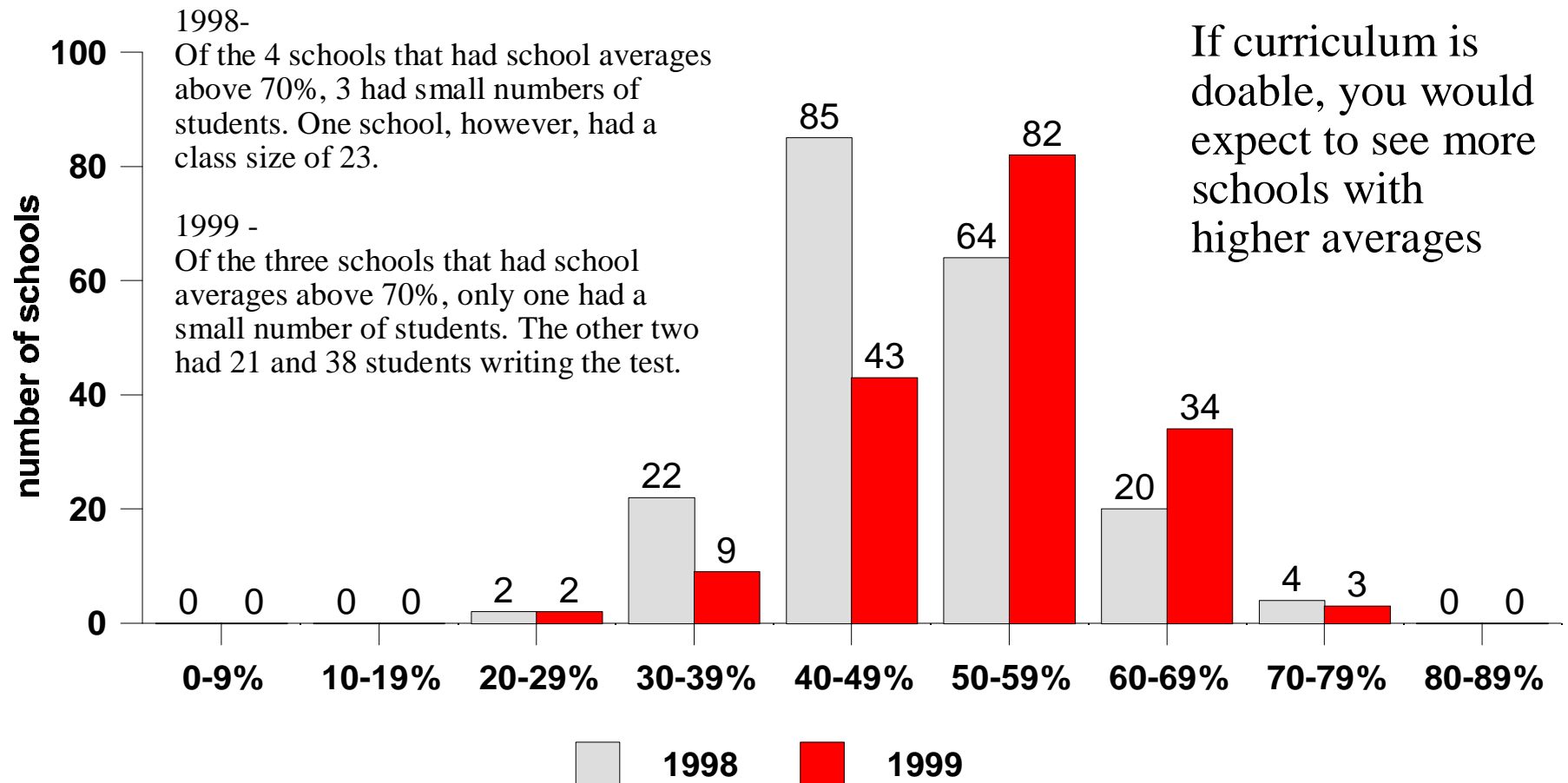
Grade 9 Science CRT

Very few students achieved an average of above 80%



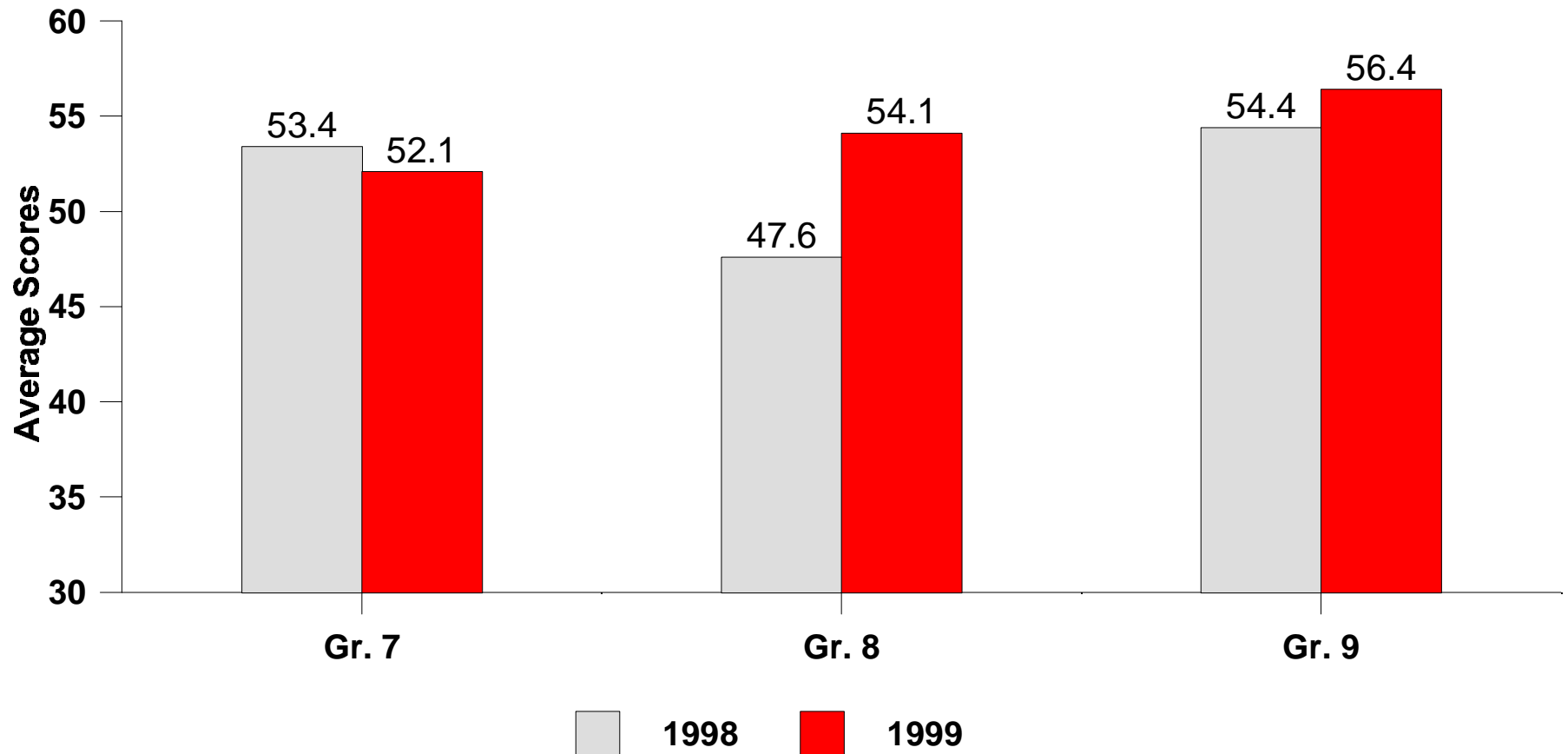
School Score Distribution

Grade 9 Science CRT



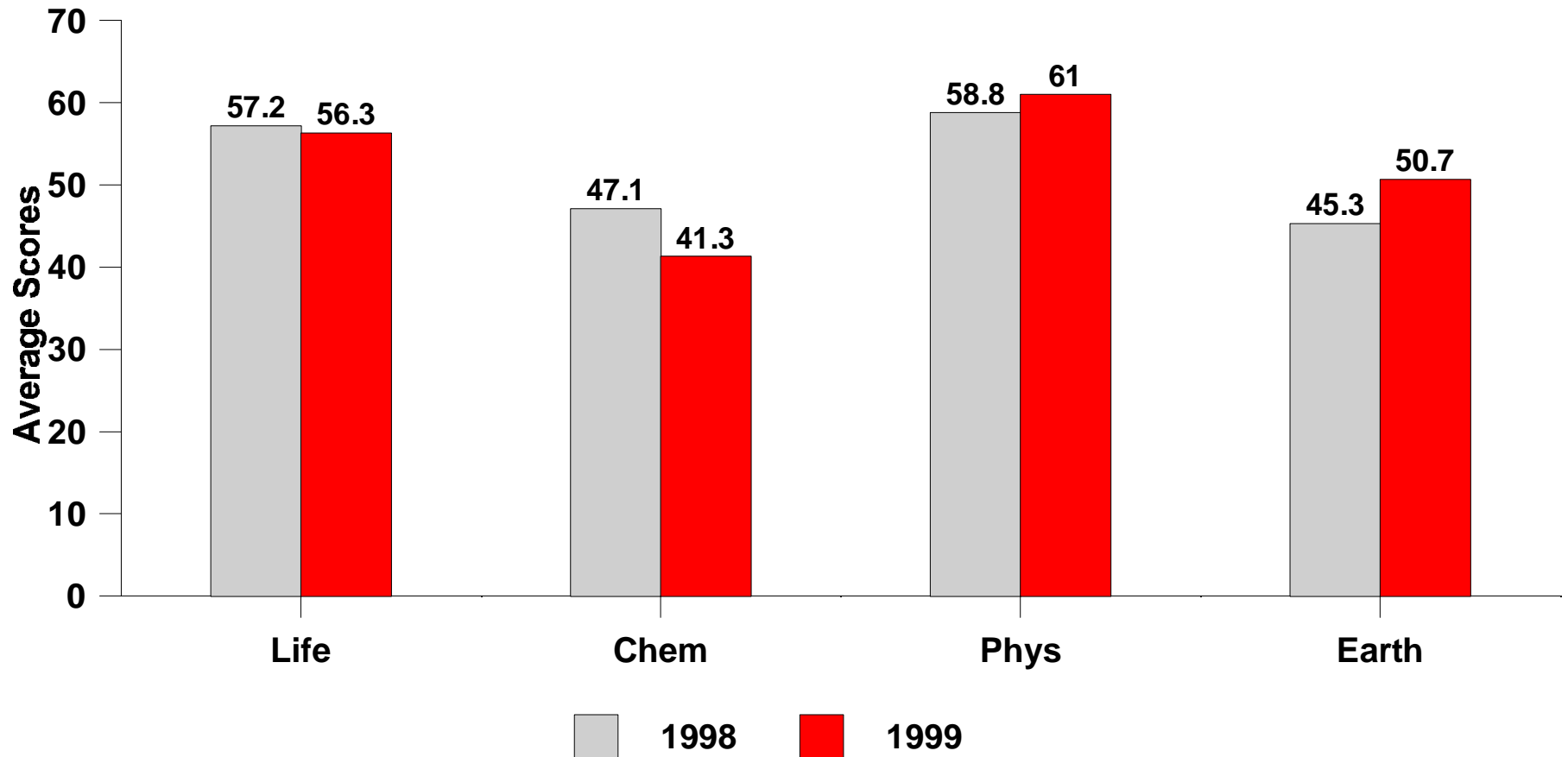
Average Score by Grade

Grade 9 scores higher than 7 and 8, but all are relatively low.



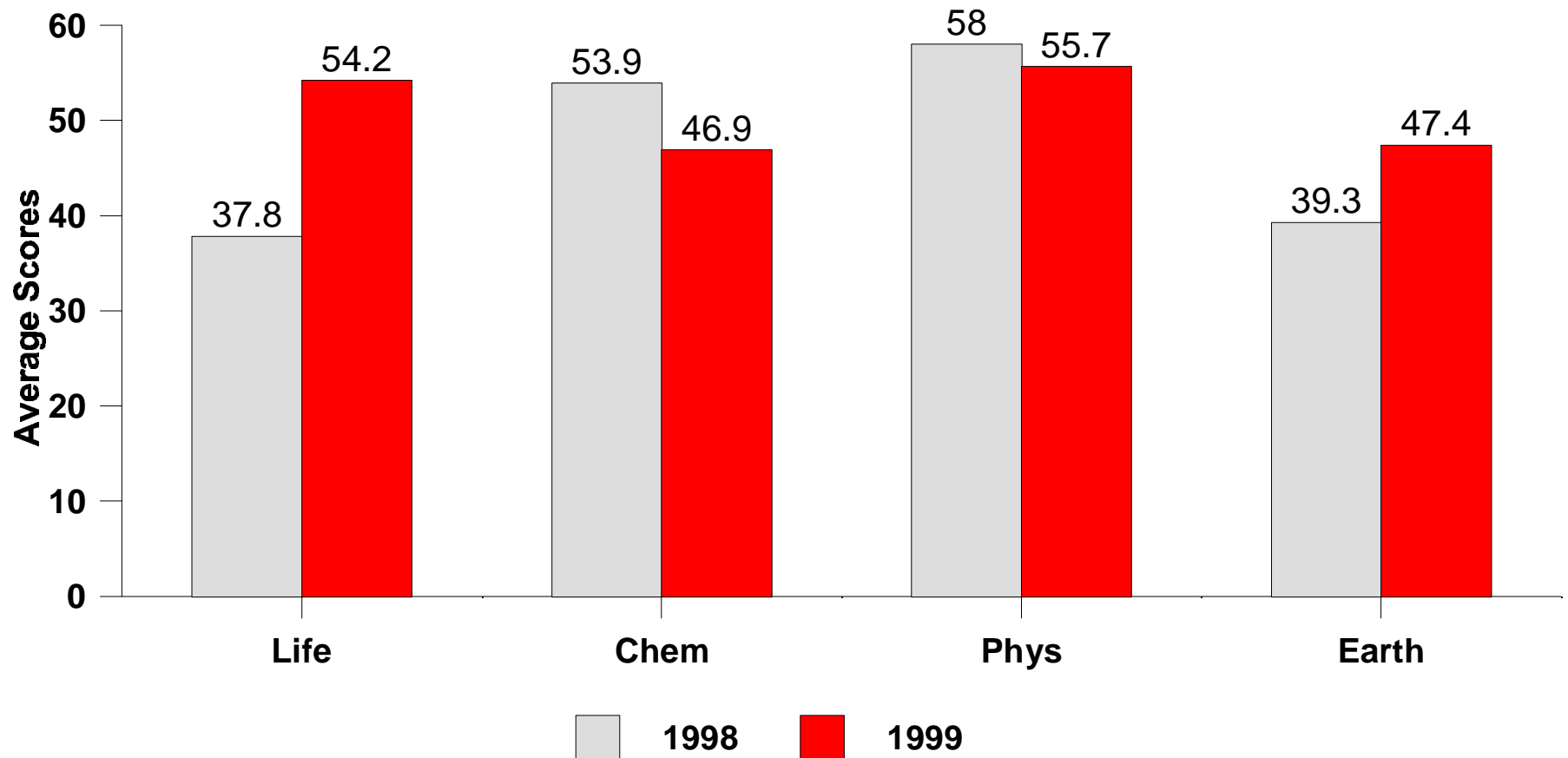
Grade 7 Subtest comparisons

Student scores in Chemistry, Earth Science appeared to be significantly lower than Life, Physics



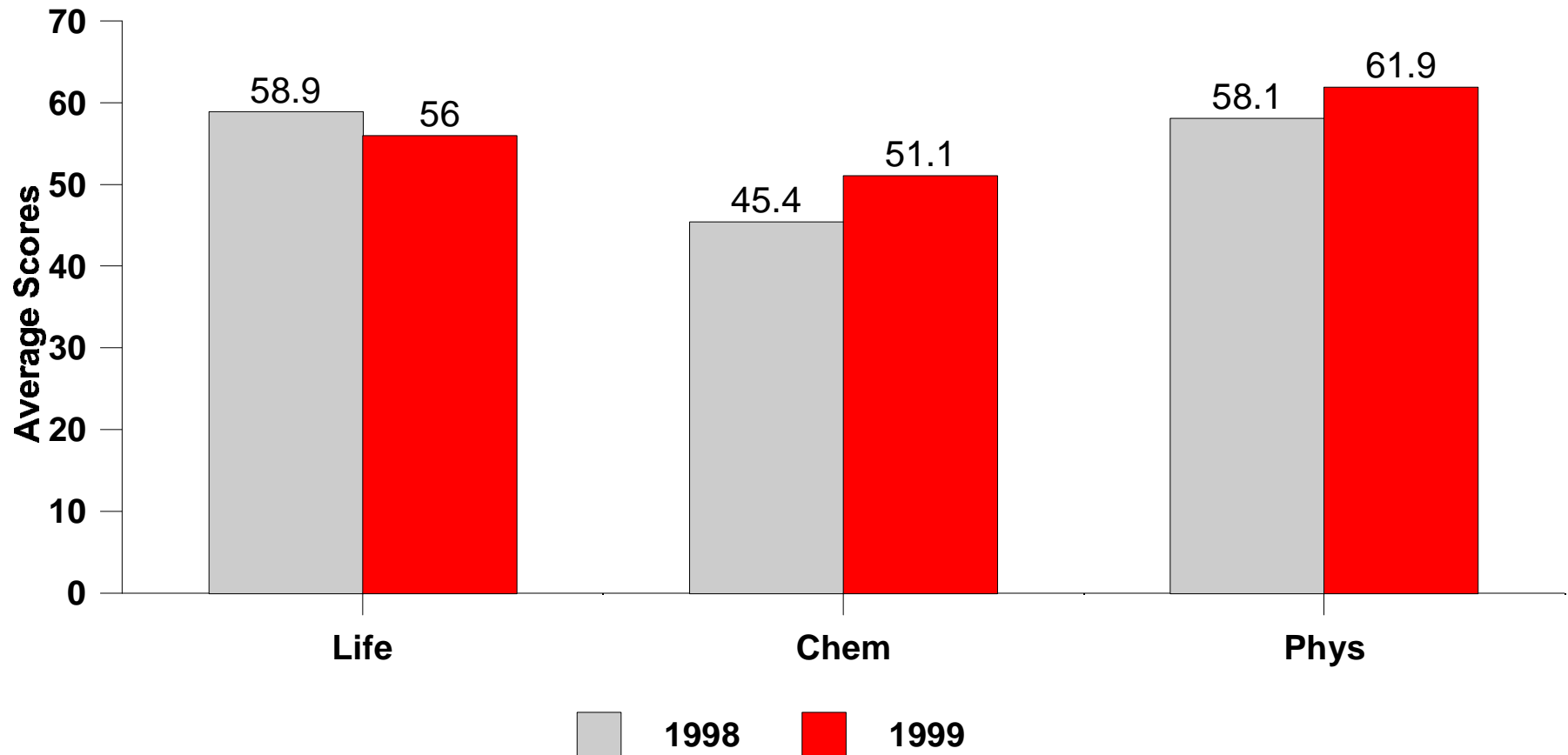
Grade 8 Subtest Comparison

For the most part, Students appear to achieve lower scores in Earth Science than other subtests.



Grade 9 Subtest Comparison

Chemistry score appears to be lower than other two subtests



Conclusions from CRT analysis

- Indications are that Earth Science and Chemistry appear to be the weakest areas in the science curriculum. This is most apparent in Grade 7.
- More data is needed to verify the curriculum as one of the causes of this weakness.

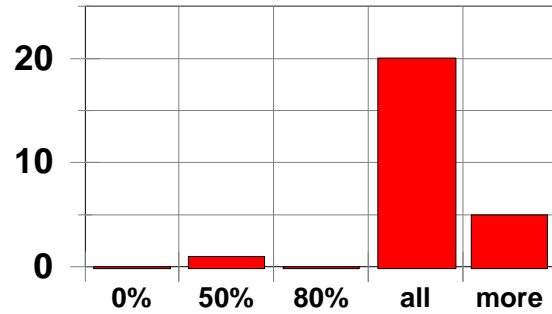
Analysis of Intermediate Science Survey

Evaluation Process

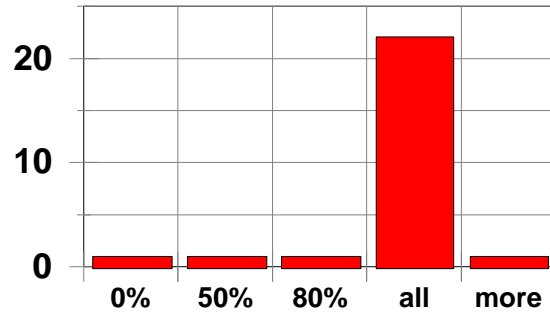
- Met with Program Consultants at District
- Distributed Teacher Survey to 6 teacher per district (2 per grade level)
- Collected, compiled, and analyzed results
- Consulted with technology and evaluation consultants at Department, and original curriculum developer

Grade 7

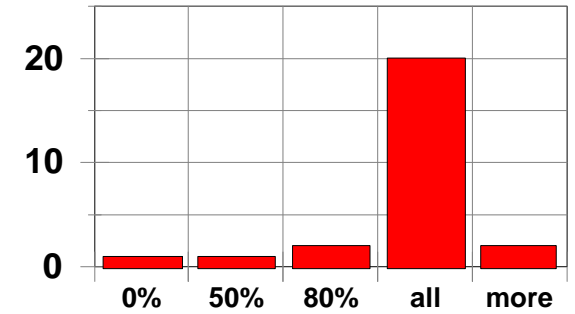
Char. Liv. Things



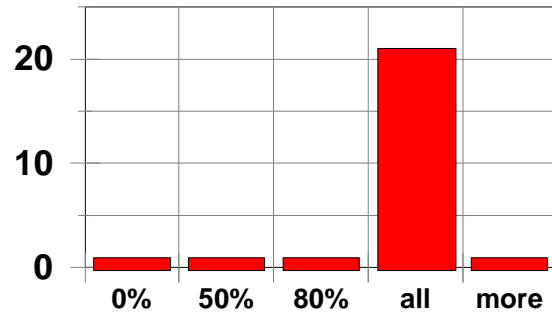
Struct. & Design



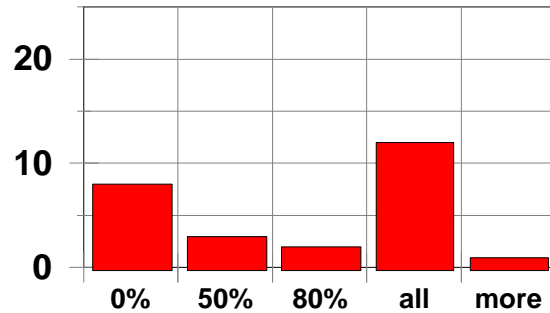
Force and Motion



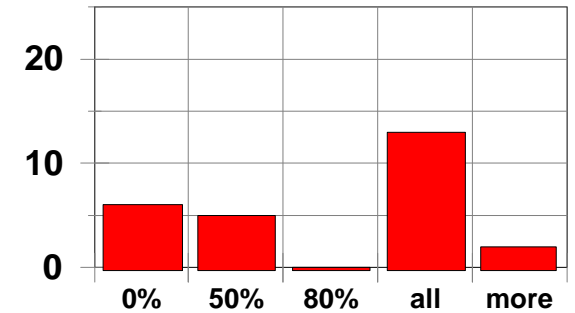
Measuring Temp.



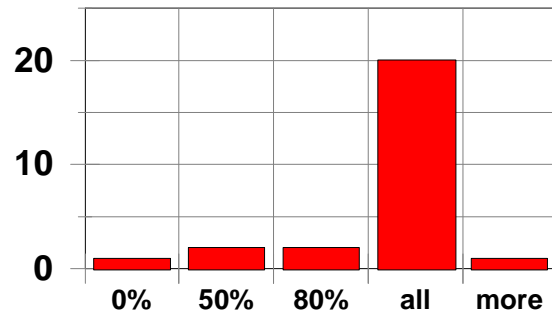
Chem. and you



Changes in Land



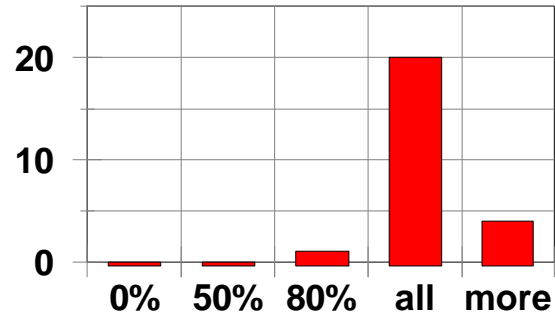
Student Project



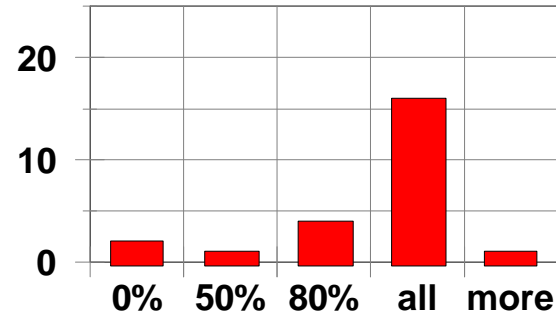
Average Number of Units covered:
5.4 out of 7

Grade 8

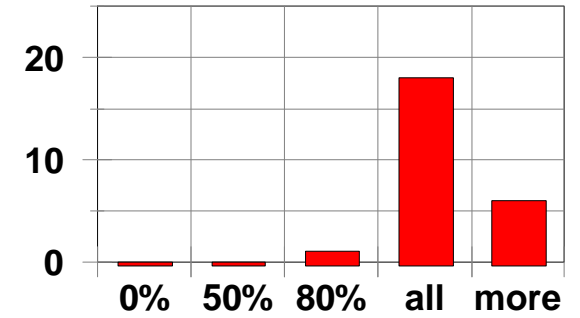
Environ. Inter.



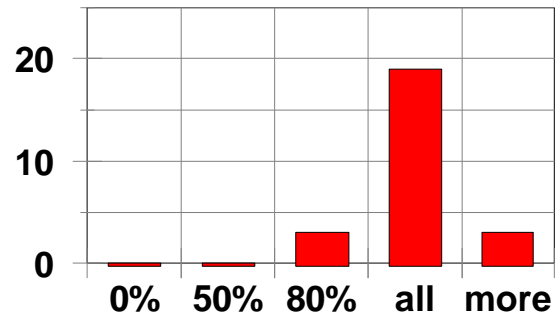
Consumer Test



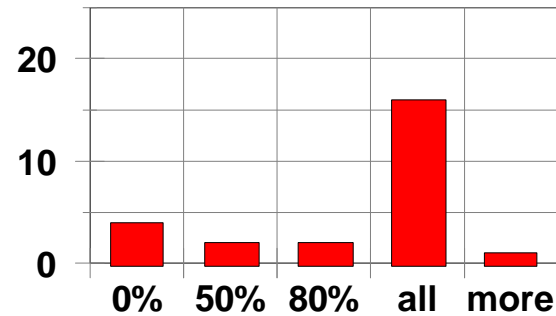
Machines/Work



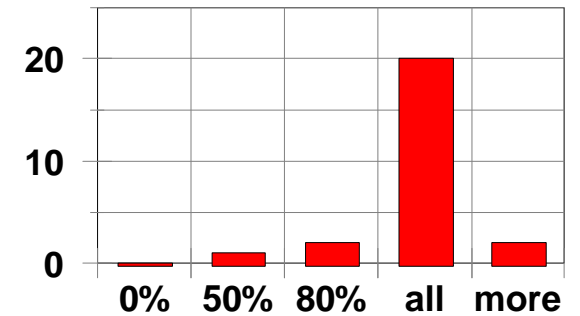
Solutions/Subst.



Earth's Crust



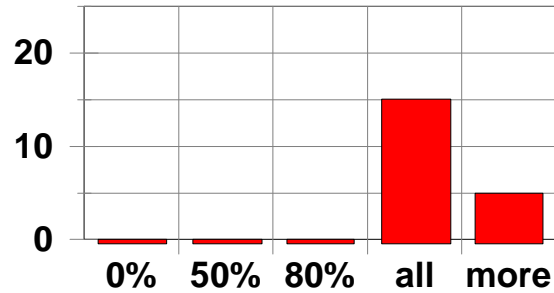
Student Project



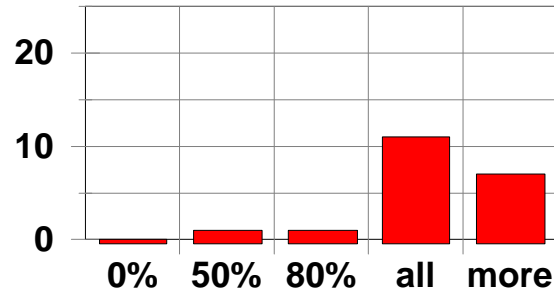
Average number of units covered:
5.2 out of 6

Grade 9

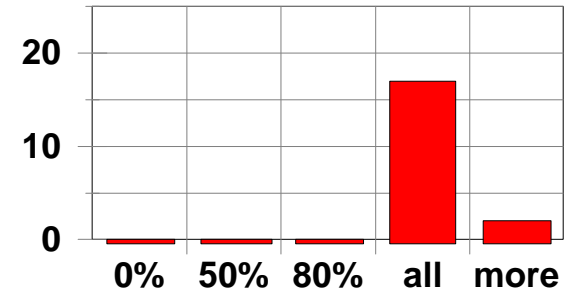
Diversity



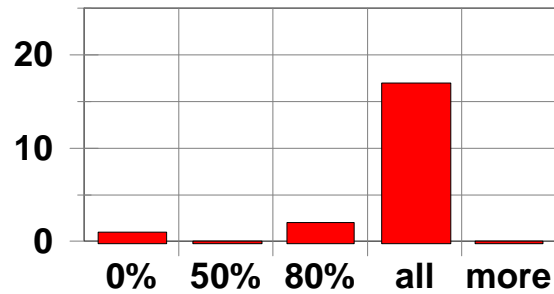
Environ. Quality



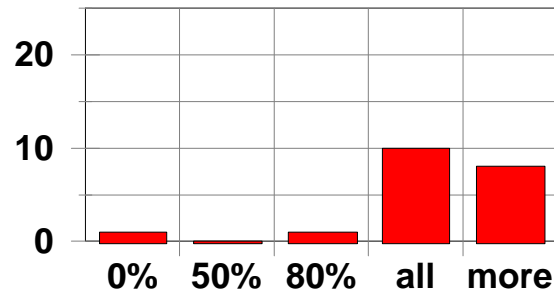
Electricity



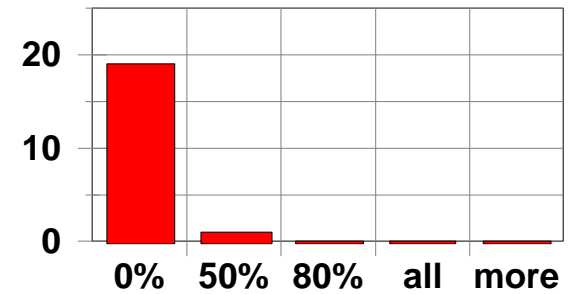
Heat Transfer



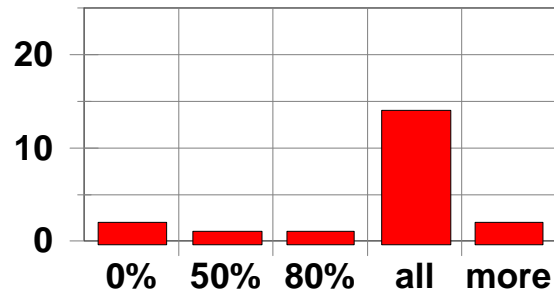
Chemical Changes



Oceanography



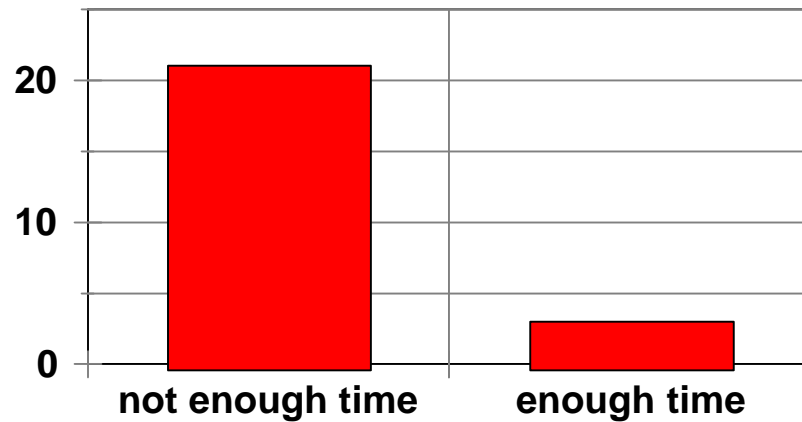
Student Project



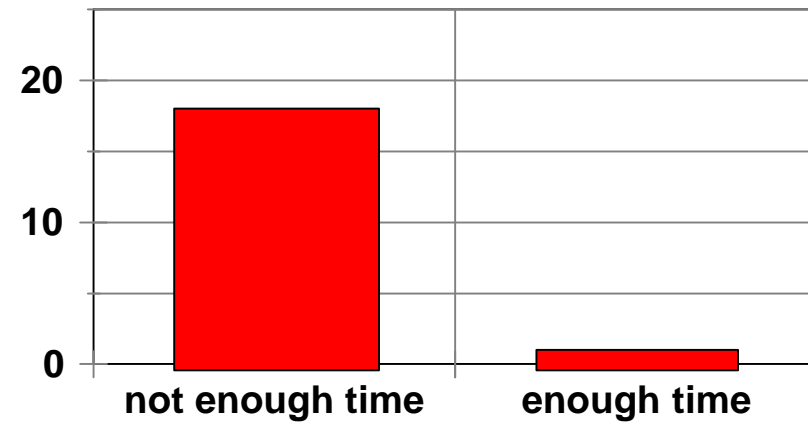
Average Number of Units covered:
5.3 out of 7

Time to address curriculum outcomes

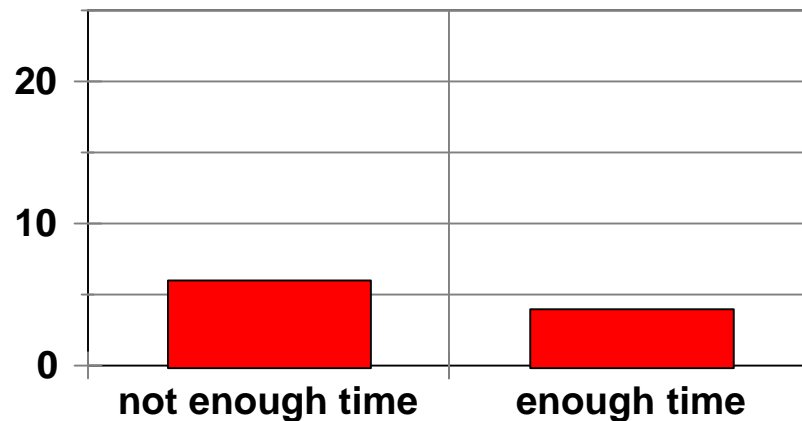
Grade 7



Grade 8

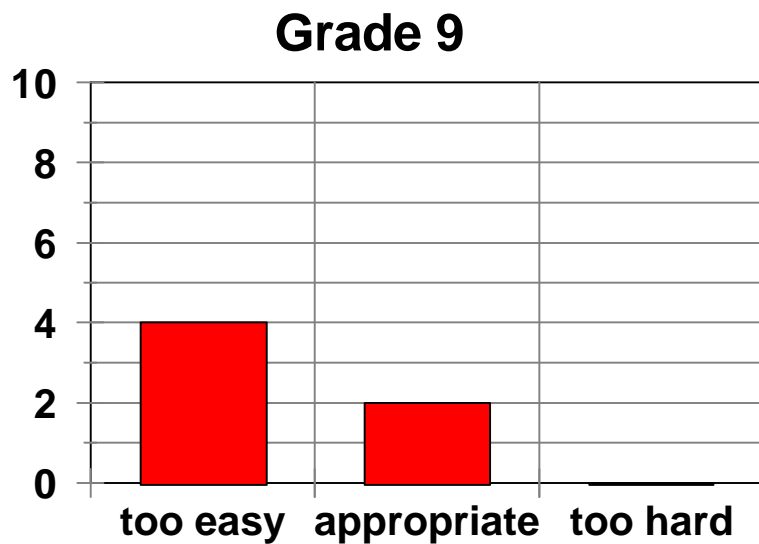
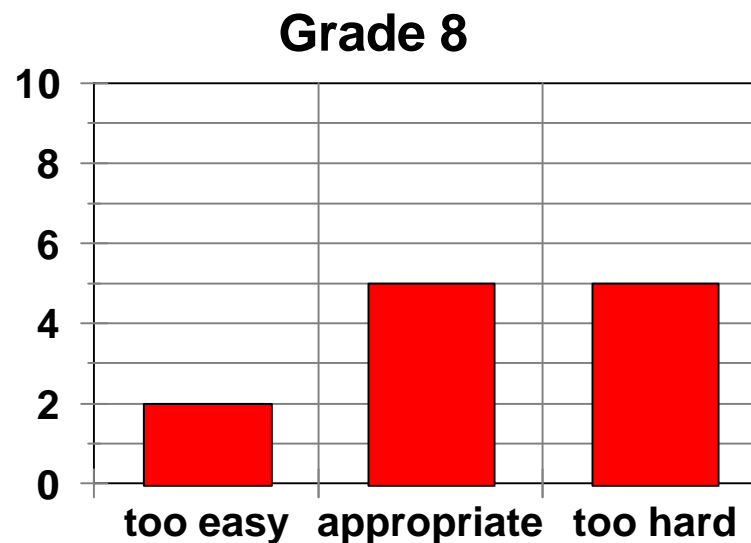
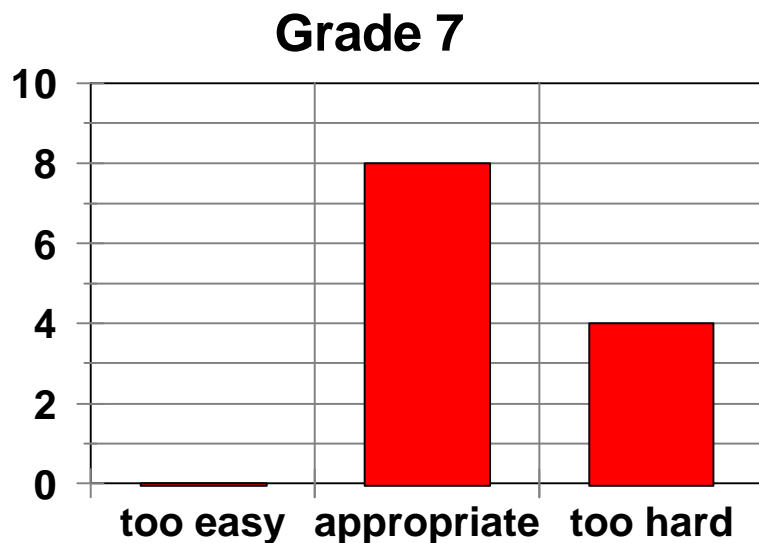


Grade 9



Grade 9 oceanography unit was not counted since virtually no-one completed this unit. Only comments related to length over and above were noted.

Degree of Difficulty



Chemistry units in 7 and 8 were cited as “hard”; consumer product testing in 8 was “easy”, more general comments in 9.

Action based on Evaluation

Scope and Suggested Sequence of Units Effective September 2000

Intermediate Science Course Overview		
Grade 7	Grade 8	Grade 9
Changes in the Land (NS)	Environmental Interactions (NS)	Environmental Quality (STS)
Measuring Temperature (ST)	Solutions and Substances (STS)	Chemical Changes (NS)
Force and Motion (NS)	Machines and Work (NS)	Electricity (NS)
Chemicals and You (STS)	The Earth's Crust (NS)	Heat Transfer (NS)
Characteristics of Living Things (NS)		Diversity of Living Things (NS)
Student Project (NS)	Student Project (NS)	Student Project (NS)
Structures and Design (STS) <i>Optional</i>	Consumer Product Testing (STS) <i>Optional</i>	Oceanography (NS) <i>Optional</i>

Rationale for changes

- Decisions based on Pan-Canadian framework document and determination of prerequisite skills/knowledge for high school
- Much of what is done in “Structures and Design” and “Consumer Product Testing” will be done in Intermediate Technology Program
- These units can still be addressed in conjunction with Student Projects
- Reordering based on seasonal units, moving units not normally completed up in the sequence, and facilitating lab accessibility