



AstraZeneca Science Teaching Trust / Leicester City Primary Science Project

Attitudes to Science Teaching Questionnaire

Introduction

Dear Teacher,

The purpose of this questionnaire is to map out the feelings of primary science teachers before starting work on the new science project. At later stages in the project, I hope you will be able to complete various parts of the questionnaire again, so you will be able to monitor your progress. You will be kept fully informed of questionnaire outcomes and will have the opportunity to discuss the analyses of the results later in the year.

The questions are designed to rate your confidence in teaching science and your views as a science teacher. Some of the questions have been used at other times with other teachers, so you will later see how science teaching is changing.

I hope you will find the questionnaire interesting in itself, and will find time in a busy day to make a valuable contribution to the project. You must not feel that you have to answer all of the questions in one "sitting." You can complete each of the five sections separately, if you like. When you have finished, make sure the Tutor has your copy by the end of the two-day Introductory Course.

1. Personal details

- 1.1 Your Name
- 1.2 Your School
- 1.3 Year qualified as a teacher
- 1.4 Initial teacher qualification
- 1.5 Specialist areas
- 1.6 Further qualifications / specialisms more recently acquired
-

(continued...)

- 1.7 Total number of years teaching
- 1.8 Number of years at present school
- 1.9 (a) Present teaching post
- (b) Details of any curriculum responsibility
-
- 1.10 Year group taught
- 1.11 Number of pupils in class
- 1.12 Do you have a classroom assistant when teaching science?.....

2. *Competence across the curriculum*

- 2.1 How well do you feel able to handle the demands of the curriculum in the following areas for the class you presently teach? Please answer by circling the appropriate code number on the five point scale.

	Not confident at all: I need more help with this					Very confident, no problems at all
Science	1	2	3	4	5	5
English	1	2	3	4	5	5
Maths	1	2	3	4	5	5
Information Technology	1	2	3	4	5	5

(continued...)

If you are a teacher of Years 5 and 6, please go on to question 2.2. If you do not teach these years, please go on to question 2.3.

2.2 How confident are you of teaching the four subjects to Years 1 and 2?

Please answer by circling the appropriate code number on the five point scale.

	Not confident at all: I need more help with this				Very confident, no problems at all
Science	1	2	3	4	5
English	1	2	3	4	5
Maths	1	2	3	4	5
Information Technology	1	2	3	4	5

Now go on to Section 3

2.3 How confident are you of teaching the four subjects to Years 5 and 6?

Please answer by circling the appropriate code number on the five point scale.

	Not confident at all: I need more help with this				Very confident, no problems at all
Science	1	2	3	4	5
English	1	2	3	4	5
Maths	1	2	3	4	5
Information Technology	1	2	3	4	5

Now go on to Section 3

(continued...)

3. Competence in science

3.1 How well do you feel able to handle the demands of the National Curriculum in science?
Please answer by circling the appropriate code number on the five point scale.

	Not confident at all: I need more help with this				Very confident, no problems at all
Content					
Life processes	1	2	3	4	5
Materials and properties	1	2	3	4	5
Physical processes	1	2	3	4	5
Investigations					
Planning work	1	2	3	4	5
Obtaining evidence	1	2	3	4	5
Weighing up evidence	1	2	3	4	5
Guided discovery	1	2	3	4	5
Questioning					
On facts / descriptions	1	2	3	4	5
On ideas / explanations	1	2	3	4	5
Eliciting pupil questions	1	2	3	4	5
Teaching science to emphasise					
That it needs organised investigation.	1	2	3	4	5
That ideas in science change.	1	2	3	4	5
That its uses are found in everyday life.	1	2	3	4	5
That it can explain natural phenomena.	1	2	3	4	5
The development of pupils' communications skills.	1	2	3	4	5
The place of health and safety issues.	1	2	3	4	5
Practical lesson planning					
Using the above to put together a year's lessons	1	2	3	4	5

(continued...)

3.2 In addition to any general areas of the National Curriculum science that might worry you, do you have any particular concerns?

Please circle

Yes	1
No	2

If Yes, please **enter these areas of concern in the spaces provided below**, otherwise please go on to question 4.

Please indicate the strength of your concern by circling one of the code numbers.

Area of concern	Not confident at all: I need more help with this	I can just get by in this without seeking help
Content		
	1	2
	1	2
	1	2
	1	2
Investigations		
	1	2
	1	2
	1	2
	1	2
Questioning		
	1	2
	1	2
	1	2
Teaching science to emphasise that		
	1	2
Practical lesson planning		
	1	2

(continued...)

4. *Effective science teaching in the classroom*

This question comprises a number of statements about teaching primary science. You are asked to express your opinion of each statement as a desirable characteristic of a **teacher in the classroom**. There is a five point scale to mark your feeling about each item:

- 1 the characteristic is irrelevant,
- 2 the characteristic has some relevance, but is not so important,
- 3 the characteristic is generally desirable,
- 4 the characteristic is very important,
- 5 the characteristic is essential.

This "scale" needs an answer to every statement.

Please indicate your view by circling the code number.

1.	Gives each lesson a clear introduction and conclusion to introduce and summarise the learning.	1	2	3	4	5
2.	Expects pupils to carefully follow instructions.	1	2	3	4	5
3.	Is skillful in the use of scientific equipment.	1	2	3	4	5
4.	Tries to stimulate pupils to think for themselves.	1	2	3	4	5
5.	Encourages pupils to make notes of observations as they are made.	1	2	3	4	5
6.	Can present demonstration experiments.	1	2	3	4	5
7.	Allows pupils to choose their own record of note-making.	1	2	3	4	5
8.	Explains to the pupils why the science under study is important.	1	2	3	4	5
9.	Is a competent performer of all the skills needed in teacher.	1	2	3	4	5
10.	Encourages pupils to guess and speculate.	1	2	3	4	5
11.	Expects pupils to use scientific words correctly.	1	2	3	4	5
12.	Encourages pupils to make careful observations, repeating measurements if possible.	1	2	3	4	5
13.	Provides reference sources for pupils to explore.	1	2	3	4	5
14.	Relates new learning to pupils' everyday experiences.	1	2	3	4	5
15.	Shows pupils how to reason and make deductions from facts and observations.	1	2	3	4	5
16.	Develops a liking for science in the pupils.	1	2	3	4	5
17.	Encourages pupils to try out their own ideas in investigations.	1	2	3	4	5
18.	Can help pupils generalise from observations.	1	2	3	4	5

(continued...)

5. Effective science teaching: preparation and professional aims

This final question comprises a number of statements about the aims and preparation of primary teachers of science. You are asked to express your opinion of each statement as a desirable characteristic of a **professionally prepared teacher**. Once more, there is a five point scale to mark your feeling about each item:

- 1 the characteristic is irrelevant,
- 2 the characteristic has some relevance, but is not so important,
- 3 the characteristic is generally desirable,
- 4 the characteristic is very important,
- 5 the characteristic is essential.

This "scale" needs an answer to every statement.

Please indicate your view by circling the code number.

- | | | | | | | |
|-----|------------------------------------------------------------------------------------|---|---|---|---|---|
| 1. | Changes learning material and methods to keep up to date with other developments. | 1 | 2 | 3 | 4 | 5 |
| 2. | Takes subject courses on science subject knowledge. | 1 | 2 | 3 | 4 | 5 |
| 3. | Tries to build up lessons from known interests of the pupils. | 1 | 2 | 3 | 4 | 5 |
| 4. | Can relate to the pupils' learning to the science of the past. | 1 | 2 | 3 | 4 | 5 |
| 5. | Has studied the philosophy and psychology of education. | 1 | 2 | 3 | 4 | 5 |
| 6. | Plans teaching with SATS tests and assessments in mind. | 1 | 2 | 3 | 4 | 5 |
| 7. | Designs tests to provide feedback about the success of lessons. | 1 | 2 | 3 | 4 | 5 |
| 8. | Sees that there is an adequate supply of learning resources at hand. | 1 | 2 | 3 | 4 | 5 |
| 9. | Can use knowledge of the psychology of learning in the teaching of science. | 1 | 2 | 3 | 4 | 5 |
| 10. | Willingly consults colleagues in case of difficulties. | 1 | 2 | 3 | 4 | 5 |
| 11. | Takes subject courses in general educational matters. | 1 | 2 | 3 | 4 | 5 |
| 12. | Uses various methods of evaluating pupils. | 1 | 2 | 3 | 4 | 5 |
| 13. | Relates each new concept to already learnt ones. | 1 | 2 | 3 | 4 | 5 |
| 14. | Uses tests that require pupils to use their learning in a new situation. | 1 | 2 | 3 | 4 | 5 |
| 15. | Takes subject courses on the methods of teaching science. | 1 | 2 | 3 | 4 | 5 |
| 16. | Can evaluate benefits derived from field trips and visits to industry. | 1 | 2 | 3 | 4 | 5 |
| 17. | Has an understanding of the limitations of scientific theories in general. | 1 | 2 | 3 | 4 | 5 |
| 18. | Is willing to initiate inquiry and investigation beyond the goals of the syllabus. | 1 | 2 | 3 | 4 | 5 |
| 19. | Can evaluate science books and other learning resources. | 1 | 2 | 3 | 4 | 5 |

(continued...)

- 1 the characteristic is irrelevant,
 2 the characteristic has some relevance, but is not so important,
 3 the characteristic is generally desirable,
 4 the characteristic is very important,
 5 the characteristic is essential.

19.	Encourages pupils to plan their own investigations.	1	2	3	4	5
20.	Teaches for understanding.	1	2	3	4	5
21.	Can use a range of questioning skills.	1	2	3	4	5
22.	Encourages and helps pupils write lesson notes.	1	2	3	4	5
23.	Explains how to recognise and control variables in an experiment.	1	2	3	4	5
24.	Arranges for pupils to work in groups.	1	2	3	4	5
25.	Frequently revises earlier learning.	1	2	3	4	5
26.	Shows pupils how classroom learning relates to the outside world.	1	2	3	4	5
27.	Encourages pupils to learn from each other.	1	2	3	4	5
28.	Explains to pupils how to break up a large problem in to smaller parts.	1	2	3	4	5
29.	Teaches the class as a whole.	1	2	3	4	5
30.	Can devise original experiments and investigations.	1	2	3	4	5
31.	Uses information technology.	1	2	3	4	5
32.	Teaches for the memorisation of knowledge.	1	2	3	4	5
33.	By careful planning, guides pupils to their own "discoveries."	1	2	3	4	5

Thank you very much for your help!