



# Understanding PATs

## FOR PARENTS AND FAMILIES

New Zealand teachers use a variety of tests to determine what level students are at, what progress they are making, and where they may need extra help. Progressive Achievement Tests, commonly known as PATs, are one of the main sets of tests schools use.

PATs are multiple-choice tests designed to help teachers determine achievement levels of Year 4-10 students in Mathematics, Reading Comprehension and Vocabulary, and Listening. The test results help teachers decide what kinds of teaching materials are needed and which methods or programmes are most suitable for their students. PATs are also important because they identify the progress a student is making from year to year.

Schools buy PATs from the New Zealand Council for Educational Research (NZCER), an independent research organisation which first developed the tests more than 30 years ago. NZCER also provides a marking service for the tests, which enables schools to access results and analysis online.

**PAT:Reading Comprehension** assesses how well students understand the text they are reading. Each test is organised around several extended pieces of writing which include stories, poems, reports and explanations.

**PAT:Reading Vocabulary** assesses students' ability to understand the words they read. Each question is based around a key word that is embedded in a short sentence. Students are asked to choose a synonym that best represents the meaning of this word from a list of five possible alternatives.

**PAT:Listening Comprehension** measures a child's ability to understand spoken material. Students listen to a passage and then answer questions. It helps teachers detect children with poor listening skills and is also useful in identifying those children whose listening comprehension performance is significantly different from their ability to comprehend written material.

**PAT:Mathematics** covers number knowledge, number strategies, algebra, geometry and measurement, and statistics. Like the others, PAT:Mathematics is for Year 4-10, but there is an additional, slightly easier test aimed at year 4 which some schools choose to use in year 3.

## How PATs are marked

### Scales

Students receive a raw test score (e.g. 22 out of 40), which is converted onto a scale. There are three separate PAT scales: the PAT:Mathematics scale, the PAT:Reading Comprehension scale and the PAT:Reading Vocabulary scale.

The process used to convert raw scores to scale scores takes into account the difficulty of the questions in the tests. Each scale covers Years 4-10 (Years 3-10 in the case of maths), so an individual student's progress can be tracked over time. As students learn more and move through the year levels, they should move up the scale. For example, most students start off with a reading vocabulary score of around 28 units on the scale. By year 10, most will score around 66 units.

Note, units are not percentage points. Each set of tests has its own scale, e.g., the PAT:Mathematics scale, and the units are particular to that scale. In Pat:Mathematics, units are called patm, in PAT:Reading Comprehension they are patc, and in PAT:Reading Vocabulary they are patv.

### Measurement error

Scale scores are reported within a range, such as 35 plus or minus 3. This is to indicate the range within which we would expect your child to score if they repeated the test. No single test can be absolutely precise. The plus or minus range is similar to the margin of error found in political polls.

### Score comparison

Once a raw score has been converted to a scale score, it is possible to compare a student's achievement with the achievement of nationally representative groups of students at different year levels (known as national reference groups). Because PATs have been tested nationally in a statistically rigorous way on all year groups, we know the average score and the likely range of scores for students in maths, reading comprehension and reading vocabulary for each year level. A scale score of 60, for instance, represents very high achievement for a Year 4 student, but represents below average achievement for a student in Year 10. These national norms come from testing done at the beginning of the school year. So if your child sits PATs towards the end of the year, it is best to compare their achievement against the national reference group for the next year level.

### Stanines

Comparisons can also be done using what are known as stanines. Scale scores at each year level nationally are divided into nine levels of achievement, called stanines, with the lowest performance level being stanine one and the highest stanine nine. For example, you may be told that when compared with all year 4 students nationally, your child is in stanine 7. Since the average stanine is stanine five, this indicates an above average performance.

## **Frequently Asked Questions**

### **1. How long have these tests been around and have they changed recently?**

PATs were first developed in the 1970s and revised in the early 1990s. Maths, Reading Comprehension and Reading Vocabulary have all been completely revised recently, and the Listening test is currently being redeveloped.

### **2. What other tests do schools use?**

Teachers use other diagnostic tests to measure achievement and progress such as STAR, and AsTTle. STAR is the Supplementary Test of Achievement in Reading, and AsTTle stands for Assessment Tools for Teaching and Learning. It is a numeracy and literacy assessment tool provided to schools by the Ministry of Education. All use different reporting mechanisms.

### **3. How can I find out my child's PAT test scores and do I need to?**

Most schools will report regularly to you on your child's progress, through school reports and parent/teacher meetings. You can ask about their current score range, and how they have progressed up the scale. PAT results can be a good starting point to help you understand how your child is doing. A single test however should always be considered alongside other assessment information.

### **4. Can I see how my child's test scores compared to other children of their age?**

Stanines allow your child's achievement to be compared with the performance of New Zealand students at a particular year level. Scores on the PAT scale (see section on scales) at each level are divided into nine stanines, one being the lowest performance and nine being the highest. The average stanine is around five. So the stanine gives you an idea of your child's achievement level in the context of their year group nationally.

### **5. Can my child 'fail' the PATs?**

The PATs can pinpoint areas where your child is doing well or poorly. The PAT is not a definitive diagnostic test but just one test of many that will build a picture of your child for the teacher.

### **6. How are these tests associated with the curriculum?**

The content of the tests has been chosen to reflect the content of the curriculum. The scale can be matched to the curriculum levels, so teachers and parents can see what curriculum level students are working at.

### **7. What format are the tests and how long do they take to sit?**

All the tests are multiple-choice format. Students are given a test booklet and an answer sheet. Test times range from 45 minutes for Reading Comprehension and Maths, to 25 minutes for Reading Vocabulary.

## 8. How often should my child be sitting PATs?

Schools generally run PATs early in the school year to help them develop their learning programme for the year. They sometimes do them again towards the end of the year to measure progress. NZCER does not recommend them being used more than twice a year.

## 9. How do PATS relate to the new national standards?

PATs are one of the range of assessment tools schools will use in order to help them determine how students are achieving against the national standards in reading, writing and mathematics. The Ministry of Education is carrying out a number of studies to look at how a range of assessment tools including the PATs, align with the national standards. Information about this should become available to schools later in the year. PATs provide a snapshot of a student's performance in aspects of the curriculum on any one day. On its own, a PAT result should not determine whether or not a student reaches the national standard. That decision will be made by teachers using a mix of other assessment information, knowledge of the student, and the teacher's professional judgement.

## Jargon Explained

**PAT** is the acronym for Progressive Achievement Test

**Curriculum** is the set of courses and their content offered at school or university. In New Zealand, there is a national curriculum – it is not prescriptive but offer guidelines for schools to follow and develop their own curriculum.

**Stanines** are used to compare an individual student's achievement with the results obtained by a national reference sample representing a certain year level.

**Literacy** is the ability to use language to read, write, speak and listen.

**Numeracy** is the ability to understand mathematics, numbers and measurement

**National reference group** is a sample group of thousands of students nationally. Its data has provided the PAT averages, score ranges and stanines.

The New Zealand Council for Educational Research 2010

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