

## **INTERVIEW LIST**

1. How long is RSBI implemented in the school?
2. What kind of tests to join RSBI?
3. Does the school have criteria for the students who want to join the program?
4. How does it progress in the time?
5. What curriculum does the school use?
6. How does the school adopt the curriculum?
7. How does the school implement the curriculum in the school?
8. How does the learning process of RSBI?
9. What references does the school use in the learning process?
10. How does the school get the references?
11. Is there any special method in teaching RSBI students?
12. Does the school have criteria for the educators of RSBI?
13. How about the financial in implementing RSBI?
14. Where does the school get the funds?
15. Does the school get funds from the government?
16. How does the school manage the funds?
17. Can public know the use of the funds? How?
18. How does the facilities and infrastructure for RSBI students?
19. Do the students maximize the facilities provided?
20. How does the influence of the facilities to the students' development?
21. How does the school evaluate the program and the students learning?
22. What kind of tests do the students do?
23. When do the tests do?
24. Why does the school use that kind of tests?
25. What programs does the school have to support RSBI program? the programs for teacher and students
26. When are the programs conducted?
27. How does the influence of the program to the teachers and students?
28. Are the programs maximal?
29. What are the problems in implementing RSBI program?
30. How does the school solve the problems?

## Facilities



















Student Name :

Reg. Number :

Examination : Centre Diagnostic Progression Test (CDPT)

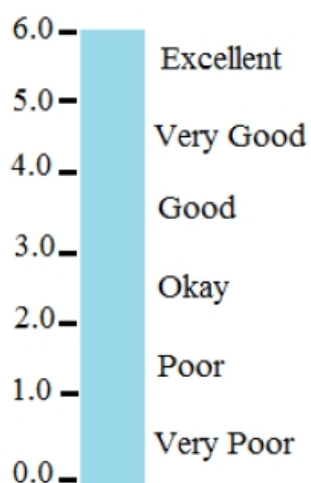
Period : January Session Year 2012

### Summary report

This table shows the overall performance

Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 3 (56%)					
Science	1 - 5 (76%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:



School Name	
Name	

First term final examination
English
Paper 1
Stage 1
30 Minutes

<p>Write your name in the answer sheet</p> <p>Answer all the questions in the answer sheet The number of marks is given in brackets [ ] of the end of each questions or part questions.</p> <p>You should show all your working in this booklet.</p> <p>You will need: pen, pencil, eraser.</p>
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Read the text carefully.

My friend's birthday

Today is Rina's birthday.

It is December 9<sup>th</sup>. 2010

She is very happy.

She brings snack and drinks to be shared with us.

She is happy and we are, too

We sing birthday song together.

Write True (T) or False (F).

1. Today is Rina's birthday. (.....)
2. Rina's birthday is in December 9<sup>th</sup>.2010 (.....)
3. She is not happy. (.....)
4. She brings food for us. (.....)
5. We sing song for her. (.....)

[ 5 ]

6. Write down the missing letter.

A	B		D	E	F		H		J		K	L
M		P	Q	R		T	U	V		X	Y	

[1]

7. Group these word become countable or uncountable nouns.

<b>Book</b> <b>Sugar</b> <b>Water</b> <b>Chair</b>
---

<b>Countable</b>
------------------

<b>Uncountable</b>
--------------------

[4]

8. Choose the correct verb.

A fish can.....(swim/hop).

[1]

9. Read the sentence and fill the blanks.

Hi, I am Jack Sawyer.

I am six years old.

I am a first grade student.

<b>Name</b> : .....
<b>Age</b> : .....
<b>Grade</b> : .....

[3]

10. Give check (V) to the correct column.

Sentence	At home	At school
Listening to the teacher		
Helping my mother in the kitchen.		

[2]

11. Write down the answer.

a. Do you like math? (+)

.....

b. Are you a student? (-)

.....

[2]

12. Draw five red books.

[2]

13. Circle the best answer.

The student (is reading, are reading) the books.

[1]

14. Match the same word.

Pencil

Sharpener

Ruler

Sharpener

Pencil

Ruler

[3]

15. Complete the dialog.

Amy : Hi, what is your .....

Tomy : My .....is Tomy.

[2]

16. Guess what is it?

a. It's long. I use it to make lines.

It's a .....

b. It's rectangle. It's big.

It's in front of the class.

It's a .....

[2]

17. Write a/an to fill the blanks.

I have .....apple.

That is .....orange.

[2]

18. Fill the blanks using he/she.

- a. I know the boy. ....is Aji.
- b. The girl is my friend. ....is Rayna.

[3]

19. Group the words based on the initial letter (the first letter).

Apple
Pineapple
Lemon
Orange
Grape
Durian

<b>Vowel</b>
--------------

<b>Consonant</b>
------------------

[4]

20. Write down your data.

Name: .....

Grade: .....

Age : .....

School: .....

[4]

School Name	
Name	

First term final examination
English
Stage 1
Paper 2
25 Minutes

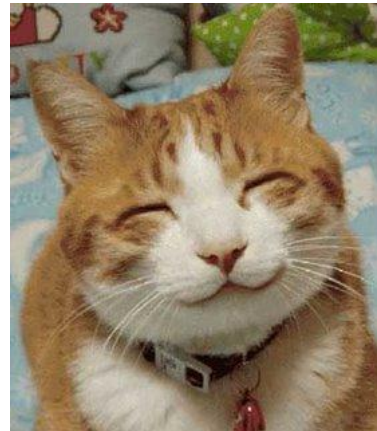
<p>Write your name in the answer sheet</p> <p>Answer all the questions in the answer sheet The number of marks is given in brackets [ ] of the end of each questions or part questions.</p> <p>You should show all your working in this booklet.</p> <p>You will need: pen, pencil, eraser.</p>
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21 Write simple sentences about elephant!

You will need to decide:

- What you are going to write about.
- What you are going to say about the animal.



Write your sentences here:

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

[18]

Text Structure	[4]
Sentence structure	[4]
Audience	[4]
Purpose	[4]

## FORMAT PEMETAAN INDIKATOR

Bidang Studi : SCIENCE  
Kelas / Semester : 2/1

Standar Kompetensi	Kompetensi Dasar	Indikator			
		1	2	3	4
Living things and life process  Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Knows the main parts of animal and plant in the house and school surrounding by observation	Explain the mamal body parts	Explain the aves/bird body parts		
	Knows the main parts of animal and plant in the house and school surrounding by observation	Explain the reptile body parts	Explain the amphibi body parts		
	Knows the main parts of animal and plant in the house and school surrounding by observation	Explain the fish body parts	Explain the part of body insect		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Know the main parts of animal and plant in the house and school surrounding by observation	Explain the worm body parts	Explain the parts of plant	Observe the morphology / stucture of outer leaf	Mengamati anatomi/struktur dalam daun dengan menggunakan mikroskop  Observe the anatomi/structure of inner leaf by using a microscope

<b>Standar Kompetensi</b>	<b>Kompetensi Dasar</b>	<b>Indikator</b>			
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the changes at animal growth (size) and plant from seed to be plant	Explain the basic need for animal life	Explain the basic need for plant life		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the changes at animal growth (size) and plant from seed to be plant	Explain the cycle of mamal life	Explain the cycle of aves life		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the changes at animal growth (size) and plant from seed to be plant	Explain the cycle of reptile life	Explain the cycle of amphibi life		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the changes at animal growth (size) and plant from seed to be plant	Explain the cycle of fish life	Explain the cycle of insect life		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the changes at animal growth (size) and plant from seed to be plant	Explain the cycle of worm life	Identify the cycle of plant life by experiment		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the habitats of living things ( water, soil, and others)	Explain land and water habitats as animal and plant living	Explain the the school park as land habitats		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the habitats of living things ( water, soil, and others)	Explain the desert as land habitats	Explain the grassland as land habitats		
Knows the main parts of animal body and plant, animal and plant growth and homes for living things	Identify the habitats of living things ( water, soil, and others)	Explain the forest as land habtats	Explain the pond and lake as water habitats		
Knows the main parts of animal body and plant,	Identify the habitats of living things ( water, soil,	Explain the sea as water habitats			

<b>Standar Kompetensi</b>	<b>Kompetensi Dasar</b>	<b>Indikator</b>			
animal and plant growth and homes for living things	and others)				
	Identify the useful and dangerous living things	Identify symbiosis between plant and animal	Identify the useful and dangerous plant	Identify the useful and dangerous animals	
Things and properties Knows object states and uses and change in the states of matter can be happen	Identify the characteristic of solid and liquid in our surrounding	Explain the characteristic of solid	Explain the characteristic of liquid		
Knows object states and uses and change in the states of matter can be happen	Identify the characteristic of solid and liquid in our surrounding	Explain the characteristic of gas	Compare three kinds of form objects namely solid, liquid and gas		
Knows object states and uses and change in the states of matter can be happen	Show the change in the matter and form caused by certain condition Identify known object and its uses by observation	Explain the changes in the states of matter and form (freezing, melting and evaporate)	Explain the uses of solid, liquid and gas in the surroundings		

School Name	
Name	
First term final examination	
Mathematics	
Paper 1	
30 Minutes	

Write your name in the space provided

Answer all the questions in the spaces provided in this booklet.

The number of marks is given in brackets [ ] at the end of each questions or part question.

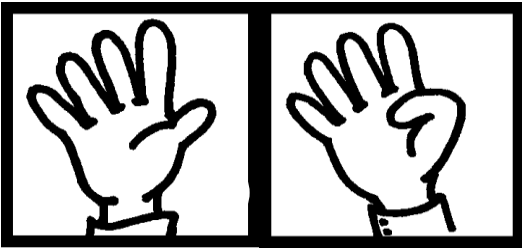
You should show all your working in this booklet.

You will need : pen, pencil, ruler

Calculators should not be used

Total Mark

1. How many finger do you see in the picture.



..... [ 1 ]

2. Fill in the blank with greater than, less than or as same as.

	<p>.....</p>	
--	--------------	--

..... [ 1 ]

3. Fill in the blank with number pattern 3.

4      7      ...      13

..... [ 1 ]

4. There is 4 candies on the table.

Mother put 4 candies more.

How many candies on the table?

..... [ 1 ]

5. Calculate.

9 - 5 = ...

..... [ 1 ]

6. Nanda has 6 apples.

Nanda gives all of apples to Frida

How many apples does Nanda have left?

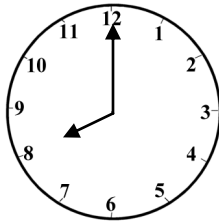
..... [ 1 ]

7. Fill in the missing number.

10 - ... = 2

..... [ 1 ]

8. Write the time in word.




..... [ 1 ]

9. Now is July.

Three months later is .....

..... [ 1 ]

10.  Painting brush

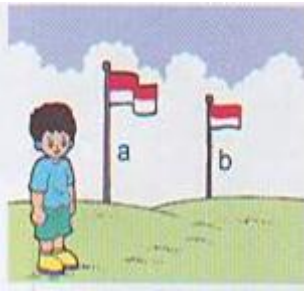
 Candle

 Pencil

Which one is the longest?

..... [ 1 ]

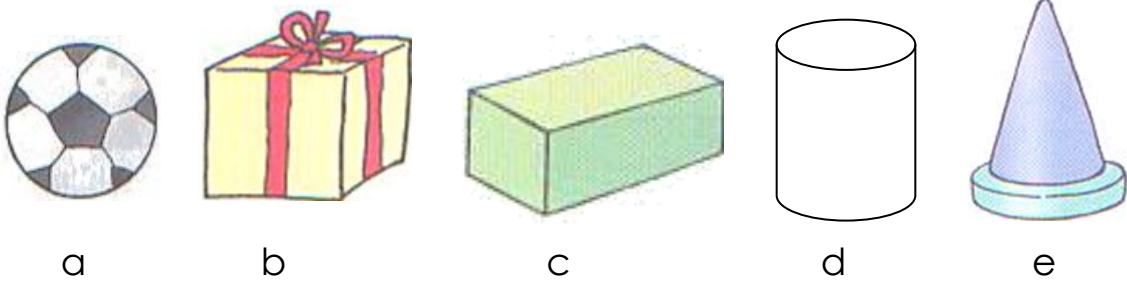
11. Fill in the blank with near or far.



The distance from flag a to Rudi is .....

..... [ 1 ]

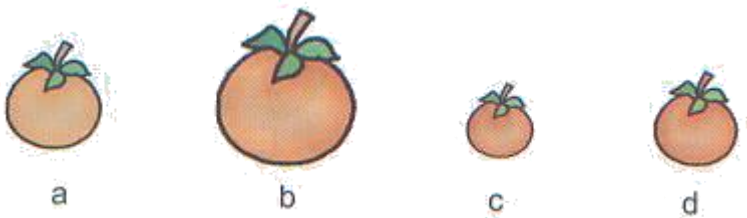
12.



Which one is tube in the picture above.

..... [ 1 ]

13. Order the oranges from the smallest to the biggest.



..... [ 1 ]

14. Arrange the number beginning from the biggest.

20    17    25    15    11

..... [ 1 ]

15. Write 25 in words.

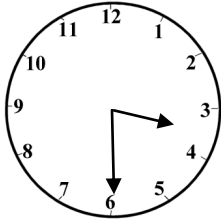


..... [ 1 ]

16. Add 1, 5 and 7.

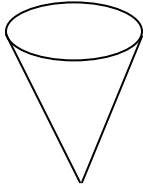
..... [ 1 ]

17. What time is it?



..... [ 1 ]

18. Write the names of the objects below.



..... [ 1 ]

19. Write thirteen in figures.

..... [ 1 ]

20. Fill in the missing number.

$$18 = 10 + \dots + 2$$

..... [ 1 ]

21. I have 28 toys.

I give 5 toys to my friend.

Now, I have ... toys.

..... [ 1 ]

School Name	
Name	
First term final examination	
Mathematics	
Paper 2	
30 Minutes	

Write your name in the space provided

Answer all the questions in the spaces provided in this booklet.

The number of marks is given in brackets [ ] at the end of each questions or part question.

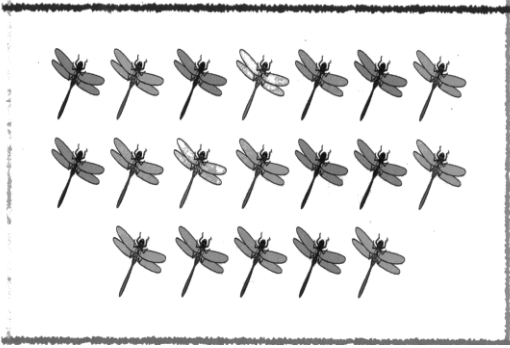
You should show all your working in this booklet.

You will need : pen, pencil, ruler

Calculators should not be used

Total Mark

1. How many butterfly in the picture below.



..... [ 1 ]

2. My sister finished eight sheet read the stories book.

Sometimes she read three sheet stories book.

How many sheet stories book she read now?

..... [ 1 ]

3. Calculate.

$$15 - 2 = \dots$$

..... [ 1 ]

4. Robert goes to the book store.

He buys 19 books.

He gives 5 books to Sally

How many books does he have left?

..... [ 1 ]

5. I am a clock.

The minute hand is pointing to 12.

The hour hand is pointing to 6.

What time is it?

..... [ 1 ]

6. There are 12 sheep, 3 cows, and 5 goats in a farm yard.

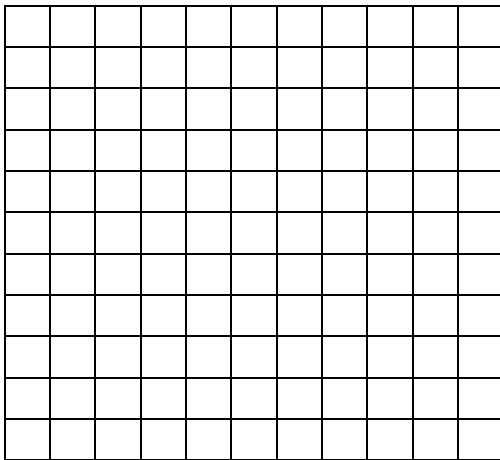
How many animals are there altogether?

..... [ 1 ]

7. The day before Friday is ....

..... [ 1 ]

8. Draw the shape of block.



..... [ 1 ]

9. Subtract 4 from 14

So, the result is ....

..... [ 1 ]

# Cambridge Primary

## English Curriculum Framework

Cambridge  
**Primary**



UNIVERSITY *of* CAMBRIDGE  
International Examinations  
Excellence in education

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## Introduction

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Welcome to the Cambridge Primary English curriculum framework.

This framework provides a comprehensive set of progressive learning objectives for English. The objectives detail what the learner should know or what they should be able to do in English in each year of primary education. They provide a structure for teaching and learning and a reference against which learners' ability and understanding can be checked.

The Cambridge Primary English curriculum is presented in five content areas. The framework promotes an enquiry-based approach to learning to develop thinking skills and encourage intellectual engagement. *Phonics, spelling and vocabulary* and *Grammar and punctuation* are about use of English. *Grammar and punctuation* is further divided into *Reading* and *Writing* to reflect the different ways in which grammar and punctuation are applied in each of these skills. *Reading, Writing, and Speaking and listening* are about developing thinking skills and encouraging intellectual engagement. This curriculum aims to enable learners to communicate confidently and effectively and to develop critical skills in order to respond to a range of information, media and texts with enjoyment and understanding. Learners who follow this framework will develop a first language competency in English based on a curriculum designed to be successful in any culture and to promote cross-cultural understanding. The Cambridge Primary English curriculum framework provides a solid foundation on which the later stages of education can be built.

The Cambridge Curriculum is founded on the values of the University of Cambridge and best practice in schools. The curriculum is dedicated to developing learners who are confident, responsible, innovative and engaged. Each curriculum framework for English, mathematics and science is designed to engage learners in an active and creative learning journey.

## Stage 1

### Phonics, spelling and vocabulary

- Hear, read and write initial letter sounds.
- Know the name and most common sound associated with every letter in the English alphabet.
- Identify separate sounds (phonemes) within words, which may be represented by more than one letter, e.g. 'th', 'ch', 'sh'.
- Use knowledge of sounds to read and write single syllable words with short vowels.
- Blend to read, and segment to spell, words with final and initial adjacent consonants, e.g. *b-l*, *n-d*.
- Begin to learn common spellings of long vowel phonemes, e.g. 'ee', 'ai', 'oo'.
- Use knowledge of sounds to write simple regular words, and to attempt other words.
- Spell familiar common words accurately, drawing on sight vocabulary.
- Use rhyme and relate this to spelling patterns.
- Recognise common word endings, e.g. *-s*, *-ed* and *-ing*.

### Grammar and punctuation

#### Reading

- Pause at full stops when reading.
- Identify sentences in a text.
- Know that a capital letter is used for *I*, for proper nouns and for the start of a sentence.

#### Writing

- Mark some sentence endings with a full stop.
- Write sentence-like structures which may be joined by *and*.

## Stage 1

### Reading

The following genres and text types are recommended at Stage 1:

Fiction and poetry: real life stories, traditional tales from different cultures, fantasy stories, poetry and plays.

Non-fiction: non-chronological report, simple recount, instructions.

#### Fiction and poetry

- Join in with reading familiar, simple stories and poems. Demonstrate an understanding that one spoken word corresponds with one written word.
- Know that in English, print is read from left to right and top to bottom.
- Read a range of common words on sight.
- Use phonic knowledge to read decodable words and to attempt to sound out some elements of unfamiliar words.
- Read aloud from simple books independently.
- Anticipate what happens next in a story.
- Talk about events in a story and make simple inferences about characters and events to show understanding.
- Recognise story elements, e.g. beginning, middle and end.
- Retell stories, with some appropriate use of story language.

- Talk about significant aspects of a story's language, e.g. repetitive refrain, rhyme, patterned language.
- Enjoy a range of books, discussing preferences.
- Make links to own experiences.
- Learn and recite simple poems.
- Join in and extend rhymes and refrains, playing with language patterns.

#### Non-fiction

- Read labels, lists and captions to find information.
- Know the parts of a book, e.g. title page, contents.
- Show awareness that texts for different purposes look different, e.g. use of photographs, diagrams, etc.
- Read and talk about own writing.



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## Stage 1

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### Writing

#### Fiction

- Write simple storybooks with sentences to caption pictures.
- Write a sequence of sentences retelling a familiar story or recounting an experience.
- Begin to use some formulaic language, e.g. *Once upon a time*.
- Compose and write a simple sentence with a capital letter and a full stop.
- Use relevant vocabulary.

#### Non-fiction

- Write for a purpose using some basic features of text type.
- Write simple information texts with labels, captions, lists, questions and instructions for a purpose.
- Record answers to questions, e.g. as lists, charts.

#### Presentation

- Develop a comfortable and efficient pencil grip.
- Form letters correctly.

### Speaking and listening

- Speak clearly and choose words carefully to express feelings and ideas when speaking of matters of immediate interest.
- Converse audibly with friends, teachers and other adults.
- Show some awareness of the listener through non-verbal communication.
- Answer questions and explain further when asked.
- Speak confidently to a group to share an experience.
- Take turns in speaking.
- Listen to others and respond appropriately.
- Listen carefully to questions and instructions.
- Engage in imaginative play, enacting simple characters or situations.
- Note that people speak in different ways for different purposes and meanings.

### Phonics, spelling and vocabulary

- Learn the different common spellings of long vowel phonemes.
- Learn the different ways in which vowels can be pronounced, e.g. *how, low; apple, apron*.
- Apply knowledge of phonemes and spelling patterns in writing independently.
- Secure the spelling of high frequency words and common irregular words.
- Identify syllables and split familiar compound words into parts.
- Spell words with common prefixes and suffixes, e.g. *un-, dis-, -ful, -ly*.
- Build and use collections of interesting and significant words.
- Discuss the meaning of unfamiliar words encountered in reading.
- Choose interesting words and phrases, e.g. in describing people and places.

### Grammar and punctuation

#### Reading

- Begin to read with fluency and expression, taking some notice of punctuation, including speech marks.
- Read and respond to question words, e.g. *what, where, when, who, why*.

#### Writing

- Write in clear sentences using capital letters, full stops and question marks.
- Use past and present tenses accurately but not always consistently.
- Use mainly simple and compound sentences, with *and/but* used to connect ideas. *Because* may begin to be used in a complex sentence.
- Begin to vary sentence openings, e.g. with simple adverbs.
- Use a variety of simple organisational devices in non-fiction, e.g. headings, captions.
- Begin to re-read own writing for sense and accuracy.

## Stage 2

### Reading

The following genres and text types are recommended at Stage 2:

Fiction and poetry: real life stories, traditional tales from different cultures, different stories by the same author, longer stories, poetry and plays.

Non-fiction: non-chronological report, instructions, explanation, reference texts.

#### Fiction and poetry

- Extend the range of common words recognised on sight.
- Use phonics as the main method of tackling unfamiliar words.
- Read aloud with increased accuracy, fluency and expression.
- Identify and describe story settings and characters, recognising that they may be from different times and places.
- Predict story endings.
- Make simple inferences from the words on the page, e.g. about feelings
- Talk about what happens at the beginning, in the middle or at the end of a story.
- Comment on some vocabulary choices, e.g. adjectives.
- Begin to develop likes and dislikes in reading.

- Read poems and comment on words and sounds, rhyme and rhythm.

#### Non-fiction

- Read and follow simple instructions, e.g. in a recipe.
- Locate words by initial letter in simple dictionaries, glossaries and indexes.
- Find answers to questions by reading a section of text.
- Find factual information from different formats, e.g. charts, labelled diagrams.
- Identify general features of known text types.
- Show some awareness that texts have different purposes.
- Explore a variety of non-fiction texts on screen.

### Writing

#### Fiction

- Develop stories with a setting, characters and a sequence of events.
- Structure a story with a beginning, middle and end.
- Link ideas in sections, grouped by content
- Find alternatives to *and/then* in developing a narrative and connecting ideas.
- Write with a variety of sentence types.
- Use the structures of familiar poems and stories in developing own writing.
- Begin to use dialogue in stories.
- Use the language of time, e.g. *suddenly, after that*.
- Choose some interesting words and phrases, e.g. in describing people and places.

#### Non-fiction

- Write simple evaluations of books read.
- Write instructions and recount events and experiences.
- Use features of chosen text type.
- Use simple non-fiction texts as a model for writing.
- Make simple notes from a section of non-fiction texts, e.g. listing key words.

#### Presentation

- Form letters correctly and consistently.
- Practise handwriting patterns and the joining of letters.

### Speaking and listening

- Recount experiences and explore possibilities.
- Explain plans and ideas, extending them in the light of discussion.
- Articulate clearly so that others can hear.
- Vary talk and expression to gain and hold the listener's attention.
- Show awareness of the listener by including relevant details.
- Attempt to express ideas precisely, using a growing vocabulary.
- Listen carefully and respond appropriately, asking questions of others.
- Demonstrate 'attentive listening' and engage with another speaker.
- Extend experiences and ideas through role-play.
- Begin to be aware of ways in which speakers vary talk, for example the use of more formal vocabulary and tone of voice.
- Show awareness that speakers use a variety of ways of speaking in different situations and try out different ways of speaking.

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## Stage 3

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### Phonics, spelling and vocabulary

- Use effective strategies to tackle blending unfamiliar words to read, including sounding out, separating into syllables, using analogy, identifying known suffixes and prefixes, using context.
- Use and spell compound words.
- Know irregular forms of common verbs.
- Use effective strategies to tackle segmenting unfamiliar words to spell, including segmenting into individual sounds, separating into syllables, using analogy, identifying known suffixes and prefixes, applying known spelling rules, visual memory, mnemonics.
- Learn rules for adding *-ing*, *-ed*, *-s* to verbs.
- Extend earlier work on prefixes and suffixes.
- Explore words that have the same spelling but different meanings (homonyms), e.g. *form*, *wave*.
- Use a dictionary or electronic means to find the spelling and meaning of words.
- Organise words or information alphabetically using first two letters.
- Identify misspelt words in own writing and keep individual spelling logs.
- Consider how choice of words can heighten meaning.
- Infer the meaning of unknown words from the context.

- Explore vocabulary for introducing and concluding dialogue, e.g. *said*, *asked*.
- Generate synonyms for high frequency words, e.g. *big*, *little*, *good*.

### Grammar and punctuation

#### Reading

- Use knowledge of punctuation and grammar to read age-appropriate texts with fluency, understanding and expression.
- Recognise the use of the apostrophe to mark omission in shortened words, e.g. *can't*, *don't*.
- Collect examples of nouns, verbs and adjectives, and use the terms appropriately.
- Identify pronouns and understand their function in a sentence.
- Understand that verbs are necessary for meaning in a sentence.
- Understand pluralisation and use the terms 'singular' and 'plural'.

## Grammar and punctuation (continued)

### Writing

- Maintain accurate use of capital letters and full stops in showing sentences.
- Learn the basic conventions of speech punctuation and begin to use speech marks.
- Use question marks, exclamation marks, and commas in lists.
- Continue to improve consistency in the use of tenses.
- Ensure grammatical agreement of pronouns and verbs in using standard English.
- Use a wider variety of sentence types including simple, compound and some complex sentences.
- Begin to vary sentence openings, e.g. with simple adverbs.

### Reading

The following genres and text types are recommended at Stage 3:

Fiction and poetry: real life stories, myths and legends, adventure stories, poetry and plays.

Non-fiction: letters, reports, instructions, reference texts.

### Fiction and poetry

- Sustain the reading of 48 and 64 page books, noting how a text is organised into sections or chapters.
- Read aloud with expression to engage the listener.
- Answer questions with some reference to single points in a text.
- Begin to infer meanings beyond the literal, e.g. about motives and character.
- Identify different types of stories and typical story themes.
- Identify the main points or gist of a text.
- Consider words that make an impact, e.g. adjectives and powerful verbs.
- Understand and use the terms 'fact', 'fiction' and 'non-fiction'.
- Read a range of story, poetry and information books and begin to make links between them.
- Read and comment on different books by the same author.
- Read play-scripts and dialogue, with awareness of different voices.
- Practise learning and reciting poems.

### Reading (continued)

#### Non-fiction

- Scan a passage to find specific information and answer questions.
- Locate information in non-fiction texts using contents page and index.
- Read and follow instructions to carry out an activity.
- Consider ways that information is set out on page and on screen, e.g. lists, charts, bullet points.
- Locate books by classification.
- Identify the main purpose of a text.
- Use ICT sources to locate simple information.

### Writing

#### Fiction

- Write first-person accounts and descriptions based on observation.
- Develop descriptions of settings in stories.
- Write portraits of characters.
- Write simple play-scripts based on reading.
- Plan main points as a structure for story writing.
- Begin to organise writing in sections or paragraphs in extended stories.
- Develop range of adverbials to signal the relationship between events.
- Use reading as a model for writing dialogue.
- Write and perform poems, attending to the sound of words.
- Choose and compare words to strengthen the impact of writing, including noun phrases.

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## Stage 3

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### Writing (continued)

#### Non-fiction

- Write book reviews summarising what a book is about.
- Establish purpose for writing, using features and style based on model texts.
- Write letters, notes and messages.
- Make a record of information drawn from a text, e.g. by completing a chart.

#### Presentation

- Ensure consistency in the size and proportion of letters and the spacing of words.
- Practise joining letters in handwriting.
- Build up handwriting speed, fluency and legibility.
- Use IT to write, edit and present work.

### Speaking and listening

- Speak clearly and confidently in a range of contexts, including longer speaking turns.
- Adapt tone of voice, use of vocabulary and non-verbal features for different audiences.
- Take turns in discussion, building on what others have said.
- Listen and respond appropriately to others' views and opinions.
- Listen and remember a sequence of instructions.
- Practise to improve performance when reading aloud.
- Begin to adapt movement to create a character in drama.
- Develop sensitivity to ways that others express meaning in their talk and non-verbal communication.



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## Stage 4

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### Phonics, spelling and vocabulary

- Extend knowledge and use of spelling patterns, e.g. vowel phonemes, double consonants, silent letters, common prefixes and suffixes.
- Confirm all parts of the verb *to be* and know when to use each one.
- Apply phonic/spelling, graphic, grammatical and contextual knowledge in reading unfamiliar words.
- Identify syllabic patterns in multisyllabic words.
- Spell words with common letter strings but different pronunciations, e.g. *tough, through, trough, plough*
- Investigate spelling patterns; generate and test rules that govern them.
- Revise rules for spelling words with common inflections, e.g. *-ing, -ed, -s*.
- Extend earlier work on prefixes and suffixes.
- Match spelling to meaning when words sound the same (homophones), e.g. *to/two/too, right/write*.
- Use all the letters in sequence for alphabetical ordering.
- Check and correct spellings and identify words that need to be learned.
- Use more powerful verbs, e.g. *rushed* instead of *went*.
- Explore degrees of intensity in adjectives, e.g. *cold, tepid, warm, hot*.
- Look for alternatives for overused words and expressions.
- Collect and classify words with common roots, e.g. *invent, prevent*.
- Build words from other words with similar meanings, e.g. *medical, medicine*.

### Grammar and punctuation

#### Reading

- Use knowledge of punctuation and grammar to read with fluency, understanding and expression.
- Identify all the punctuation marks and respond to them when reading.
- Learn the use of the apostrophe to show possession, e.g. *girl's, girls'*.
- Practise using commas to mark out meaning within sentences.
- Identify adverbs and their impact on meaning.
- Investigate past, present and future tenses of verbs.
- Investigate the grammar of different sentences: statements, questions and orders.
- Understand the use of connectives to structure an argument, e.g. *if, although*.

### Grammar and punctuation (continued)

#### Writing

- Use a range of end-of-sentence punctuation with accuracy.
- Use speech marks and begin to use other associated punctuation.
- Experiment with varying tenses within texts, e.g. in dialogue.
- Use a wider variety of connectives in an increasing range of sentences.
- Re-read own writing to check punctuation and grammatical sense.

#### Reading

The following genres and text types are recommended at Stage 4:

Fiction and poetry: historical stories, stories set in imaginary worlds, stories from other cultures, real life stories with issues/dilemmas, poetry and plays including imagery.

Non-fiction: newspapers and magazines, reference texts, explanations, persuasion including advertisements.

#### Fiction and poetry

- Extend the range of reading.
- Explore the different processes of reading silently and reading aloud.
- Investigate how settings and characters are built up from details and identify key words and phrases.
- Explore implicit as well as explicit meanings within a text.
- Recognise meaning in figurative language.
- Understand the main stages in a story from introduction to resolution.
- Explore narrative order and the focus on significant events.
- Retell or paraphrase events from the text in response to questions.
- Understand how expressive and descriptive language creates mood.
- Express a personal response to a text and link characters and settings to personal experience.
- Read further stories or poems by a favourite writer, and compare them.
- Read and perform play-scripts, exploring how scenes are built up.
- Explore the impact of imagery and figurative language in poetry, including alliteration and simile, e.g. *as ... as a ...*
- Compare and contrast poems and investigate poetic features.

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## Stage 4

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### Reading (continued)

#### Non-fiction

- Understand how points are ordered to make a coherent argument.
- Understand how paragraphs and chapters are used to organise ideas.
- Identify different types of non-fiction text and their known key features.
- Read newspaper reports and consider how they engage the reader.
- Investigate how persuasive writing is used to convince a reader.
- Note key words and phrases to identify the main points in a passage.
- Distinguish between fact and opinion in print and ICT sources.

### Writing

#### Fiction

- Explore different ways of planning stories, and write longer stories from plans.
- Elaborate on basic information with some detail.
- Write character profiles, using detail to capture the reader's imagination.
- Explore alternative openings and endings for stories.
- Begin to adopt a viewpoint as a writer, expressing opinions about characters or places.
- Begin to use paragraphs more consistently to organise and sequence ideas.
- Choose and compare words to strengthen the impact of writing, including some powerful verbs.

### Writing (continued)

#### Non-fiction

- Explore the layout and presentation of writing, in the context of helping it to fit its purpose.
- Show awareness of the reader by adopting an appropriate style or viewpoint.
- Write newspaper-style reports, instructions and non-chronological reports.
- Present an explanation or a point of view in ordered points, e.g. in a letter.
- Collect and present information from non-fiction texts.
- Make short notes from a text and use these to aid writing.
- Summarise a sentence or a paragraph in a limited number of words.

#### Presentation

- Use joined-up handwriting in all writing.

### Speaking and listening

- Organise ideas in a longer speaking turn to help the listener.
- Vary use of vocabulary and level of detail according to purpose.
- Understand the gist of an account or the significant points and respond to main ideas with relevant suggestions and comments.
- Deal politely with opposing points of view.
- Listen carefully in discussion, contributing relevant comments and questions.
- Adapt the pace and loudness of speaking appropriately when performing or reading aloud.
- Adapt speech and gesture to create a character in drama.
- Comment on different ways that meaning can be expressed in own and others' talk.

## Stage 5

### Phonics, spelling and vocabulary

- Investigate the spelling of word-final unstressed vowels, e.g. the unstressed 'er' at the end of *butter* and unstressed 'ee' at the end of *city*.
- Recognise a range of less common letter strings in words which may be pronounced differently.
- Spell and make correct use of possessive pronouns, e.g. *their, theirs, my, mine*.
- Identify 'silent' vowels in polysyllabic words, e.g. *library, interest*.
- Use effective strategies for learning new spellings and misspelt words.
- Learn spelling rules for words ending in *-e* and *-y*, e.g. *take/taking, try/tries*.
- Know rules for doubling consonants and investigate patterns in the use of single and double consonants, e.g. *-full/-ful*.
- Investigate spelling patterns for pluralisation, e.g. *-s, -es, -y/-ies, -f/-ves*.
- Extend earlier work on prefixes and suffixes, recognising that different spelling rules apply for suffixes which begin with vowels and those that begin with consonants.
- Investigate ways of creating opposites, e.g. *un-, im-* and comparatives, e.g. *-er, -est*.
- Revise grammatical homophones, e.g. *they're, their, there*.

- Use dictionaries efficiently and carry out IT spell checks.
- Identify unfamiliar words, explore definitions and use new words in context.
- Extend understanding of the use of adverbs to qualify verbs, e.g. in dialogue.
- Use a thesaurus to extend vocabulary and choice of words.
- Collect synonyms and opposites and investigate shades of meaning.
- Use known spellings to work out the spelling of related words.
- Identify word roots and derivations to support spelling and vocabulary, e.g. *sign, signal, signature*.
- Investigate the origin and appropriate use of idiomatic phrases.

### Grammar and punctuation

#### Reading

- Learn how dialogue is set out and punctuated.
- Identify prepositions and use the term.
- Understand conventions of standard English, e.g. agreement of verbs.
- Understand the difference between direct and reported speech.
- Investigate clauses within sentences and how they are connected.

### Grammar and punctuation (continued)

#### Writing

- Begin to use the comma to separate clauses within sentences and clarify meaning in complex sentences.
- Use apostrophes for both possession and shortened forms.
- Begin to set out dialogue appropriately, using a range of punctuation.
- Use an increasing range of subordinating connectives.
- Explore ways of combining simple sentences and re-ordering clauses to make compound and complex sentences.
- Use pronouns, making clear to what or to whom they refer.
- Practise proofreading and editing own writing for clarity and correctness.

#### Reading

The following genres and text types are recommended at Stage 5:

Fiction and poetry: novels and longer stories, fables, myths and legends, stories from other cultures, older literature including traditional tales, poetry and plays including film narrative and dramatic conventions.

Non-fiction: instructions, recounts (including biography), persuasion.

#### Fiction and poetry

- Read widely and explore the features of different fiction genres.
- Provide accurate textual reference from more than one point in a story to support answers to questions.
- Compare the structure of different stories.
- Comment on a writer's use of language and explain reasons for writer's choices.
- Begin to interpret imagery and techniques, e.g. metaphor, personification, simile, adding to understanding beyond the literal.
- Discuss metaphorical expressions and figures of speech.
- Identify the point of view from which a story is told.
- Consider how a writer expresses their own point of view, e.g. how characters are presented.
- Read and identify characteristics of myths, legends and fables.
- Compare and evaluate the print and film versions of a novel or play.
- Compare dialogue and dramatic conventions in film narrative.
- Read and perform narrative poems.
- Read poems by significant poets and compare style, forms and themes.

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## Stage 5

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### Reading (continued)

#### Non-fiction

- Look for information in non-fiction texts to build on what is already known.
- Locate information confidently and efficiently from different sources.
- Skim read to gain an overall sense of a text and scan for specific information.
- Develop note-taking to extract key points and to group and link ideas.
- Note the use of persuasive devices, words and phrases in print and other media.
- Explore the features of texts which are about events and experiences, e.g. diaries.
- Understand the use of impersonal style in explanatory texts.
- Read and evaluate non-fiction texts for purpose, style, clarity and organisation.
- Compare writing that informs and persuades.

### Writing

#### Fiction

- Map out writing to plan structure, e.g. paragraphs, sections, chapters.
- Write new scenes or characters into a story, or write from another viewpoint.
- Write own versions of legends, myths and fables, using structures from reading.
- Choose words and phrases carefully to convey feeling and atmosphere.
- Maintain a consistent viewpoint when writing.
- Begin to attempt to establish links between paragraphs using adverbials.
- Write a play-script, including production notes to guide performance.
- Use imagery and figurative language to evoke imaginative response.

### Writing (continued)

#### Non-fiction

- Record ideas, reflections and predictions about books, e.g. in a reading log.
- Draft and write letters for real purposes.
- Use a more specialised vocabulary to match the topic.
- Write non-chronological reports and explanations.
- Write a commentary on an issue, setting out and justifying a personal view.
- Make notes for different purposes, using simple abbreviations and writing 'in your own words'.
- Understand the use of notes in writing 'in your own words'.
- Evaluate own and others' writing.

#### Presentation

- Review, revise and edit writing in order to improve it, using IT as appropriate.

### Speaking and listening

- Shape and organise ideas clearly when speaking to aid listener.
- Prepare and present an argument to persuade others to adopt a point of view.
- Talk confidently in extended turns and listen purposefully in a range of contexts.
- Begin to adapt non-verbal gestures and vocabulary to suit content and audience.
- Describe events and convey opinions with increasing clarity and detail.
- Recall and discuss important features of a talk, possibly contributing new ideas.
- Ask questions to develop ideas and extend understanding.
- Report back to a group, using notes to present findings about a topic studied. Evaluate what is heard and give reasons for agreement or disagreement.
- Take different roles and responsibilities within a group.
- Convey ideas about characters in drama through deliberate choice of speech, gesture and movement.
- Begin to discuss how and why language choices vary in different situations.



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## Stage 6

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### Phonics, spelling and vocabulary

- Learn word endings with different spellings but the same pronunciation, e.g. *-tion, -cian, -sion, -ssion; -ance, -ence*.
- Confirm correct choices when representing consonants, e.g. 'ck'/'k'/'ke'/'que'/'ch'; 'ch'/'tch'; 'j'/'dj'/'dje'.
- Continue to learn words, apply patterns and improve accuracy in spelling.
- Further investigate spelling rules and exceptions, including representing unstressed vowels.
- Develop knowledge of word roots, prefixes and suffixes, including recognising variations, e.g. *im, in, ir, il; ad, ap, af, al* and knowing when to use double consonants.
- Know how to transform meaning with prefixes and suffixes.
- Investigate meanings and spellings of connectives.
- Explore definitions and shades of meaning and use new words in context.
- Explore word origins and derivations and the use of words from other languages.
- Understand changes over time in words and expressions and their use.
- Explore proverbs, sayings and figurative expressions.

### Grammar and punctuation

#### Reading

- Identify uses of the colon, semi-colon, parenthetical commas, dashes and brackets.
- Revise different word classes.
- Investigate the use of conditionals, e.g. to express possibility.
- Begin to show awareness of the impact of writers' choices of sentence length and structure.
- Revise language conventions and grammatical features of different types of text.
- Explore use of active and passive verbs within a sentence.
- Understand the conventions of standard English usage in different forms of writing.
- Distinguish the main clause and other clauses in a complex sentence.

## Stage 6

### Grammar and punctuation (continued)

#### Writing

- Punctuate speech and use apostrophes accurately.
- Use a wider range of connectives to clarify relationships between ideas, e.g. *however, therefore, although*.
- Use connectives to structure an argument or discussion.
- Develop grammatical control of complex sentences, manipulating them for effect.
- Develop increasing accuracy in using punctuation effectively to mark out the meaning in complex sentences.

#### Reading

The following genres and text types are recommended at Stage 6:

Fiction: various genres including science fiction, extended narratives, stories with flashbacks, poetry and plays including imagery.

Non-fiction: instructions, recounts (including biography and autobiography), diaries, journalistic writing, argument and discussion, formal and impersonal writing.

#### Fiction and poetry

- Develop familiarity with the work of established authors and poets, identifying features which are common to more than one text.
- Consider how the author manipulates the reaction of the reader, e.g. how characters and settings are presented.
- Look for implicit meanings, and make plausible inferences based on more than one point in the text.
- Understand aspects of narrative structure, e.g. the handling of time.
- Analyse the success of writing in evoking particular moods, e.g. suspense.
- Paraphrase explicit meanings based on information at more than one point in the text.
- Comment on writer's use of language, demonstrating awareness of its impact on the reader.
- Begin to develop awareness that the context for which the writer is writing and the context in which the reader is reading can impact on how the text is understood.
- Take account of viewpoint in a novel, and distinguish voice of author from that of narrator.
- Discuss and express preferences in terms of language, style and themes.
- Articulate personal responses to reading, with close reference to the text.
- Explore how poets manipulate and play with words and their sounds.
- Read and interpret poems in which meanings are implied or multilayered.

### Reading (continued)

#### Non-fiction

- Analyse how paragraphs and chapters are structured and linked.
- Recognise key characteristics of a range of non-fiction text types.
- Explore autobiography and biography, and first and third person narration.
- Identify features of balanced written arguments.
- Compare the language, style and impact of a range of non-fiction writing.
- Distinguish between fact and opinion in a range of texts and other media.

### Writing

#### Fiction

- Plan plot, characters and structure effectively in writing an extended story.
- Manage the development of an idea throughout a piece of writing, e.g. link the end to the beginning.
- Establish and maintain a clear viewpoint, with some elaboration of personal voice.
- Use different genres as models for writing.
- Use paragraphs, sequencing and linking them appropriately to support overall development of the text.
- Use a range of devices to support cohesion within paragraphs.
- Develop some imaginative detail through careful use of vocabulary and style.

### Writing (continued)

#### Non-fiction

- Use the styles and conventions of journalism to write reports on events.
- Adapt the conventions of the text type for a particular purpose.
- Select appropriate non-fiction style and form to suit specific purposes.
- Write non-chronological reports linked to work in other subjects.
- Develop skills of writing biography and autobiography in role.
- Argue a case in writing, developing points logically and convincingly.
- Write a balanced report of a controversial issue.
- Summarise a passage, chapter or text in a given number of words.

#### Presentation

- Use IT effectively to prepare and present writing for publication.

### Speaking and listening

- Express and explain ideas clearly, making meaning explicit.
- Use spoken language well to persuade, instruct or make a case, e.g. in a debate.
- Vary vocabulary, expression and tone of voice to engage the listener and suit the audience, purpose and context.
- Structure talk to aid a listener's understanding and engagement.
- Speak confidently in formal and informal contexts.
- Pay close attention in discussion to what others say, asking and answering questions to introduce new ideas.
- Help to move group discussion forward, e.g. by clarifying, summarising.
- Prepare, practise and improve a spoken presentation or performance.
- Convey ideas about characters in drama in different roles and scenarios through deliberate choice of speech, gesture and movement.
- Reflect on variations in speech, and appropriate use of standard English.



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# Cambridge Primary

## Mathematics Curriculum Framework

Cambridge  
**Primary**



UNIVERSITY *of* CAMBRIDGE  
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## Introduction

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Welcome to the Cambridge Primary Mathematics curriculum framework.

This framework provides a comprehensive set of progressive learning objectives for mathematics. The objectives detail what the learner should know or what they should be able to do in each year of primary education. The learning objectives provide a structure for teaching and learning and a reference against which learners' ability and understanding can be checked.

The Cambridge Primary Mathematics curriculum is presented in five content areas: *Number*, *Geometry*, *Measure*, *Handling data* and *Problem solving*. The first four content areas are all underpinned by *Problem solving*, which describes using techniques and skills and the application of understanding and strategies in solving problems. Mental strategies are also a key part of the *Number* content. This curriculum focuses on principles, patterns, systems, functions and relationships so that learners can apply their mathematical knowledge and develop a holistic understanding of the subject. The Cambridge Primary Mathematics curriculum framework provides a solid foundation upon which the later stages of education can be built.

The Cambridge Curriculum is founded on the values of the University of Cambridge and best practice in schools. The curriculum is dedicated to developing learners who are confident, responsible, innovative and engaged. Each curriculum framework for English, mathematics and science is designed to engage learners in an active and creative learning journey.



# Stage 1

## Number

### Numbers and the number system

- Recite numbers in order (forwards from 1 to 100, backwards from 20 to 0).
- Read and write numerals from 0 to 20.
- Count objects up to 20, recognising conservation of number.
- Count on in tens from zero or a single-digit number to 100 or just over.
- Count on in twos, beginning to recognise odd/even numbers to 20 as 'every other number'.
- Begin partitioning two-digit numbers into tens and ones and reverse.
- Within the range 0 to 30, say the number that is 1 or 10 more or less than any given number.
- Use more or less to compare two numbers, and give a number which lies between them.
- Order numbers to at least 20 positioning on a number track; use ordinal numbers.
- Use the = sign to represent equality.
- Give a sensible estimate of some objects that can be checked by counting, e.g. to 30.
- Find halves of small numbers and shapes by folding, and recognise which shapes are halved.

## Calculation

### *Mental strategies*

- Know all number pairs to 10 and record the related addition/subtraction facts.
- Begin to know number pairs to 6, 7, 8, 9 and 10.
- Add more than two small numbers, spotting pairs to 10, e.g.  $4 + 3 + 6 = 10 + 3$ .
- Begin using pairs to 10 to bridge 10 when adding/subtracting, e.g.  $8 + 3$ , add 2, then 1.
- Know doubles to at least double 5.
- Find near doubles using doubles already known, e.g.  $5 + 6$ .
- Begin to recognise multiples of 2 and 10.

## Stage 1

### Number (continued)

#### Calculation (continued)

##### *Addition and subtraction*

- Understand addition as counting on and combining two sets; record related addition sentences.
- Understand subtraction as counting back and 'take away'; record related subtraction sentences.
- Understand difference as 'how many more to make?'
- Add/subtract a single-digit number by counting on/back.
- Find two more or less than a number to 20, recording the jumps on a number line.
- Relate counting on and back in tens to finding 10 more/less than a number (< 100).
- Begin to use the +, – and = signs to record calculations in number sentences.
- Understand that changing the order of addition does not change the total.
- Add a pair of numbers by putting the larger number first and counting on.
- Recognise the use of a sign such as  $\square$  to represent an unknown, e.g.  $6 + \square = 10$ .
- Begin to add single- and two-digit numbers.

##### *Multiplication and division*

- Double any single-digit number.
- Find halves of even numbers of objects up to 10.
- Try to share numbers to 10 to find which are even and which are odd.
- Share objects into two equal groups in a context.

### Geometry

#### Shapes and geometric reasoning

- Name and sort common 2D shapes (e.g. circles, squares, rectangles and triangles) using features such as number of sides, curved or straight. Use them to make patterns and models.
- Name and sort common 3D shapes (e.g. cube, cuboid, cylinder, cone and sphere) using features such as number of faces, flat or curved faces. Use them to make patterns and models.
- Recognise basic line symmetry.

#### Position and movement

- Use everyday language of direction and distance to describe movement of objects.

## Stage 1

### Measure

#### Money

- Recognise all coins and work out how to pay an exact sum using smaller coins.

#### Length, mass and capacity

- Compare lengths and weights by direct comparison, then by using uniform non-standard units.
- Estimate and compare capacities by direct comparison, then by using uniform non-standard units.
- Use comparative language, e.g. longer, shorter, heavier, lighter.

#### Time

- Begin to understand and use some units of time, e.g. minutes, hours, days, weeks, months and years.
- Read the time to the hour (o'clock) and know key times of day to the nearest hour.
- Order the days of the week and other familiar events.

### Handling data

#### Organising, categorising and representing data

- Answer a question by sorting and organising data or objects in a variety of ways, e.g.
  - using block graphs and pictograms with practical resources; discussing the results
  - in lists and tables with practical resources; discussing the results
  - in Venn or Carroll diagrams giving different criteria for grouping the same objects

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## Stage 1

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### Problem solving

#### Using techniques and skills in solving mathematical problems

- Choose appropriate strategies to carry out calculations, explaining working out.
- Explore number problems and puzzles.
- Find many combinations, e.g. combinations of three pieces of different coloured clothing.
- Decide to add or subtract to solve a simple word problem (oral), and represent it with objects.
- Check the answer to an addition by adding the numbers in a different order.
- Check the answer to a subtraction by adding the answer to the smaller number in the question.
- Describe and continue patterns such as count on and back in tens, e.g. 90, 80, 70.
- Identify simple relationships between numbers and shapes, e.g. this number is ten bigger than that number.
- Make a sensible estimate of a calculation, and consider whether an answer is reasonable.

### Number

#### Numbers and the number system

- Count, read and write numbers to at least 100 and back again.
- Count up to 100 objects, e.g. beads on a bead bar.
- Count on in ones and tens from single- and two-digit numbers and back again.
- Count in twos, fives and tens, and use grouping in twos, fives or tens to count larger groups of objects.
- Begin to count on in small constant steps such as threes and fours.
- Know what each digit represents in two-digit numbers; partition into tens and ones.
- Find 1 or 10 more/less than any two-digit number.
- Round two-digit numbers to the nearest multiple of 10.
- Say a number between any given neighbouring pairs of multiples of 10, e.g. 40 and 50.
- Place a two-digit number on a number line marked off in multiples of ten.
- Recognise and use ordinal numbers up to at least the 10th number and beyond.
- Order numbers to 100; compare two numbers using the  $>$  and  $<$  signs.

- Give a sensible estimate of up to 100 objects, e.g. choosing from 10, 20, 50 or 100.
- Understand even and odd numbers and recognise these up to at least 20.
- Sort numbers, e.g. odd/even, multiples of 2, 5 and 10.
- Recognise that we write one half  $\frac{1}{2}$ , one quarter  $\frac{1}{4}$  and three quarters  $\frac{3}{4}$ .
- Recognise that  $\frac{2}{2}$  or  $\frac{4}{4}$  make a whole and  $\frac{1}{2}$  and  $\frac{2}{4}$  are equivalent.
- Recognise which shapes are divided in halves or quarters and which are not.
- Find halves and quarters of shapes and small numbers of objects.

#### Calculation

##### *Mental strategies*

- Find and learn by heart all numbers pairs to 10 and pairs with a total of 20.
- Partition all numbers to 20 into pairs and record the related addition and subtraction facts.
- Find all pairs of multiples of 10 with a total of 100 and record the related addition and subtraction facts.
- Learn and recognise multiples of 2, 5 and 10 and derive the related division facts.
- Find and learn doubles for all numbers up to 10 and also 15, 20, 25 and 50.

### Number (continued)

#### Calculation (continued)

##### *Addition and subtraction*

- Relate counting on/back in tens to finding 10 more/less than any two-digit number and then to adding and subtracting other multiples of 10, e.g.  $75 - 30$ .
- Use the = sign to represent equality, e.g.  $16 + 4 = 17 + 3$ .
- Add four or five small numbers together.
- Recognise the use of a symbol such as  $\square$  or  $\Delta$  to represent an unknown, e.g.  $\Delta + \square = 10$ .
- Solve number sentences such as  $27 + \square = 30$ .
- Add and subtract a single digit to and from a two-digit number.
- Add pairs of two-digit numbers.
- Find a small difference between pairs of two-digit numbers.
- Understand that addition can be done in any order, but subtraction cannot.
- Understand subtraction as both difference and take away.

##### *Multiplication and division*

- Understand multiplication as repeated addition and use the  $\times$  sign.
- Understand multiplication as describing an array.

- Understand division as grouping and use the  $\div$  sign.
- Use counting in twos, fives or tens to solve practical problems involving repeated addition.
- Find doubles of multiples of 5 up to double 50 and corresponding halves.
- Double two-digit numbers.
- Work out multiplication and division facts for the 3x and 4x tables.
- Understand that division can leave some left over.

### Geometry

#### Shapes and geometric reasoning

- Sort, name, describe, visualise and draw 2D shapes (e.g. squares, rectangles, circles, regular and irregular pentagons and hexagons) referring to their properties; recognise common 2D shapes in different positions and orientations.
- Sort, name, describe and make 3D shapes (e.g. cubes, cuboids, cones, cylinders, spheres and pyramids) referring to their properties; recognise 2D drawings of 3D shapes.
- Identify reflective symmetry in patterns and 2D shapes; draw lines of symmetry.
- Find examples of 2D and 3D shape and symmetry in the environment.

### Geometry (continued)

#### Position and movement

- Follow and give instructions involving position, direction and movement.
- Recognise whole, half and quarter turns, both clockwise and anti-clockwise.
- Recognise that a right angle is a quarter turn.

### Measure

#### Money

- Recognise all coins and notes.
- Use money notation.
- Find totals and the coins and notes required to pay a given amount; work out change.

#### Length, mass and capacity

- Estimate, measure and compare lengths, weights and capacities, choosing and using suitable uniform non-standard and standard units and appropriate measuring instruments.
- Compare lengths, weights and capacities using the standard units: centimetre, metre, 100 g, kilogram, and litre.

#### Time

- Know the units of time (seconds, minutes, hours, days, weeks, months and years).
- Know the relationships between consecutive units of time.
- Read the time to the half hour on digital and analogue clocks.
- Measure activities using seconds and minutes.
- Know and order the days of the week and the months of the year.

### Handling data

#### Organising, categorising and representing data

- Answer a question by collecting and recording data in lists and tables, and representing it as block graphs and pictograms to show results.
- Use Carroll and Venn diagrams to sort numbers or objects using one criterion; begin to sort numbers and objects using two criteria; explain choices using appropriate language, including 'not'.

### Problem solving

#### Using techniques and skills in solving mathematical problems

- Choose appropriate mental strategies to carry out calculations and explain how they worked out the answer.
- Explain methods and reasoning orally.
- Explore number problems and puzzles.
- Make sense of simple word problems (single and easy two-step), decide what operations (addition or subtraction, simple multiplication or division) are needed to solve them and, with help, represent them, with objects or drawings or on a number line.
- Make up a number story to go with a calculation, including in the context of money.
- Check the answer to an addition by adding the numbers in a different order or by using a different strategy, e.g.  $35 + 19$  by adding 20 to 35 and subtracting 1, and by adding  $30 + 10$  and  $5 + 9$ .
- Check a subtraction by adding the answer to the smaller number in the original subtraction.
- Describe and continue patterns which count on in twos, threes, fours or fives to 30 or more.
- Identify simple relationships between numbers and shapes, e.g. this number is double ...; these shapes all have ... sides.
- Make a sensible estimate for the answer to a calculation.
- Consider whether an answer is reasonable.



### Number

#### Numbers and the number system

- Recite numbers 100 to 200 and beyond.
- Read and write numbers to at least 1000.
- Count on and back in ones, tens and hundreds from two- and three-digit numbers.
- Count on and back in steps of 2, 3, 4 and 5 to at least 50.
- Understand what each digit represents in three-digit numbers and partition into hundreds, tens and units.
- Find 1, 10, 100 more/less than two- and three-digit numbers.
- Multiply two-digit numbers by 10 and understand the effect.
- Round two-digit numbers to the nearest 10 and round three-digit numbers to the nearest 100.
- Place a three-digit number on a number line marked off in multiples of 100.
- Place a three-digit number on a number line marked off in multiples of 10.
- Compare three-digit numbers, use  $<$  and  $>$  signs, and find a number in between.
- Order two- and three-digit numbers.
- Give a sensible estimate of a number as a range (e.g. 30 to 50) by grouping in tens.
- Find half of odd and even numbers to 40, using notation such as  $13\frac{1}{2}$ .
- Understand and use fraction notation recognising that fractions are several parts of one whole, e.g.  $\frac{3}{4}$  is three quarters and  $\frac{2}{3}$  is two thirds.
- Recognise equivalence between  $\frac{1}{2}$ ,  $\frac{2}{4}$ ,  $\frac{4}{8}$  and  $\frac{5}{10}$  using diagrams.
- Recognise simple mixed fractions, e.g.  $1\frac{1}{2}$  and  $2\frac{1}{4}$ .
- Order simple or mixed fractions on a number line, e.g. using the knowledge that  $\frac{1}{2}$  comes half way between  $\frac{1}{4}$  and  $\frac{3}{4}$ , and that  $1\frac{1}{2}$  comes half way between 1 and 2.
- Begin to relate finding fractions to division.
- Find halves, thirds, quarters and tenths of shapes and numbers (whole number answers).

## Number (continued)

### Calculation

#### *Mental strategies*

- Know addition and subtraction facts for all numbers to 20.
- Know the following addition and subtraction facts:
  - multiples of 100 with a total of 1000
  - multiples of 5 with a total of 100
- Know multiplication/division facts for 2×, 3×, 5×, and 10× tables.
- Begin to know 4× table.
- Recognise two- and three-digit multiples of 2, 5 and 10.
- Work out quickly the doubles of numbers 1 to 20 and derive the related halves.
- Work out quickly the doubles of multiples of 5 (< 100) and derive the related halves.
- Work out quickly the doubles of multiples of 50 to 500.

#### *Addition and subtraction*

- Add and subtract 10 and multiples of 10 to and from two- and three-digit numbers.
- Add 100 and multiples of 100 to three-digit numbers.
- Use the = sign to represent equality, e.g.  $75 + 25 = 95 + 5$ .

- Add several small numbers.
- Find complements to 100, solving number equations such as  $78 + \square = 100$ .
- Add and subtract pairs of two-digit numbers.
- Add three-digit and two-digit numbers using notes to support.
- Re-order an addition to help with the calculation, e.g.  $41 + 54$ , by adding 40 to 54, then 1.
- Add/subtract single-digit numbers to/from three-digit numbers.
- Find 20, 30, ... 90, 100, 200, 300 more/less than three-digit numbers.

#### *Multiplication and division*

- Understand the relationship between halving and doubling.
- Understand the effect of multiplying two-digit numbers by 10.
- Multiply single-digit numbers and divide two-digit numbers by 2, 3, 4, 5, 6, 9 and 10.
- Multiply teens numbers by 3 and 5.
- Begin to divide two-digit numbers just beyond 10× tables, e.g.  $60 \div 5$ ,  $33 \div 3$ .
- Understand that division can leave a remainder (initially as 'some left over').
- Understand and apply the idea that multiplication is commutative.
- Understand the relationship between multiplication and division and write connected facts.

### Geometry

#### Shapes and geometric reasoning

- Identify, describe and draw regular and irregular 2D shapes including pentagons, hexagons, octagons and semi-circles.
- Classify 2D shapes according to the number of sides, vertices and right angles.
- Identify, describe and make 3D shapes including pyramids and prisms; investigate which nets will make a cube.
- Classify 3D shapes according to the number and shape of faces, number of vertices and edges.
- Draw and complete 2D shapes with reflective symmetry and draw reflections of shapes (mirror line along one side).
- Relate 2D shapes and 3D solids to drawings of them.
- Identify 2D and 3D shapes, lines of symmetry and right angles in the environment.
- Identify right angles in 2D shapes.

#### Position and movement

- Use the language of position, direction and movement, including clockwise and anti-clockwise.
- Find and describe the position of a square on a grid of squares where the rows and columns are labelled.
- Use a set square to draw right angles.
- Compare angles with a right angle and recognise that a straight line is equivalent to two right angles.

### Measure

#### Money

- Consolidate using money notation.
- Use addition and subtraction facts with a total of 100 to find change.

#### Length, mass and capacity

- Choose and use appropriate units and equipment to estimate, measure and record measurements.
- Know the relationship between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.
- Read to the nearest division or half division, use scales that are numbered or partially numbered.
- Use a ruler to draw and measure lines to the nearest centimetre.
- Solve word problems involving measures.

### Measure (continued)

#### Time

- Suggest and use suitable units to measure time and know the relationships between them (second, minute, hour, day, week, month, year).
- Read the time on analogue and digital clocks, to the nearest 5 minutes on an analogue clock and to the nearest minute on a digital clock.
- Begin to calculate simple time intervals in hours and minutes.
- Read a calendar and calculate time intervals in weeks or days.

### Handling data

#### Organising, categorising and representing data

- Answer a real-life question by collecting, organising and interpreting data, e.g. investigating the population of mini-beasts in different environments.
- Use tally charts, frequency tables, pictograms (symbol representing one or two units) and bar charts (intervals labelled in ones or twos).
- Use Venn or Carroll diagrams to sort data and objects using two criteria.

### Problem solving

#### Using techniques and skills in solving mathematical problems

- Choose appropriate mental strategies to carry out calculations.
- Begin to understand everyday systems of measurement in length, weight, capacity and time and use these to make measurements as appropriate.
- Make sense of and solve word problems, single (all four operations) and two-step (addition and subtraction), and begin to represent them, e.g. with drawings or on a number line.
- Check the results of adding two numbers using subtraction, and several numbers by adding in a different order.
- Check subtraction by adding the answer to the smaller number in the original calculation.
- Check multiplication by reversing the order, e.g. checking that  $6 \times 4 = 24$  by doing  $4 \times 6$ .
- Check a division using multiplication, e.g. check  $12 \div 4 = 3$  by doing  $4 \times 3$ .
- Recognise the relationships between different 2D shapes.
- Identify the differences and similarities between different 3D shapes.
- Estimate and approximate when calculating, and check working.
- Make a sensible estimate for the answer to a calculation, e.g. using rounding.
- Consider whether an answer is reasonable.

### Problem solving (continued)

#### Using understanding and strategies in solving problems

- Make up a number story to go with a calculation, including in the context of money.
- Explain a choice of calculation strategy and show how the answer was worked out.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue patterns which count on or back in steps of 2, 3, 4, 5, 10, or 100.
- Identify simple relationships between numbers, e.g. each number is three more than the number before it.
- Identify simple relationships between shapes, e.g. these shapes all have the same number of lines of symmetry.
- Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. when adding 10 to a number, the first digit remains the same.
- Explain methods and reasoning orally, including initial thoughts about possible answers to a problem.

## Number

### Numbers and the number system

- Read and write numbers up to 10 000.
- Count on and back in ones, tens, hundreds and thousands from four-digit numbers.
- Understand what each digit represents in a three- or four-digit number and partition into thousands, hundreds, tens and units.
- Use decimal notation and place value for tenths and hundredths in context, e.g. order amounts of money; convert a sum of money such as £13.25 to pence, or a length such as 125 cm to metres; round a sum of money to the nearest pound.
- Understand decimal notation for tenths and hundredths in context, e.g. length.
- Find multiples of 10, 100, 1000 more/less than numbers of up to four digits, e.g.  $3407 + 20 = 3427$ .
- Multiply and divide three-digit numbers by 10 (whole number answers) and understand the effect; begin to multiply numbers by 100 and perform related divisions.
- Recognise multiples of 5, 10 and 100 up to 1000.
- Round three- and four-digit numbers to the nearest 10 or 100.
- Position accurately numbers up to 1000 on an empty number line or line marked off in multiples of 10 or 100.
- Estimate where three- and four-digit numbers lie on empty 0–1000 or 0–10 000 lines.
- Compare pairs of three-digit or four-digit numbers, using the  $>$  and  $<$  signs, and find a number in between each pair.
- Use negative numbers in context, e.g. temperature.
- Recognise and extend number sequences formed by counting in steps of constant size, extending beyond zero when counting back.
- Recognise odd and even numbers.
- Make general statements about the sums and differences of odd and even numbers.
- Order and compare two or more fractions with the same denominator (halves, quarters, thirds, fifths, eighths or tenths).
- Recognise the equivalence between:  $\frac{1}{2}$ ,  $\frac{4}{8}$  and  $\frac{5}{10}$ ;  $\frac{1}{4}$  and  $\frac{2}{8}$ ;  $\frac{1}{5}$  and  $\frac{2}{10}$ .
- Use equivalence to help order fractions, e.g.  $\frac{7}{10}$  and  $\frac{3}{4}$ .
- Understand the equivalence between one-place decimals and fractions in tenths.
- Understand that  $\frac{1}{2}$  is equivalent to 0.5 and also to  $\frac{5}{10}$ .
- Recognise the equivalence between the decimal fraction and vulgar fraction forms of halves, quarters, tenths and hundredths.
- Recognise mixed numbers, e.g.  $5\frac{3}{4}$ , and order these on a number line.
- Relate finding fractions to division.
- Find halves, quarters, thirds, fifths, eighths and tenths of shapes and numbers.

### Number (continued)

#### Calculation

##### *Mental strategies*

- Derive quickly pairs of two-digit numbers with a total of 100, e.g.  $72 + \square = 100$ .
- Derive quickly pairs of multiples of 50 with a total of 1000, e.g.  $850 + \square = 1000$ .
- Identify simple fractions with a total of 1, e.g.  $\frac{1}{4} + \square = 1$ .
- Know multiplication for  $2\times$ ,  $3\times$ ,  $4\times$ ,  $5\times$ ,  $6\times$ ,  $9\times$  and  $10\times$  tables and derive division facts.
- Recognise and begin to know multiples of 2, 3, 4, 5 and 10, up to the tenth multiple.
- Add three or four small numbers, finding pairs that equal 10 or 20.
- Add three two-digit multiples of 10, e.g.  $40 + 70 + 50$ .
- Add and subtract near multiples of 10 or 100 to or from three-digit numbers, e.g.  $367 - 198$  or  $278 + 49$ .
- Add any pair of two-digit numbers, choosing an appropriate strategy.
- Subtract any pair of two-digit numbers, choosing an appropriate strategy.
- Find a difference between near multiples of 100, e.g.  $304 - 296$ .
- Subtract a small number crossing 100, e.g.  $304 - 8$ .
- Multiply any pair of single-digit numbers together.

- Use knowledge of commutativity to find the easier way to multiply.
- Understand the effect of multiplying and dividing three-digit numbers by 10.
- Derive quickly doubles of all whole numbers to 50, doubles of multiples of 10 to 500, doubles of multiples of 100 to 5000, and corresponding halves.

##### *Addition and subtraction*

- Add pairs of three-digit numbers.
- Subtract a two-digit number from a three-digit number.
- Subtract pairs of three-digit numbers.

##### *Multiplication and division*

- Double any two-digit number.
- Multiply multiples of 10 to 90 by a single-digit number.
- Multiply a two-digit number by a single-digit number.
- Divide two-digit numbers by single digit-numbers (answers no greater than 20).
- Decide whether to round up or down after division to give an answer to a problem.
- Understand that multiplication and division are the inverse function of each other.
- Begin to understand simple ideas of ratio and proportion, e.g. a picture is one fifth the size of the real dog. It is 25 cm long in the picture, so it is  $5 \times 25$  cm long in real life.

## Geometry

### Shapes and geometric reasoning

- Identify, describe, visualise, draw and make a wider range of 2D and 3D shapes including a range of quadrilaterals, the heptagon and tetrahedron; use pinboards to create a range of polygons. Use spotty paper to record results.
- Classify polygons (including a range of quadrilaterals) using criteria such as the number of right angles, whether or not they are regular and their symmetrical properties.
- Identify and sketch lines of symmetry in 2D shapes and patterns.
- Visualise 3D objects from 2D nets and drawings and make nets of common solids.
- Find examples of shapes and symmetry in the environment and in art.

### Position and movement

- Describe and identify the position of a square on a grid of squares where rows and columns are numbered and/or lettered.
- Know that angles are measured in degrees and that one whole turn is  $360^\circ$  or four right angles; compare and order angles less than  $180^\circ$ .
- Devise the directions to give to follow a given path.

## Measure

### Length, mass and capacity

- Choose and use standard metric units and their abbreviations (km, m, cm, mm, kg, g, l and ml) when estimating, measuring and recording length, weight and capacity.
- Know and use the relationships between familiar units of length, mass and capacity; know the meaning of 'kilo', 'centi' and 'milli'.
- Where appropriate, use decimal notation to record measurements, e.g. 1.3 m, 0.6 kg, 1.2 l.
- Interpret intervals/divisions on partially numbered scales and record readings accurately.

### Time

- Read and tell the time to nearest minute on 12-hour digital and analogue clocks.
- Use am, pm and 12-hour digital clock notation.
- Read simple timetables and use a calendar.
- Choose units of time to measure time intervals.

### Area and perimeter

- Draw rectangles, and measure and calculate their perimeters.
- Understand that area is measured in square units, e.g.  $\text{cm}^2$ .
- Find the area of rectilinear shapes drawn on a square grid by counting squares.



## Stage 4

### Handling data

#### Organising, categorising and representing data

- Answer a question by identifying what data to collect, organising, presenting and interpreting data in tables, diagrams, tally charts, frequency tables, pictograms (symbol representing 2, 5, 10 or 20 units) and bar charts (intervals labelled in twos, fives, tens or twenties).
- Compare the impact of representations where scales have different intervals.
- Use Venn diagrams or Carroll diagrams to sort data and objects using two or three criteria.

### Problem solving

#### Using techniques and skills in solving mathematical problems

- Choose appropriate mental or written strategies to carry out calculations involving addition or subtraction.
- Understand everyday systems of measurement in length, weight, capacity and time and use these to solve simple problems as appropriate.
- Check the results of adding numbers by adding them in a different order or by subtracting one number from the total.
- Check subtraction by adding the answer to the smaller number in the original calculation.

- Check multiplication using a different technique, e.g. check  $6 \times 8 = 48$  by doing  $6 \times 4$  and doubling.
- Check the result of a division using multiplication, e.g. multiply 4 by 12 to check  $48 \div 4$ .
- Recognise the relationships between 2D shapes and identify the differences and similarities between 3D shapes.
- Estimate and approximate when calculating, and check working.

#### Using understanding and strategies in solving problems

- Make up a number story for a calculation, including in the context of measures.
- Explain reasons for a choice of strategy when multiplying or dividing.
- Choose strategies to find answers to addition or subtraction problems; explain and show working.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue number sequences, e.g. 7, 4, 1, -2 ... identifying the relationship between each number.
- Identify simple relationships between shapes, e.g. these polygons are all regular because ...
- Investigate a simple general statement by finding examples which do or do not satisfy it.
- Explain methods and reasoning orally and in writing; make hypotheses and test them out.

### Number

#### Numbers and the number system

- Count on and back in steps of constant size, extending beyond zero.
- Know what each digit represents in five- and six-digit numbers.
- Partition any number up to one million into thousands, hundreds, tens and units.
- Use decimal notation for tenths and hundredths and understand what each digit represents.
- Multiply and divide any number from 1 to 10 000 by 10 or 100 and understand the effect.
- Round four-digit numbers to the nearest 10, 100 or 1000.
- Round a number with one or two decimal places to the nearest whole number.
- Order and compare numbers up to a million using the  $>$  and  $<$  signs.
- Order and compare negative and positive numbers on a number line and temperature scale.
- Calculate a rise or fall in temperature.
- Order numbers with one or two decimal places and compare using the  $>$  and  $<$  signs.
- Recognise and extend number sequences.
- Recognise odd and even numbers and multiples of 5, 10, 25, 50 and 100 up to 1000.
- Make general statements about sums, differences and multiples of odd and even numbers.
- Recognise equivalence between:  $\frac{1}{2}$ ,  $\frac{1}{4}$  and  $\frac{1}{8}$ ;  $\frac{1}{3}$  and  $\frac{1}{6}$ ;  $\frac{1}{5}$  and  $\frac{1}{10}$ .
- Recognise equivalence between the decimal and fraction forms of halves, tenths and hundredths and use this to help order fractions, e.g. 0.6 is more than 50% and less than  $\frac{7}{10}$ .
- Change an improper fraction to a mixed number, e.g.  $\frac{7}{4}$  to  $1\frac{3}{4}$ ; order mixed numbers and place between whole numbers on a number line.
- Relate finding fractions to division and use to find simple fractions of quantities.
- Understand percentage as the number of parts in every 100 and find simple percentages of quantities.
- Express halves, tenths and hundredths as percentages.
- Use fractions to describe and estimate a simple proportion, e.g.  $\frac{1}{5}$  of the beads are yellow.
- Use ratio to solve problems, e.g. to adapt a recipe for 6 people to one for 3 or 12 people.

### Number (continued)

#### Calculation

##### *Mental strategies*

- Know by heart pairs of one-place decimals with a total of 1, e.g.  $0.8 + 0.2$ .
- Derive quickly pairs of decimals with a total of 10, and with a total of 1.
- Know multiplication and division facts for the  $2\times$  to  $10\times$  tables.
- Know and apply tests of divisibility by 2, 5, 10 and 100.
- Recognise multiples of 6, 7, 8 and 9 up to the 10th multiple.
- Know squares of all numbers to  $10 \times 10$ .
- Find factors of two-digit numbers.
- Count on or back in thousands, hundreds, tens and ones to add or subtract.
- Add or subtract near multiples of 10 or 100, e.g.  $4387 - 299$ .
- Use appropriate strategies to add or subtract pairs of two- and three-digit numbers and number with one decimal place, using jottings where necessary.
- Calculate differences between near multiples of 1000, e.g.  $5026 - 4998$ , or near multiples of 1, e.g.  $3.2 - 2.6$ .

- Multiply multiples of 10 to 90, and multiples of 100 to 900, by a single-digit number.
- Multiply by 19 or 21 by multiplying by 20 and adjusting.
- Multiply by 25 by multiplying by 100 and dividing by 4.
- Use factors to multiply, e.g. multiply by 3, then double to multiply by 6.
- Double any number up to 100 and halve even numbers to 200 and use this to double and halve numbers with one or two decimal places, e.g. double 3.4 and half of 8.6.
- Double multiples of 10 to 1000 and multiples of 100 to 10000, e.g. double 360 or double 3600, and derive the corresponding halves.

##### *Addition and subtraction*

- Find the total of more than three two- or three-digit numbers using a written method.
- Add or subtract any pair of three- and/or four-digit numbers, with the same number of decimal places, including amounts of money.

## Number (continued)

### Calculation (continued)

#### *Multiplication and division*

- Multiply or divide three-digit numbers by single-digit numbers.
- Multiply two-digit numbers by two-digit numbers.
- Multiply two-digit numbers with one decimal place by single-digit numbers, e.g.  $3.6 \times 7$ .
- Divide three-digit numbers by single-digit numbers, including those with a remainder (answers no greater than 30).
- Start expressing remainders as a fraction of the divisor when dividing two-digit numbers by single-digit numbers.
- Decide whether to group (using multiplication facts and multiples of the divisor) or to share (halving and quartering) to solve divisions.
- Decide whether to round an answer up or down after division, depending on the context.
- Begin to use brackets to order operations and understand the relationship between the four operations and how the laws of arithmetic apply to multiplication.

## Geometry

### Shapes and geometric reasoning

- Identify and describe properties of triangles and classify as isosceles, equilateral or scalene.
- Recognise reflective and rotational symmetry in regular polygons.
- Create patterns with two lines of symmetry, e.g. on a pegboard or squared paper.
- Visualise 3D shapes from 2D drawings and nets, e.g. different nets of an open or closed cube.
- Recognise perpendicular and parallel lines in 2D shapes, drawings and the environment.
- Understand and use angle measure in degrees; measure angles to the nearest  $5^\circ$ ; identify, describe and estimate the size of angles and classify them as acute, right or obtuse.
- Calculate angles in a straight line.

### Position and movement

- Read and plot co-ordinates in the first quadrant.
- Predict where a polygon will be after reflection where the mirror line is parallel to one of the sides, including where the line is oblique.
- Understand translation as movement along a straight line, identify where polygons will be after a translation and give instructions for translating shapes.

### Measure

#### Length, mass and capacity

- Read, choose, use and record standard units to estimate and measure length, mass and capacity to a suitable degree of accuracy.
- Convert larger to smaller metric units (decimals to one place), e.g. change 2.6 kg to 2600 g.
- Order measurements in mixed units.
- Round measurements to the nearest whole unit.
- Interpret a reading that lies between two unnumbered divisions on a scale.
- Compare readings on different scales.
- Draw and measure lines to the nearest centimetre and millimetre.

#### Time

- Recognise and use the units for time (seconds, minutes, hours, days, months and years).
- Tell and compare the time using digital and analogue clocks using the 24-hour clock.
- Read timetables using the 24-hour clock.
- Calculate time intervals in seconds, minutes and hours using digital or analogue formats.
- Use a calendar to calculate time intervals in days and weeks (using knowledge of days in calendar months).
- Calculate time intervals in months or years.

#### Area and perimeter

- Measure and calculate the perimeter of regular and irregular polygons.
- Understand area measured in square centimetres (cm<sup>2</sup>).
- Use the formula for the area of a rectangle to calculate the rectangle's area.

### Handling data

#### Organising, categorising and representing data

- Answer a set of related questions by collecting, selecting and organising relevant data; draw conclusions from their own and others' data and identify further questions to ask.
- Draw and interpret frequency tables, pictograms and bar line charts, with the vertical axis labelled for example in twos, fives, tens, twenties or hundreds. Consider the effect of changing the scale on the vertical axis.
- Construct simple line graphs, e.g. to show changes in temperature over time.
- Understand where intermediate points have and do not have meaning, e.g. comparing a line graph of temperature against time with a graph of class attendance for each day of the week.
- Find and interpret the mode of a set of data.

#### Probability

- Describe the occurrence of familiar events using the language of chance or likelihood.

### Problem solving

#### Using techniques and skills in solving mathematical problems

- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Solve single and multi-step word problems (all four operations); represent them, e.g. with diagrams or a number line.
- Check with a different order when adding several numbers or by using the inverse when adding or subtracting a pair of numbers.
- Use multiplication to check the result of a division, e.g. multiply  $3.7 \times 8$  to check  $29.6 \div 8$ .
- Recognise the relationships between different 2D and 3D shapes, e.g. a face of a cube is a square.
- Estimate and approximate when calculating, e.g. using rounding, and check working.
- Consider whether an answer is reasonable in the context of a problem.

### Problem solving (continued)

#### Using understanding and strategies in solving problems

- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Choose an appropriate strategy for a calculation and explain how they worked out the answer.
- Explore and solve number problems and puzzles, e.g. logic problems.
- Deduce new information from existing information to solve problems.
- Use ordered lists and tables to help to solve problems systematically.
- Describe and continue number sequences, e.g.  $-30, -27, \square, \square, -18\dots$ ; identify the relationships between numbers.
- Identify simple relationships between shapes, e.g. these triangles are all isosceles because ...
- Investigate a simple general statement by finding examples which do or do not satisfy it, e.g. the sum of three consecutive whole numbers is always a multiple of three.
- Explain methods and justify reasoning orally and in writing; make hypotheses and test them out.
- Solve a larger problem by breaking it down into sub-problems or represent it using diagrams.

## Number

### Numbers and the number system

- Count on and back in fractions and decimals, e.g.  $\frac{1}{3}$ s, 0.1s, and repeated steps of whole numbers (and through zero).
- Know what each digit represents in whole numbers up to a million.
- Know what each digit represents in one- and two-place decimal numbers.
- Multiply and divide any whole number from 1 to 10 000 by 10, 100 or 1000 and explain the effect.
- Multiply and divide decimals by 10 or 100 (answers up to two decimal places for division).
- Find factors of two-digit numbers.
- Find some common multiples, e.g. for 4 and 5.
- Round whole numbers to the nearest 10, 100 or 1000.
- Round a number with two decimal places to the nearest tenth or to the nearest whole number.
- Make and justify estimates and approximations of large numbers.
- Order and compare positive numbers to one million, and negative integers to an appropriate level.
- Use the  $>$ ,  $<$  and  $=$  signs correctly.
- Estimate where four-digit numbers lie on an empty 0–10 000 line.
- Order numbers with up to two decimal places (including different numbers of places).
- Recognise and extend number sequences.
- Recognise and use decimals with up to three places in the context of measurement.
- Recognise odd and even numbers and multiples of 5, 10, 25, 50 and 100 up to 1000.
- Make general statements about sums, differences and multiples of odd and even numbers.
- Recognise prime numbers up to 20 and find all prime numbers less than 100.
- Recognise the historical origins of our number system and begin to understand how it developed.
- Compare fractions with the same denominator and related denominators, e.g.  $\frac{3}{4}$  with  $\frac{7}{8}$ .
- Recognise equivalence between fractions, e.g. between  $\frac{1}{100}$ s,  $\frac{1}{10}$ s and  $\frac{1}{2}$ s.
- Recognise and use the equivalence between decimal and fraction forms.
- Order mixed numbers and place between whole numbers on a number line.
- Change an improper fraction to a mixed number, e.g.  $\frac{17}{8}$  to  $2\frac{1}{8}$ .



## Stage 6

### Number (continued)

#### Numbers and the number system (continued)

- Reduce fractions to their simplest form, where this is  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  or a number of fifths or tenths.
- Begin to convert a vulgar fraction to a decimal fraction using division.
- Understand percentage as parts in every 100 and express  $\frac{1}{2}$ ,  $\frac{1}{4}$ ,  $\frac{1}{3}$ ,  $\frac{1}{10}$ ,  $\frac{1}{100}$  as percentages.
- Find simple percentages of shapes and whole numbers.
- Solve simple problems involving ratio and direct proportion.

#### Calculation

##### *Mental strategies*

- Recall addition and subtraction facts for numbers to 20 and pairs of one-place decimals with a total of 1, e.g.  $0.4 + 0.6$ .
- Derive quickly pairs of one-place decimals totalling 10, e.g. 7.8 and 2.2, and two-place decimals totalling 1, e.g.  $0.78 + 0.22$ .
- Know and apply tests of divisibility by 2, 4, 5, 10, 25 and 100.
- Use place value and number facts to add or subtract two-digit whole numbers and to add or subtract three-digit multiples of 10 and pairs of decimals, e.g.  $560 + 270$ ;  $2.6 + 2.7$ ;  $0.78 + 0.23$ .
- Add/subtract near multiples of one when adding numbers with one decimal place, e.g.  $5.6 + 2.9$ ;  $13.5 - 2.1$ .

- Add/subtract a near multiple of 10, 100 or 1000, or a near whole unit of money, and adjust, e.g.  $3127 + 4998$ ;  $5678 - 1996$ .
- Use place value and multiplication facts to multiply/divide mentally, e.g.  $0.8 \times 7$ ;  $4.8 \div 6$ .
- Multiply pairs of multiples of 10, e.g.  $30 \times 40$ , or multiples of 10 and 100, e.g.  $600 \times 40$ .
- Double quickly any two-digit number, e.g. 78, 7.8, 0.78 and derive the corresponding halves.
- Divide two-digit numbers by single-digit numbers, including leaving a remainder.

##### *Addition and subtraction*

- Add two- and three-digit numbers with the same or different numbers of digits/decimal places.
- Add or subtract numbers with the same and different numbers of decimal places, including amounts of money.
- Find the difference between a positive and negative integer, and between two negative integers in a context such as temperature or on a number line.

## Number (continued)

### Calculation (continued)

#### *Multiplication and division*

- Multiply pairs of multiples of 10, e.g.  $30 \times 40$ , or multiples of 10 and 100, e.g.  $600 \times 40$ .
- Multiply near multiples of 10 by multiplying by the multiple of 10 and adjusting.
- Multiply by halving one number and doubling the other, e.g. calculate  $35 \times 16$  with  $70 \times 8$ .
- Use number facts to generate new multiplication facts, e.g. the  $17 \times$  table from  $10 \times + 7 \times$  tables.
- Multiply two-, three- or four-digit numbers (including sums of money) by a single-digit number and two- or three-digit numbers by two-digit numbers.
- Divide three-digit numbers by single-digit numbers, including those leaving a remainder and divide three-digit numbers by two-digit numbers (no remainder) including sums of money.
- Give an answer to division as a mixed number, and a decimal (with divisors of 2, 4, 5, 10 or 100).
- Relate finding fractions to division and use them as operators to find fractions including several tenths and hundredths of quantities.
- Know and apply the arithmetic laws as they apply to multiplication (without necessarily using the terms commutative, associative or distributive).

## Geometry

### Shapes and geometric reasoning

- Classify different polygons and understand whether a 2D shape is a polygon or not.
- Visualise and describe the properties of 3D shapes, e.g. faces, edges and vertices.
- Identify and describe properties of quadrilaterals (including the parallelogram, rhombus and trapezium), and classify using parallel sides, equal sides, equal angles.
- Recognise and make 2D representations of 3D shapes including nets.
- Estimate, recognise and draw acute and obtuse angles and use a protractor to measure to the nearest degree.
- Check that the sum of the angles in a triangle is  $180^\circ$ , for example, by measuring or paper folding; calculate angles in a triangle or around a point.

### Position and movement

- Read and plot co-ordinates in all four quadrants.
- Predict where a polygon will be after one reflection, where the sides of the shape are not parallel or perpendicular to the mirror line, after one translation or after a rotation through  $90^\circ$  about one of its vertices.

## Stage 6

### Measure

#### Length, mass and capacity

- Select and use standard units of measure. Read and write to two or three decimal places.
- Convert between units of measurement (kg and g, l and ml, km, m, cm and mm), using decimals to three places, e.g. recognising that 1.245 m is 1 m 24.5 cm.
- Interpret readings on different scales, using a range of measuring instruments.
- Draw and measure lines to the nearest centimetre and millimetre.
- Know imperial units still in common use, e.g. the mile, and approximate metric equivalents.

#### Time

- Recognise and understand the units for measuring time (seconds, minutes, hours, days, weeks, months, years, decades and centuries); convert one unit of time into another.
- Tell the time using digital and analogue clocks using the 24-hour clock.
- Compare times on digital and analogue clocks, e.g. realise quarter to four is later than 3:40.
- Read and use timetables using the 24-hour clock.
- Calculate time intervals using digital and analogue times.

- Use a calendar to calculate time intervals in days, weeks or months.
- Calculate time intervals in days, months or years.
- Appreciate how the time is different in different time zones around the world.

#### Area and perimeter

- Measure and calculate the perimeter and area of rectilinear shapes.
- Estimate the area of an irregular shape by counting squares.
- Calculate perimeter and area of simple compound shapes that can be split into rectangles.

### Handling data

#### Organising, categorising and representing data

- Solve a problem by representing, extracting and interpreting data in tables, graphs, charts and diagrams, e.g. line graphs for distance and time; a price 'ready-reckoner' for currency conversion; frequency tables and bar charts with grouped discrete data.
- Find the mode and range of a set of data from relevant situations, e.g. scientific experiments.
- Begin to find the median and mean of a set of data.
- Explore how statistics are used in everyday life.

### Handling data (continued)

#### Probability

- Use the language associated with probability to discuss events, to assess likelihood and risk, including those with equally likely outcomes.

### Problem solving

#### Using techniques and skills in solving mathematical problems

- Choose appropriate and efficient mental or written strategies to carry out a calculation involving addition, subtraction, multiplication or division.
- Understand everyday systems of measurement in length, weight, capacity, temperature and time and use these to perform simple calculations.
- Check addition with a different order when adding a long list of numbers; check when subtracting by using the inverse.
- Recognise 2D and 3D shapes and their relationships, e.g. a cuboid has a rectangular cross-section.
- Estimate and approximate when calculating, e.g. use rounding, and check working.

#### Using understanding and strategies in solving problems

- Explain why they chose a particular method to perform a calculation and show working.
- Deduce new information from existing information and realise the effect that one piece of information has on another.
- Use logical reasoning to explore and solve number problems and mathematical puzzles.
- Use ordered lists or tables to help solve problems systematically.
- Identify relationships between numbers and make generalised statements using words, then symbols and letters, e.g. the second number is twice the first number plus 5 ( $n, 2n + 5$ ); all the numbers are multiples of 3 minus 1 ( $3n - 1$ ); the sum of angles in a triangle is  $180^\circ$ .
- Make sense of and solve word problems, single and multi-step (all four operations), and represent them, e.g. with diagrams or on a number line; use brackets to show the series of calculations necessary.
- Solve simple word problems involving ratio and direct proportion.
- Solve simple word problems involving percentages, e.g. find discounted prices.
- Make, test and refine hypotheses, explain and justify methods, reasoning, strategies, results or conclusions orally.



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# Welcome to Cambridge Primary and Cambridge Primary Checkpoint



**Cambridge helps schools develop learners who are confident, responsible, innovative and engaged. Our programmes reflect these principles and are regularly reviewed to keep them up to date and focused on learners' needs.**

Working with our customers around the world, and considering developments in teaching and learning practice, we have reviewed and revised the Cambridge International Primary Programme. As well as a new name – **Cambridge Primary** – we have reviewed the curriculum frameworks and expanded and refreshed the assessments. This includes the development of the new Cambridge Primary Checkpoint. Key features in the revised programme are:

- There are new, revised and extended curriculum frameworks, including a new curriculum for English as a second language.
- We are introducing a new assessment, Cambridge Primary Checkpoint, which we will mark. It provides comprehensive feedback on learner performance at the end of Cambridge Primary – it will replace the existing Achievement Tests from May 2012.
- There are Progression Tests for English, Maths and Science from the third year of teaching, placing learners' performance into three bands (Gold, Silver and Bronze) aligned with Cambridge Primary Checkpoint.
- There is a new option to integrate Information and Communication Technology (ICT) within the curriculum in a way that is adaptable to your school's facilities and experience.

If you have any more questions, please contact our Customer Services team on +44 1223 553554 or email [international@cie.org.uk](mailto:international@cie.org.uk)

## Key dates

### January 2011

- New and revised curriculum frameworks available.
- Sample question papers for Cambridge Primary Checkpoint available.
- Documents showing key changes to the curriculum available.

### April 2011

- New Teacher Guides available.
- Details of free online training.

### May 2011

- New welcome packs with the revised documentation sent to Cambridge Primary schools.

### June 2011

- The last June session for Primary Achievement Tests.

### September 2011

- New Cambridge Primary website online.
- New Progression Tests available.
- New Progress Checker online.

### November 2011

- The last November session for Primary Achievement Tests.

### May 2012

- First Cambridge Primary Checkpoint tests.

# Cambridge Primary: New, revised and extended curriculum frameworks

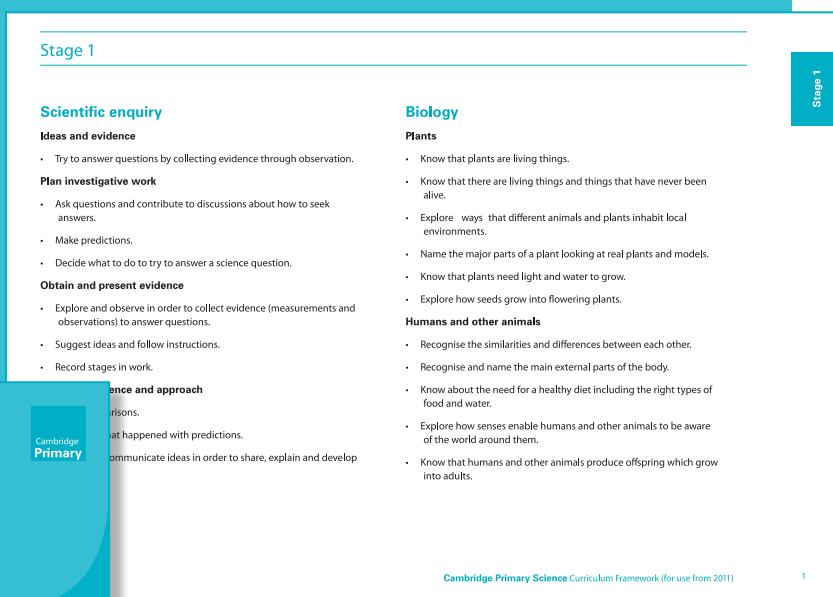
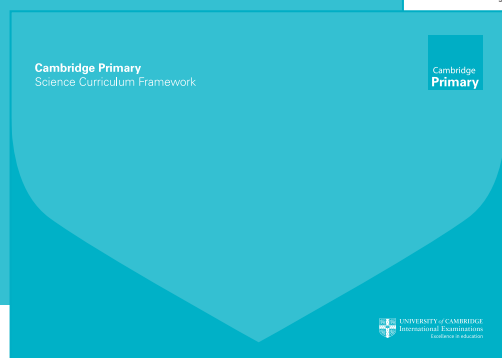
Our curriculum frameworks engage learners in an active and creative learning journey. They provide comprehensive learning objectives for English, Mathematics and Science for each year of primary education. Organised into six years, each framework reflects the teaching targets for one year group. Key changes are:

**English:** The revised curriculum framework provides increased speaking and listening opportunities to help learners develop a competency in English comparable to first language speakers. It also gives more detail in the learning objectives to help lesson planning and help teachers understand learner progress.

**English as a second language:** We are introducing a new curriculum framework that focuses on the development of learners' competences in speaking, listening, reading and writing in English – the language skills that learners need in the international primary school classroom, where some subjects are taught in English. This has been developed by Cambridge ESOL and is based on the Council of Europe's Common European Framework of Reference for Languages (CEFR), which is used across the world to map learners' progression in English.

**Mathematics:** The new curriculum framework provides additional learning objectives for mental maths strategies and problem solving. By focusing on principles, patterns, systems, functions and relationships, it develops knowledge that is more holistic and can be applied. This will help ensure a smooth progression from Primary to Secondary 1 stage and beyond.

**Science:** We have extended the curriculum to cover the first two stages of primary education. The new curriculum offers a practical, fun and gentle introduction to science for your youngest learners. The new curriculum focuses on scientific enquiry skills and includes learning about the history of science.



## Comprehensive support for teachers of Cambridge Primary

We have refreshed and updated the support we offer teachers in the following ways:

**Teacher Guides:** There are new Teacher Guides for the English, Mathematics and Science curriculum frameworks. These bring together schemes of work, sample lesson plans, planning and implementation guidance and advice on how to incorporate differentiation into your lessons. These will be available from April 2011.

**Integrated ICT:** All the curriculum frameworks will include the option to integrate ICT within teaching and learning to ensure that learners are comfortable using IT applications as part of their education.

**Curriculum mapping:** Our curriculum mapping documents for each framework let you see where and how the curriculum has changed or where there is a stronger emphasis on certain skills or knowledge.

**Analysis of your learners' results:** The new Progress Checker makes it easier to input marks, offers additional reporting options and allows teachers to print reports easily. More about this opposite.

**New online training:** We have revised the online training for teachers of Cambridge Primary, and more details will be available from April 2011. This will include a free introductory online course and also new, tutor-led online training modules covering all elements of the programme.

The curriculum mapping documents are now available on <https://primary.cie.org.uk>. Training dates will be announced in April 2011.



# Integrated assessment within Cambridge Primary

Assessment is built into the Cambridge Primary programme. In addition to the refreshed Progression Tests, we have introduced Cambridge Primary Checkpoint, a new end-of-Cambridge Primary assessment marked in Cambridge.

**Cambridge Primary Progression Tests:** There are new Progression Tests from stage 3 for the curriculum frameworks for English (including English as a second language), Mathematics and Science. These are marked by the teachers in school and will be available to download from the Cambridge Primary website from September. The Progression Tests come with full mark schemes and marking guidance for teachers.

**Cambridge Progress Checker:** The new Cambridge Progress Checker, replacing the Analysis Tool, will allow teachers to track learner progress and identify strengths and weaknesses of both individual learners and groups. Using a spreadsheet, teachers will be able to upload learners' test results into the Progress Checker on the Cambridge Primary website. They will be able to analyse results and create and print reports, including:

- A year-on-year report comparing the performance of a class to results achieved in the previous year.
- Comparisons of a learner's results against their class, school or other schools around the world teaching Cambridge Primary.

The Progress Checker will also convert the raw marks from Progression Tests into Bronze, Silver and Gold bands to help you evaluate learners' development. It will be available for use from September 2011.



## REPORT TO STUDENT

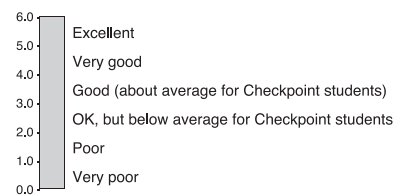
To be given to the student with the Statement of Achievement

Student Name: HARKER, Jon	School: BRITISH SCHOOL	Subject: M
Student Number: 1234	Centre Number: XX2	Date: M

### Your overall results are as follows:

English (overall)	Checkpoint score = 3.1
Reading	Checkpoint score = 3
Writing	Checkpoint score = 3.5
Usage	Checkpoint score = 2.6

### This is what the scores mean:



### What you got right and what you got wrong:

Most of your answers were as expected. However, some of your answers are listed below. They may give you an idea of what you are good at and what you need to improve on.

### Questions you answered correctly:

Question and part	Topic
2	Reading
1b	Reading
1cii	Reading
1ci	Reading

### Questions you answered incorrectly:

Question and part	Topic
1a	Reading
1a	Reading
3ii	Writing
1b	Reading

**Cambridge Primary Checkpoint:** There is a new, innovative diagnostic testing service designed to help students learn by providing comprehensive feedback on their strengths and weaknesses in the key curriculum areas – English, Mathematics and Science.

Generally taken at the end of stage 6, the Cambridge Primary Checkpoint Tests are offered twice a year – in May and October. The tests are marked in Cambridge and each learner receives a statement of achievement and a diagnostic report. The reports consider the performance of the individual learner, the performance of the learner within a teaching group and also the performance within the school as a whole.

They help teachers to:

- Tailor individual learners' programmes of learning.
- Monitor group and individual performance.
- Provide information for reporting to parents.
- Compare the performance of all the learners taking the test in that session.
- Manage learning programmes within schools and as learners move between schools.

The existing Primary Achievement Tests will be phased out in 2011 (the last set to be moderated by Cambridge will be the November 2011 tests) and the first session of the new Cambridge Primary Checkpoint will be offered in May 2012. As the tests are marked in Cambridge, there will be no need for teachers to undertake the previous accreditation requirement from 2012.

**English as a second language tests:** Schools using the English as a second language curriculum framework will be able to offer their learners Cambridge ESOL tests. The appropriate tests for learners at Cambridge Primary stage are Young Learners Starters, Movers and Flyers andKET for Schools.

# Your questions answered

**Q: I've just started to teach the Cambridge International Primary Programme. What changes will I have to make?**

**A:** For learners taking the Primary Achievement Tests in 2011, continue teaching using the existing curriculum. You can begin teaching your other learners using the new curriculum as soon as you wish. From 2012, Cambridge Primary Checkpoint will cover the new curriculum. We have produced mapping documents comparing the new to the old curriculum, so you can see which areas have changed. There will also be new online training offered for all those schools who are currently registered.

**Q: What is the candidate fee for Cambridge Primary Checkpoint?**

**A:** As Cambridge Primary Checkpoint is an externally marked test, there is a candidate fee for each subject. Details of the fee for candidates for Cambridge Primary Checkpoint for 2012 are in the price list for Cambridge products on CIE Direct.

**Q: What's the difference between what is tested in the Progression Tests and what is tested in Cambridge Primary Checkpoint?**

**A:** Progression Tests are available for years 3 – 6 of the Cambridge Primary programme (and 7 – 9 of the Cambridge Secondary 1 programme). For each stage, Progression Tests assess how well the student has learned the skills and knowledge within that particular stage.

Cambridge Primary Checkpoint tests skills and knowledge from stages 4 – 6 of the curriculum in the case of Maths and English and stages 3 – 6 of the curriculum for Science.

**Q: Can I continue to use the existing textbooks?**

**A:** Endorsed textbooks and new recommended resources will be included with the Teacher Guides. Please look at the curriculum mapping documents to check that all areas within the curriculum are covered by your existing textbooks.

**Q: Do our teachers still need to undertake the teacher accreditation process?**

**A:** The new Cambridge Primary Checkpoint tests are marked in Cambridge, unlike the Primary Achievement Tests that were marked by teachers and moderated in Cambridge. The accreditation of teachers will no longer be required from 2012, but we will continue to offer training on standards and assessment for teachers.

**Q: Will there be training on the new curriculum and Cambridge Primary Checkpoint?**

**A:** Online training is being reviewed and refreshed and there will be a list of dates available in April for you to sign up to the courses. For face-to-face training, please look for dates in the events and training section of the Cambridge website – [www.cie.org.uk](http://www.cie.org.uk)



If you have any questions about any of the changes mentioned here you can find out more at [www.cie.org.uk/cambridgeprimary](http://www.cie.org.uk/cambridgeprimary) or contact us on +44 1223 553554 or email [international@cie.org.uk](mailto:international@cie.org.uk)



# Cambridge Primary

## Science Curriculum Framework

Cambridge  
**Primary**



UNIVERSITY *of* CAMBRIDGE  
International Examinations  
Excellence in education

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## Introduction

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Welcome to the Cambridge Primary Science curriculum framework.

This framework provides a comprehensive set of progressive learning objectives for science. The objectives detail what the learner should know or what they should be able to do in science in each year of primary education. They provide a structure for teaching and learning and a reference against which learners' ability and understanding can be checked.

The Cambridge Primary Science curriculum is presented in four content areas: *Scientific enquiry*, *Biology*, *Chemistry* and *Physics*. *Scientific enquiry* is about considering ideas, evaluating evidence, planning investigative work and recording and analysing data. The *Scientific enquiry* objectives underpin *Biology*, *Chemistry* and *Physics*, which are focused on developing confidence and interest in scientific knowledge. Environmental awareness and some history of science are also incorporated. The Cambridge Primary Science curriculum framework provides a solid foundation upon which the later stages of education can be built.

The Cambridge Curriculum is founded on the values of the University of Cambridge and best practice in schools. The curriculum is dedicated to developing learners who are confident, responsible, innovative and engaged. Each curriculum framework for English, mathematics and science is designed to engage learners in an active and creative learning journey.

## Stage 1

### Scientific enquiry

#### Ideas and evidence

- Try to answer questions by collecting evidence through observation.

#### Plan investigative work

- Ask questions and contribute to discussions about how to seek answers.
- Make predictions.
- Decide what to do to try to answer a science question.

#### Obtain and present evidence

- Explore and observe in order to collect evidence (measurements and observations) to answer questions.
- Suggest ideas and follow instructions.
- Record stages in work.

#### Consider evidence and approach

- Make comparisons.
- Compare what happened with predictions.
- Model and communicate ideas in order to share, explain and develop them.

### Biology

#### Plants

- Know that plants are living things.
- Know that there are living things and things that have never been alive.
- Explore ways that different animals and plants inhabit local environments.
- Name the major parts of a plant, looking at real plants and models.
- Know that plants need light and water to grow.
- Explore how seeds grow into flowering plants.

#### Humans and animals

- Recognise the similarities and differences between each other.
- Recognise and name the main external parts of the body.
- Know about the need for a healthy diet, including the right types of food and water.
- Explore how senses enable humans and animals to be aware of the world around them.
- Know that humans and animals produce offspring which grow into adults.

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## Stage 1

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### Chemistry

#### Material properties

- Use senses to explore and talk about different materials.
- Identify the characteristics of different materials.
- Recognise and name common materials.
- Sort objects into groups based on the properties of their materials.

### Physics

#### Forces

- Explore, talk about and describe the movement of familiar things.
- Recognise that both pushes and pulls are forces.
- Recognise that when things speed up, slow down or change direction there is a cause.

#### Sound

- Identify many sources of sound.
- Know that we hear when sound enters our ear.
- Recognise that as sound travels from a source it becomes fainter.

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## Stage 2

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### Scientific enquiry

#### Ideas and evidence

- Collect evidence by making observations when trying to answer a science question.
- Use first hand experience, e.g. observe melting ice.
- Use simple information sources.

#### Plan investigative work

- Ask questions and suggest ways to answer them.
- Predict what will happen before deciding what to do.
- Recognise that a test or comparison may be unfair.

#### Obtain and present evidence

- Make suggestions for collecting evidence.
- Talk about risks and how to avoid danger.
- Make and record observations.
- Take simple measurements.
- Use a variety of ways to tell others what happened.

#### Consider evidence and approach

- Make comparisons.
- Identify simple patterns and associations.
- Talk about predictions (orally and in text), the outcome and why this happened.
- Review and explain what happened.

### Biology

#### Living things in their environment

- Identify similarities and differences between local environments and know about some of the ways in which these affect the animals and plants that are found there.
- Understand ways to care for the environment. Secondary sources can be used.
- Observe and talk about their observation of the weather, recording reports of weather data.

### Chemistry

#### Material properties

- Recognise some types of rocks and the uses of different rocks.
- Know that some materials occur naturally and others are man-made.

#### Material changes

- Know how the shapes of some materials can be changed by squashing, bending, twisting and/or stretching.
- Explore and describe the way some everyday materials change when they are heated or cooled.
- Recognise that some materials can dissolve in water.

### Physics

#### Light and dark

- Identify different light sources including the sun.
- Know that darkness is the absence of light.
- Be able to identify shadows.

#### Electricity

- Recognise the components of simple circuits involving cells (batteries).
- Know how a switch can be used to break a circuit.

#### The Earth and beyond

- Explore how the sun *appears* to move during the day and how shadows change.
- Model how the spin of the Earth leads to day and night, e.g. with different sized balls and a torch.



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## Stage 3

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### Scientific enquiry

#### Ideas and evidence

- Collect evidence in a variety of contexts to answer questions or test ideas.

#### Plan investigative work

- Suggest ideas, make predictions and communicate these.
- With help, think about collecting evidence and planning fair tests.

#### Obtain and present evidence

- Observe and compare objects, living things and events.
- Measure using simple equipment and record observations in a variety of ways.
- Present results in drawings, bar charts and tables.

#### Consider evidence and approach

- Draw conclusions from results and begin to use scientific knowledge to suggest explanations.
- Make generalisations and begin to identify simple patterns in results.

### Biology

#### Plants

- Know that plants have roots, leaves, stems and flowers.
- Explain observations that plants need water and light to grow.
- Know that water is taken in through the roots and transported through the stem.
- Know that plants need healthy roots, leaves and stems to grow well.
- Know that plant growth is affected by temperature.

#### Humans and animals

- Know life processes common to humans and animals include nutrition (water and food), movement, growth and reproduction.
- Describe differences between living and non-living things using knowledge of life processes.
- Explore and research exercise and the adequate, varied diet needed to keep healthy.
- Know that some foods can be damaging to health, e.g. very sweet and fatty foods.
- Explore human senses and the ways we use them to learn about our world.
- Sort living things into groups, using simple features and describe rationale for groupings.

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## Stage 3

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### Chemistry

#### Material properties

- Know that every material has specific properties, e.g. hard, soft, shiny.
- Sort materials according to their properties.
- Explore how some materials are magnetic but many are not.
- Discuss why materials are chosen for specific purposes on the basis of their properties.

### Physics

#### Forces and motion

- Know that pushes and pulls are examples of forces and that they can be measured with forcemeters.
- Explore how forces can make objects start or stop moving.
- Explore how forces can change the shape of objects.
- Explore how forces, including friction, can make objects move faster or slower or change direction.

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## Stage 4

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### Scientific enquiry

#### Ideas and evidence

- Collect evidence in a variety of contexts.
- Test an idea or prediction based on scientific knowledge and understanding.

#### Plan investigative work

- Suggest questions that can be tested and make predictions; communicate these.
- Design a fair test and plan how to collect sufficient evidence.
- Choose apparatus and decide what to measure.

#### Obtain and present evidence

- Make relevant observations and comparisons in a variety of contexts.
- Measure temperature, time, force and length.
- Begin to think about the need for repeated measurements of, for example, length.
- Present results in drawings, bar charts and tables.

#### Consider evidence and approach

- Identify simple trends and patterns in results and suggest explanations for some of these.
- Explain what the evidence shows and whether it supports predictions. Communicate this clearly to others.
- Link evidence to scientific knowledge and understanding in some contexts.

### Biology

#### Humans and animals

- Know that humans (and some animals) have bony skeletons inside their bodies.
- Know how skeletons grow as humans grow, support and protect the body.
- Know that animals with skeletons have muscles attached to the bones.
- Know how a muscle has to contract (shorten) to make a bone move and muscles act in pairs.
- Explain the role of drugs as medicines.

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## Stage 4

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### Biology (continued)

#### Living things in their environment

- Investigate how different animals are found in different habitats and are suited to the environment in which they are found.
- Use simple identification keys.
- Recognise ways that human activity affects the environment e.g. river pollution, recycling waste.

### Chemistry

#### States of matter

- Know that matter can be solid, liquid or gas.
- Investigate how materials change when they are heated and cooled.
- Know that melting is when a solid turns into a liquid and is the reverse of freezing.
- Observe how water turns into steam when it is heated but on cooling the steam turns back into water.

### Physics

#### Sound

- Explore how sounds are made when objects, materials or air vibrate and learn to measure the volume of sound in decibels with a sound level meter.
- Investigate how sound travels through different materials to the ear.
- Investigate how some materials are effective in preventing sound from travelling through them.
- Investigate the way *pitch* describes how high or low a sound is and that high and low sounds can be loud or soft. Secondary sources can be used.
- Explore how pitch can be changed in musical instruments in a range of ways.

#### Electricity and magnetism

- Construct complete circuits using switch, cell (battery), wire and lamps.
- Explore how an electrical device will not work if there is a break in the circuit.
- Know that electrical current flows and that models can describe this flow, e.g. particles travelling around a circuit.
- Explore the forces between magnets and know that magnets can attract or repel each other.
- Know that magnets attract some metals but not others.

## Stage 5

### Scientific enquiry

#### Ideas and evidence

- Know that scientists have combined evidence with creative thinking to suggest new ideas and explanations for phenomena.
- Use observation and measurement to test predictions and make links.

#### Plan investigative work

- Make predictions of what will happen based on scientific knowledge and understanding, and suggest and communicate how to test these.
- Use knowledge and understanding to plan how to carry out a fair test.
- Collect sufficient evidence to test an idea.
- Identify factors that need to be taken into account in different contexts.

#### Obtain and present evidence

- Make relevant observations.
- Measure volume, temperature, time, length and force.
- Discuss the need for repeated observations and measurements.
- Present results in bar charts and line graphs.

#### Consider evidence and approach

- Decide whether results support predictions.
- Begin to evaluate repeated results.
- Recognise and make predictions from patterns in data and suggest explanations using scientific knowledge and understanding.
- Interpret data and think about whether it is sufficient to draw conclusions.

### Biology

#### Plants

- Know that plants need energy from light for growth.
- Know that plants reproduce.
- Observe how seeds can be dispersed in a variety of ways.
- Investigate how seeds need water and warmth for germination, but not light.
- Know that insects pollinate some flowers.
- Observe that plants produce flowers which have male and female organs; seeds are formed when pollen from the male organ fertilises the ovum (female).
- Recognise that flowering plants have a life cycle including pollination, fertilisation, seed production, seed dispersal and germination.

### Chemistry

#### States of matter

- Know that evaporation occurs when a liquid turns into a gas.
- Know that condensation occurs when a gas turns into a liquid and that it is the reverse of evaporation.
- Know that air contains water vapour and when this meets a cold surface it may condense.
- Know that the boiling point of water is 100°C and the melting point of ice is 0°C.
- Know that when a liquid evaporates from a solution the solid is left behind.

### Physics

#### Light

- Observe that shadows are formed when light travelling from a source is blocked.
- Investigate how the size of a shadow is affected by the position of the object.
- Observe that shadows change in length and position throughout the day.
- Know that light intensity can be measured.
- Explore how opaque materials do not let light through and transparent materials let a lot of light through.
- Know that we see light sources because light from the source enters our eyes.
- Know that beams/rays of light can be reflected by surfaces including mirrors, and when reflected light enters our eyes we see the object.
- Explore why a beam of light changes direction when it is reflected from a surface.

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## Stage 5

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### Physics (continued)

#### The Earth and beyond

- Explore, through modeling, that the sun does not move; its *apparent* movement is caused by the Earth spinning on its axis.
- Know that the Earth spins on its axis once in every 24 hours.
- Know that the Earth takes a year to orbit the sun, spinning as it goes.
- Research the lives and discoveries of scientists who explored the solar system and stars.

### Scientific enquiry

#### Ideas and evidence

- Consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas and explanations for phenomena.
- Collect evidence and data to test ideas including predictions.

#### Plan investigative work

- Discuss how to turn ideas into a form that can be tested.
- Make predictions using scientific knowledge and understanding.
- Choose what evidence to collect to investigate a question, ensuring that the evidence is sufficient.
- Identify factors that are relevant to a particular situation.
- Choose which equipment to use.

#### Obtain and present evidence

- Make a variety of relevant observations and measurements using simple apparatus correctly.
- Decide when observations and measurements need to be checked by repeating to give more reliable data.
- Use tables, bar charts and line graphs to present results.

#### Consider evidence and approach

- Make comparisons.
- Evaluate repeated results.
- Identify patterns in results and results that do not appear to fit the pattern.
- Use results to draw conclusions and to make further predictions.
- Suggest and evaluate explanations for predictions using scientific knowledge and understanding and communicate these clearly to others.
- Say if and how evidence supports any prediction made.



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## Stage 6

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### Biology

#### Humans and animals

- Use scientific names for some major organs of body systems.
- Identify the position of major organs in the body.
- Describe the main functions of the major organs of the body.
- Explain how the functions of the major organs are essential.

#### Living things in their environment

- Explore how humans have positive and negative effects on the environment, e.g. loss of species, protection of habitats.
- Explore a number of ways of caring for the environment, e.g. recycling, reducing waste, reducing energy consumption, not littering, encouraging others to care for the environment.
- Know how food chains can be used to represent feeding relationships in a habitat and present these in text and diagrams.
- Know that food chains begin with a plant (the producer), which uses energy from the sun.
- Understand the terms *producer*, *consumer*, *predator* and *prey*.
- Explore and construct food chains in a particular habitat.

### Chemistry

#### Material changes

- Distinguish between reversible and irreversible changes.
- Explore how solids can be mixed and how it is often possible to separate them again.
- Observe, describe, record and begin to explain changes that occur when some solids are added to water.
- Explore how, when solids do not dissolve or react with water, they can be separated by filtering, which is similar to sieving.
- Explore how some solids dissolve in water to form solutions and, although the solid cannot be seen, the substance is still present.

### Physics

#### Forces and motion

- Distinguish between mass measured in kilograms (kg) and weight measured in Newtons, noting that kilograms are used in everyday life.
- Recognise and use units of force, mass and weight and identify the direction in which forces act.
- Understand the notion of energy in movement.
- Recognise friction (including air resistance) as a force which can affect the speed at which objects move and which sometimes stops things moving.

#### Electricity and magnetism

- Investigate how some materials are better conductors of electricity than others.
- Investigate how some metals are good conductors of electricity while most other materials are not.
- Know why metals are used for cables and wires and why plastics are used to cover wires and as covers for plugs and switches.
- Predict and test the effects of making changes to circuits, including length or thickness of wire and the number and type of components.
- Represent series circuits with drawings and conventional symbols.



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V1Y01



Student Name : Akhtar Izdihar Athallah

Reg. Number : 0532

Examination : Centre Diagnostic Progression Test (CDPT)

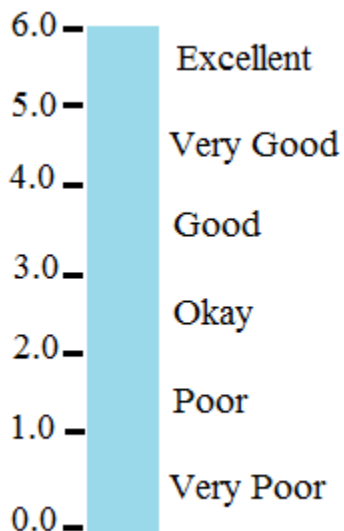
Period : January Session Year 2012

### Summary report

This table shows the overall performance

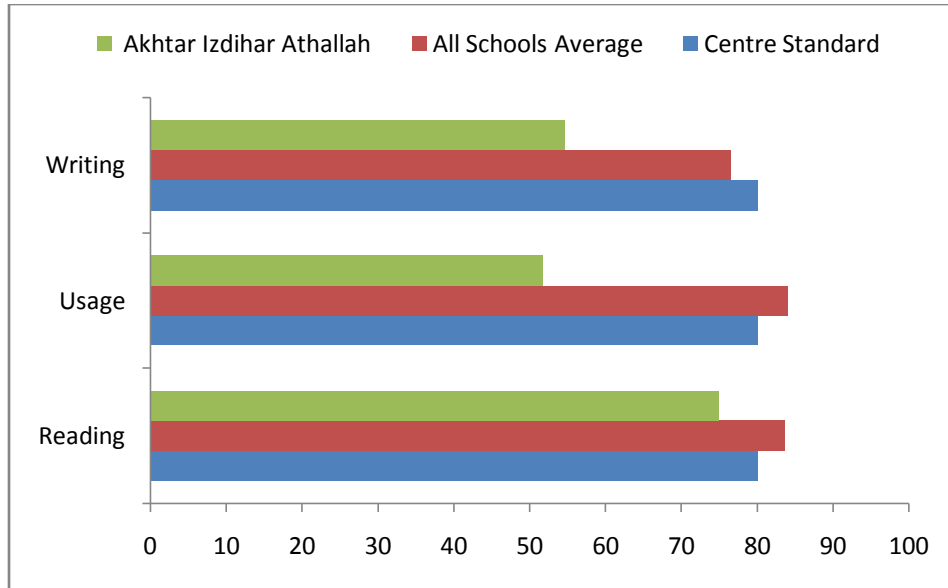
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 3 (56%)					
Science	1 - 5 (76%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:

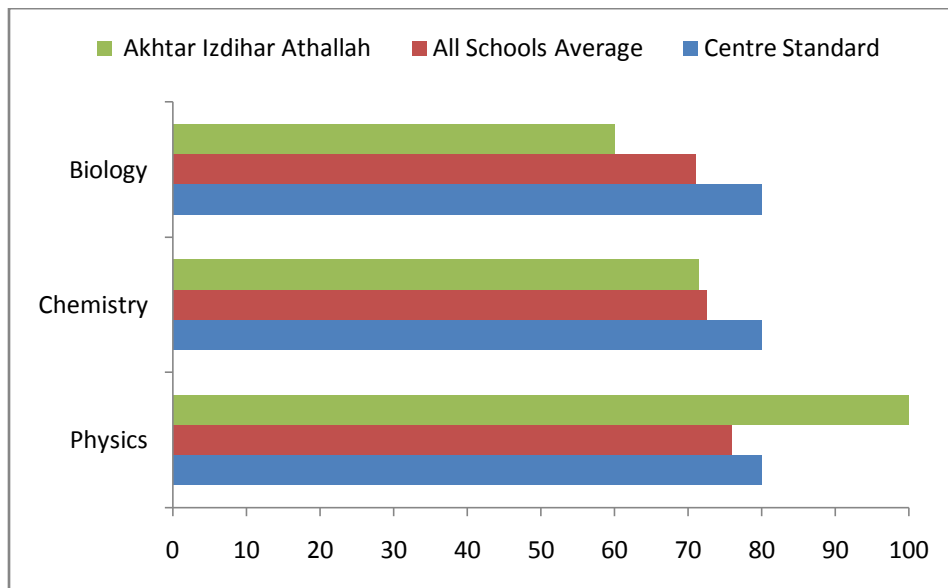


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

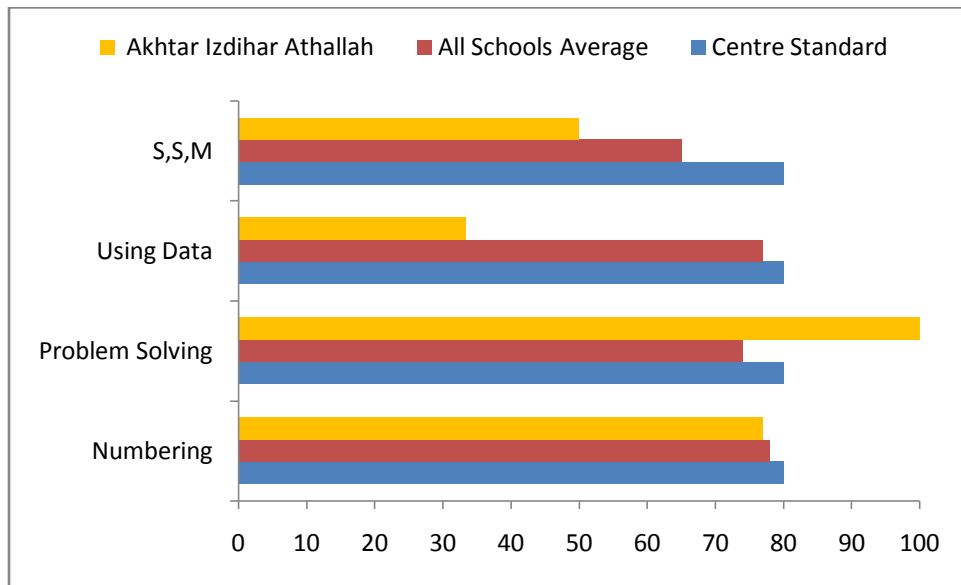
### Results for English



### Results for Science



## Results for Mathematics



### Note

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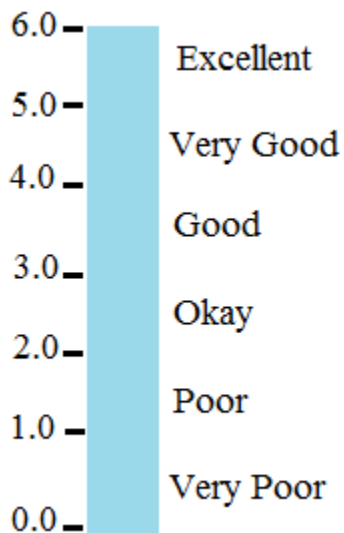
Student Name : **Almeer M. Masrur Priyatama Al Arif**  
 Reg. Number : **0533**  
 Examination : **Centre Diagnostic Progression Test (CDPT)**  
 Period : **January Session Year 2012**

**Summary report**

This table shows the overall performance

Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (78%)					
Science	1 - 4 (70%)					
Mathematics	1 - 5 (80%)					

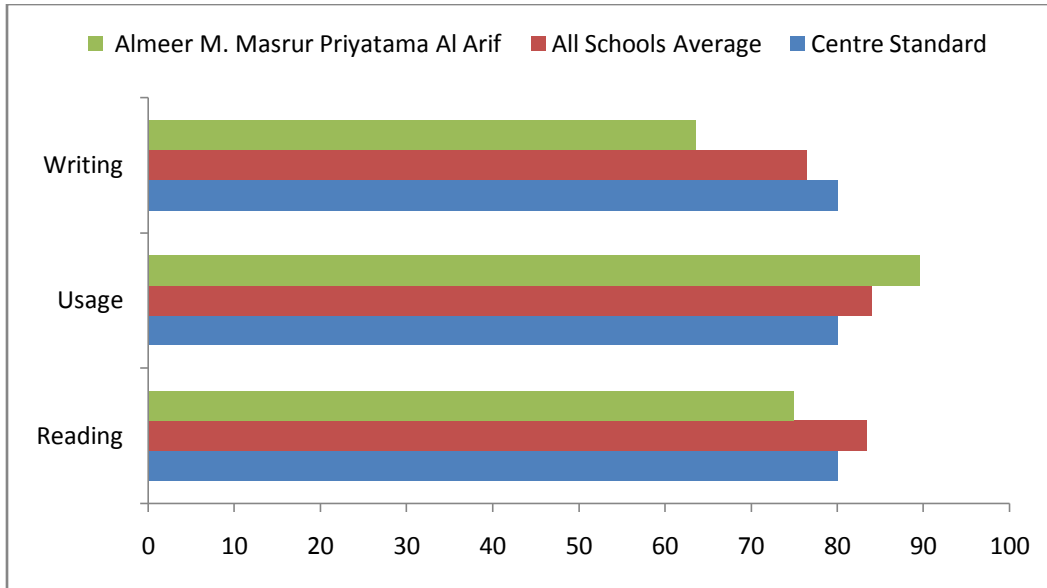
This is what the score mean:



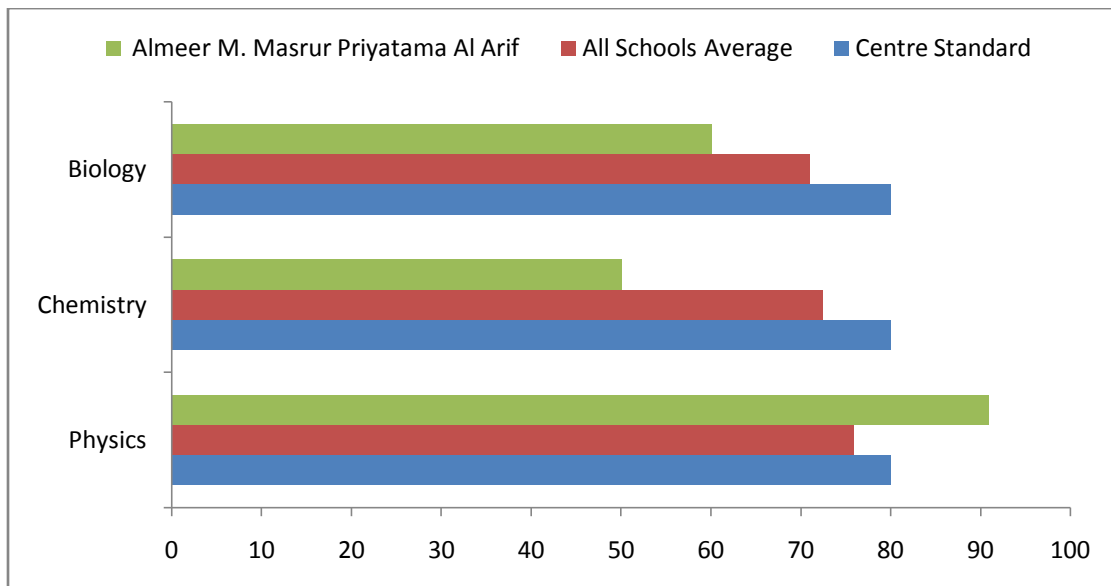


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

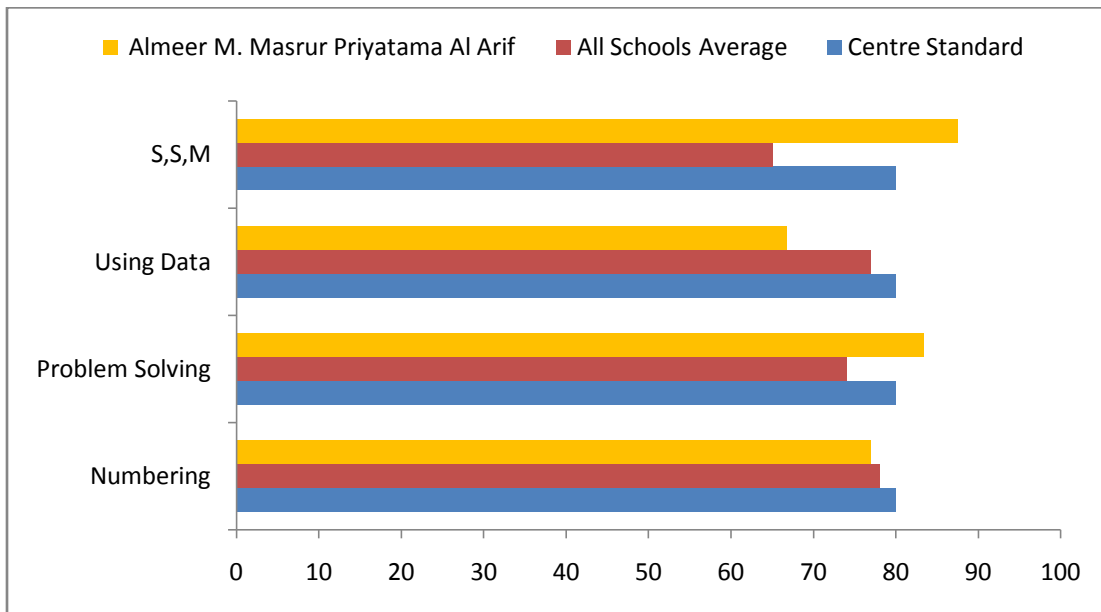
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Student Name : **Alviano Nayaka Putra Artianto**

Reg. Number : **0534**

Examination : **Centre Diagnostic Progression Test (CDPT)**

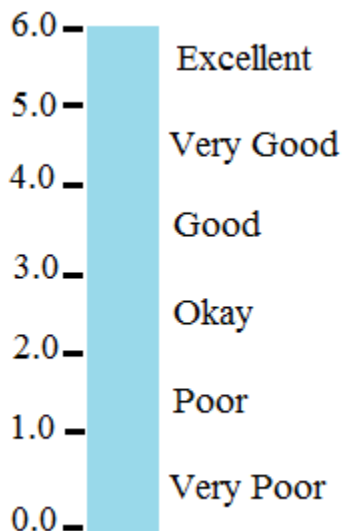
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

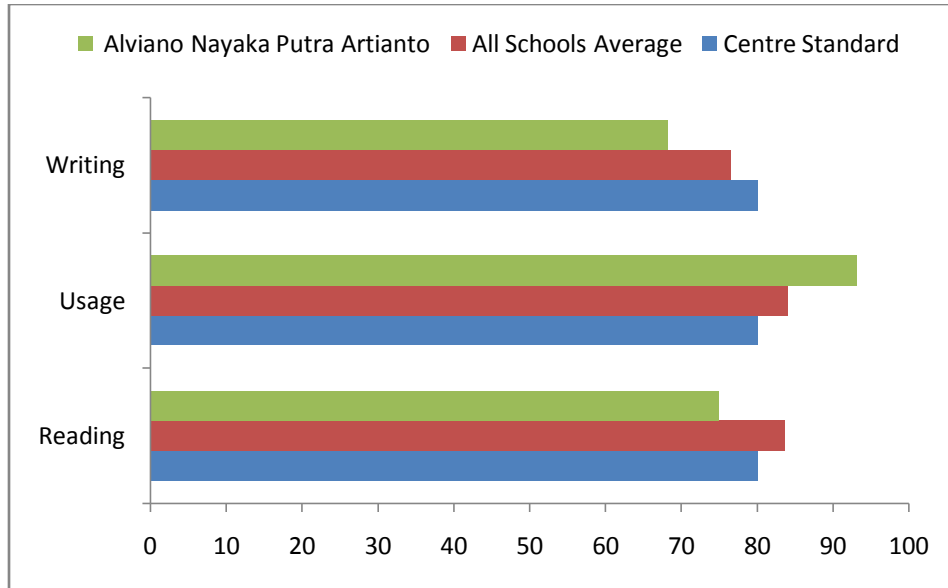
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (81%)					
Science	1 - 5 (76%)					
Mathematics	1 - 4 (73%)					

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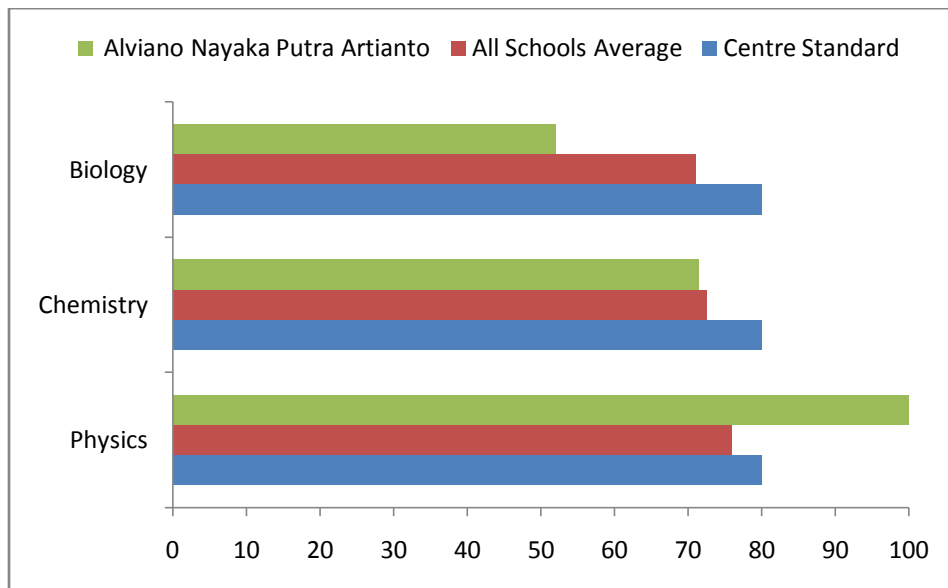


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

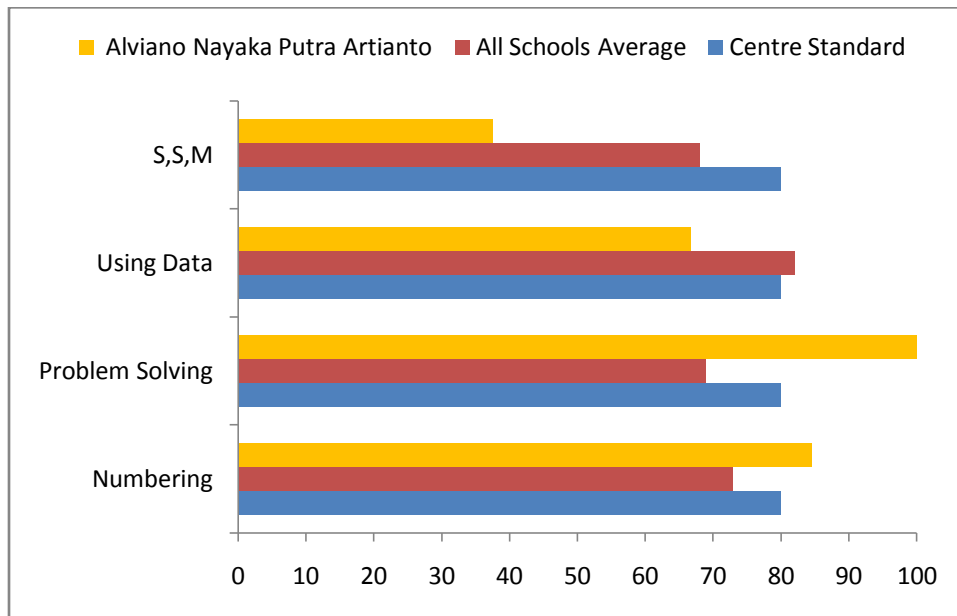
### Results for English



### Results for Science



## Results for Mathematics



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Student Name : Alya Nailaysa Zahwa

Reg. Number : 0535

Examination : Centre Diagnostic Progression Test (CDPT)

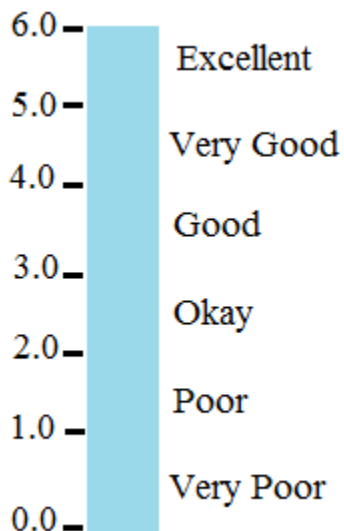
Period : January Session Year 2012

### Summary report

This table shows the overall performance

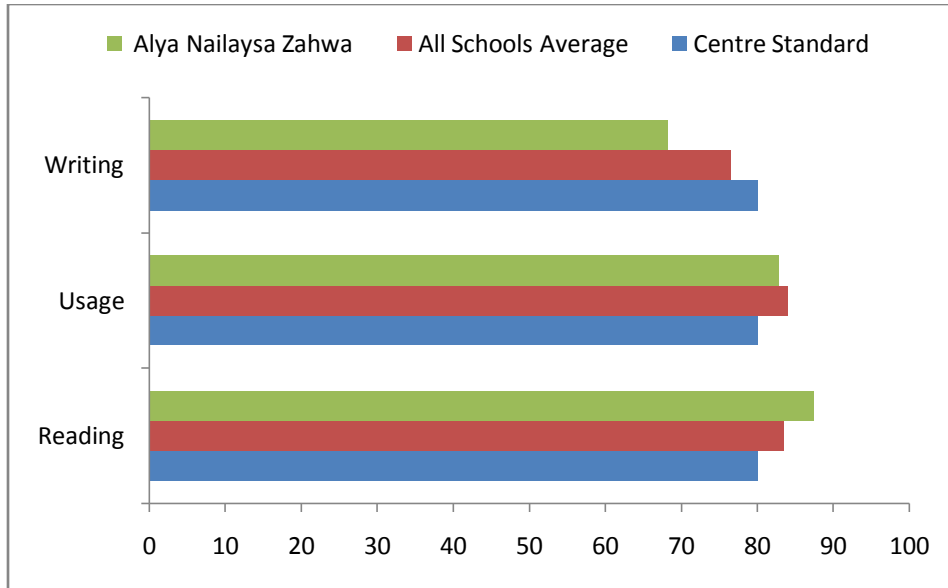
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (78%)					
Science	1 - 5 (78%)					
Mathematics	1 - 5 (77%)					

This is what the score mean:

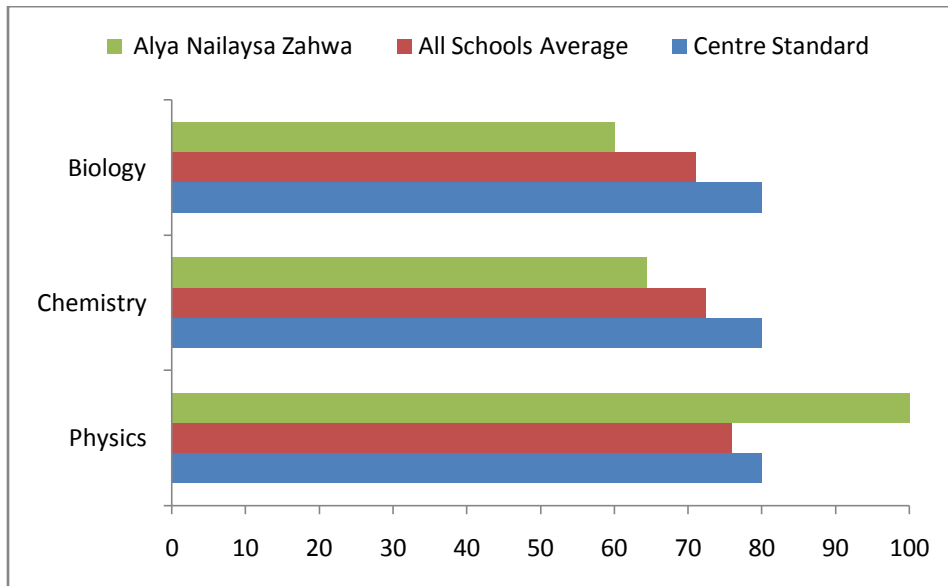


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

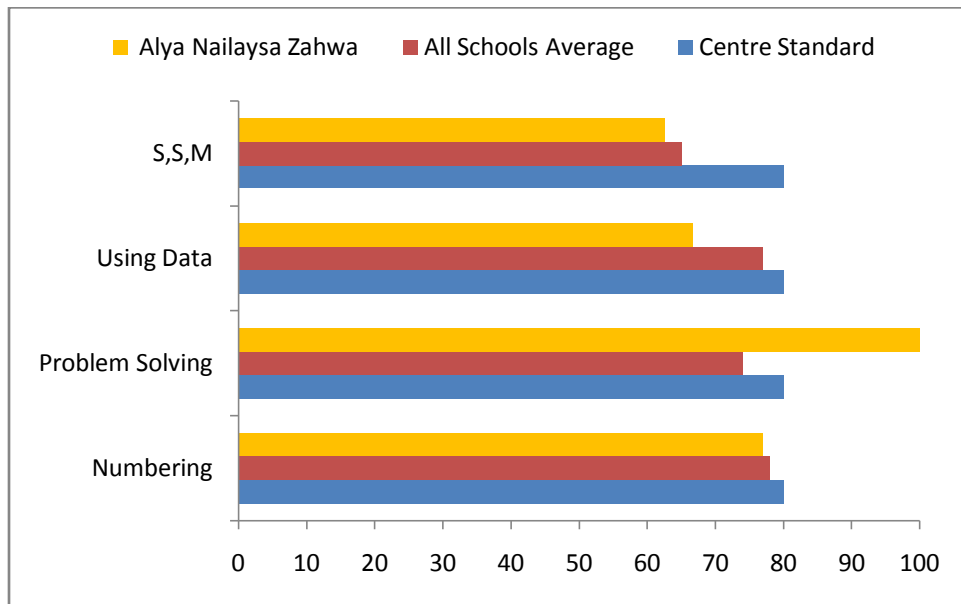
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Student Name : **Amaliasari Nur Setyono**

Reg. Number : **0536**

Examination : **Centre Diagnostic Progression Test (CDPT)**

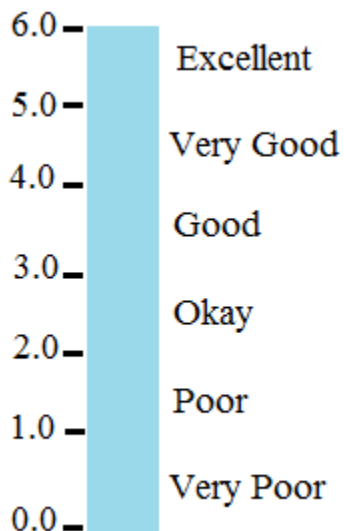
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

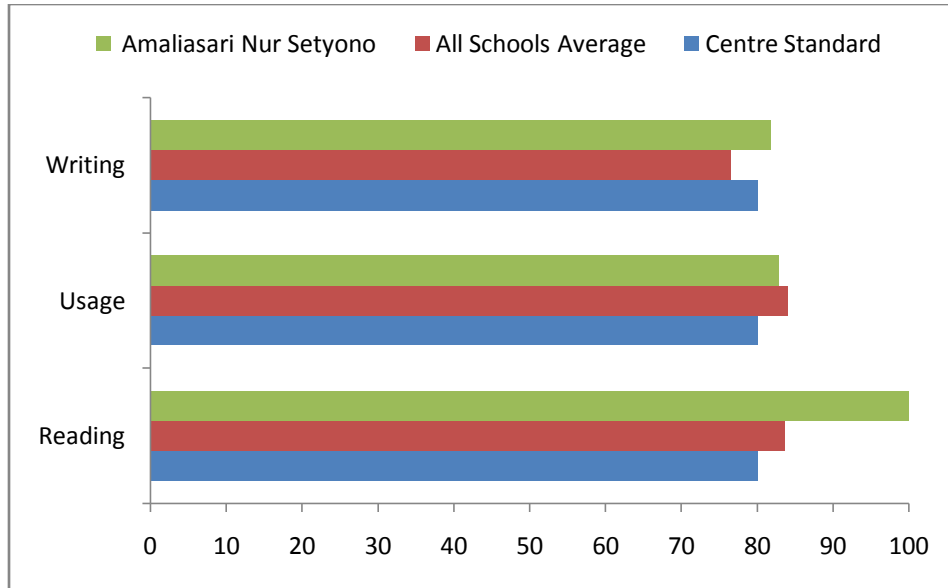
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (85%)					
Science	1 - 5 (78%)					
Mathematics	1 - 5 (77%)					

This is what the score mean:

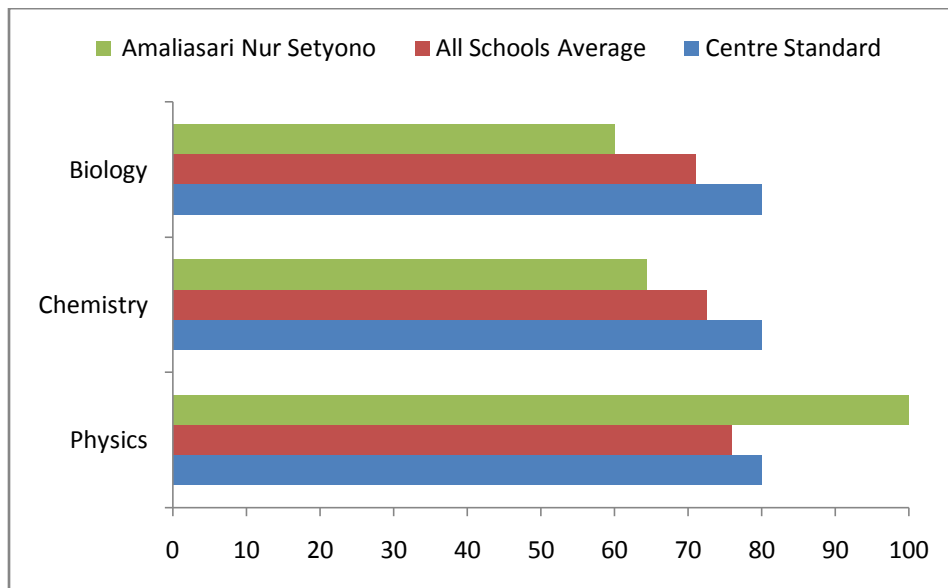


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

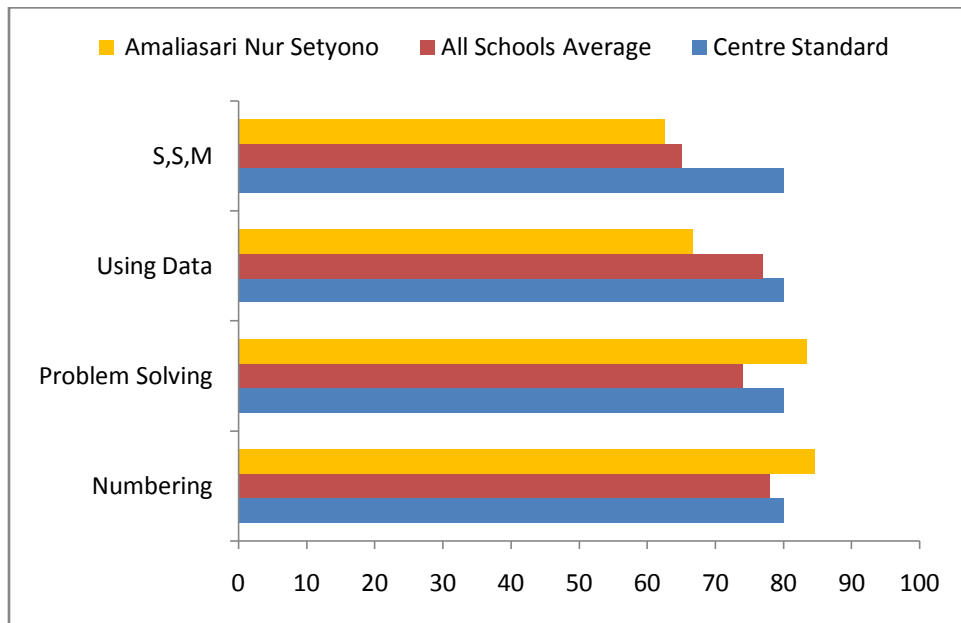
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Student Name : **Chesta Khayru Nabil Arsyantyo Bachtiar**

Reg. Number : **0548**

Examination : **Centre Diagnostic Progression Test (CDPT)**

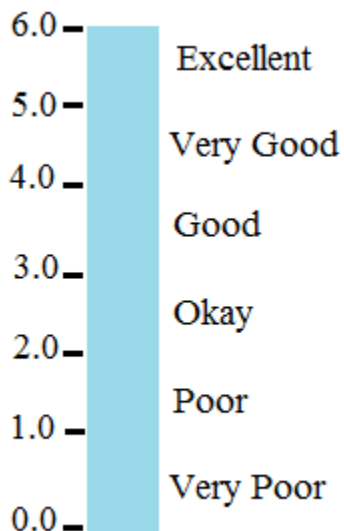
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

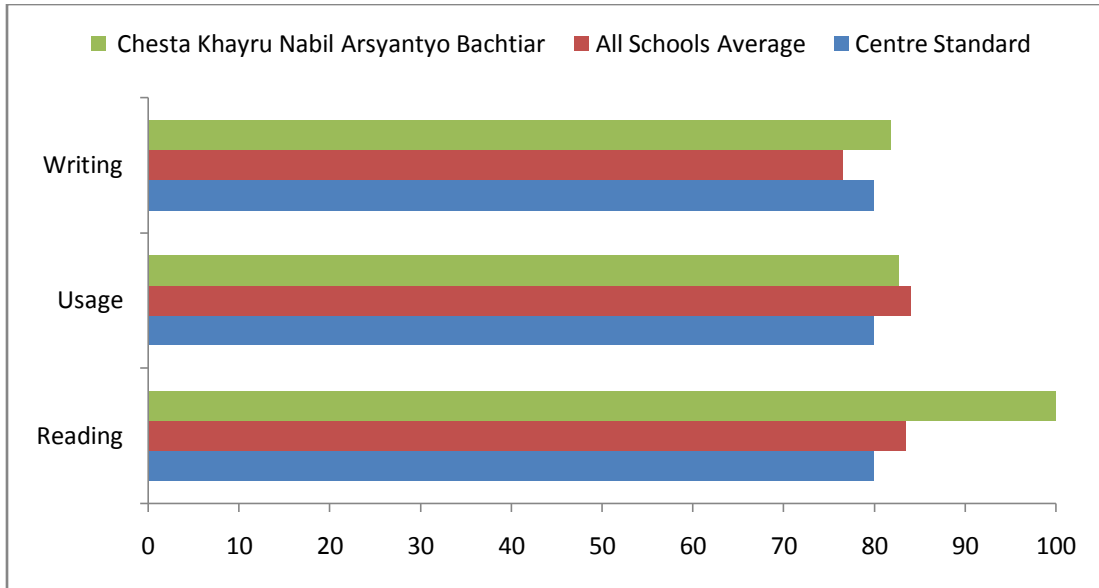
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (85%)					
Science	1 - 5 (82%)					
Mathematics	1 - 6 (100%)					

This is what the score mean:

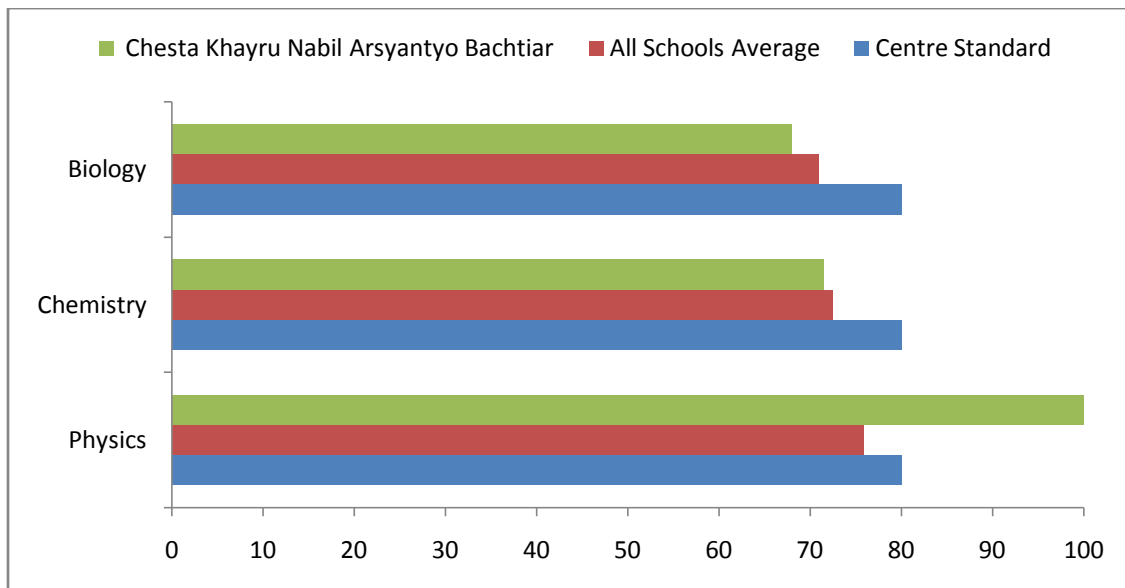


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

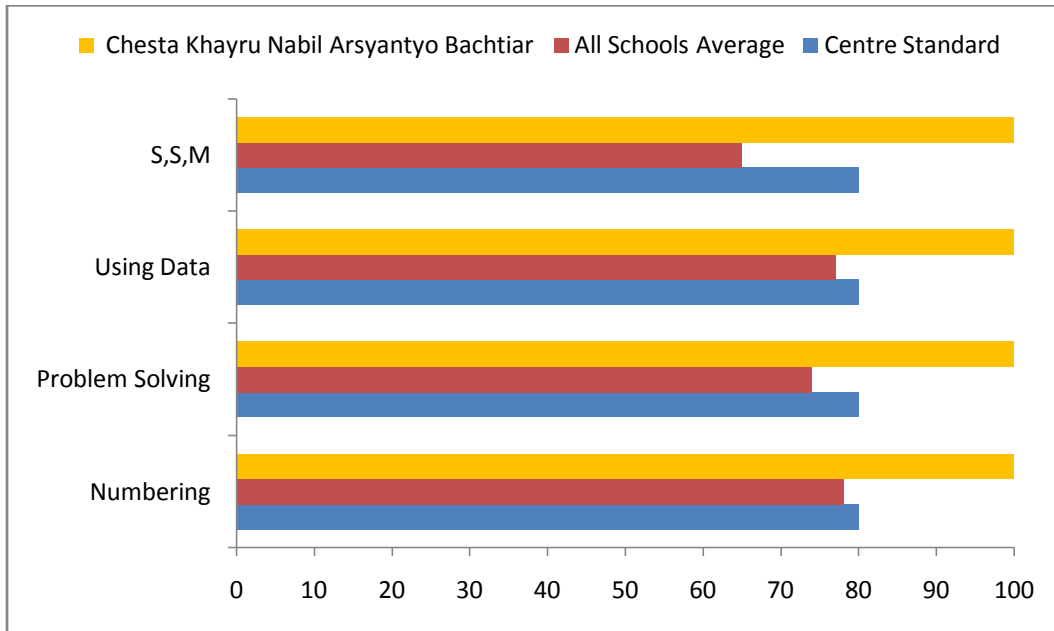
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Student Name : **Cut Farah Qatrina Faisal**

Reg. Number : **0550**

Examination : **Centre Diagnostic Progression Test (CDPT)**

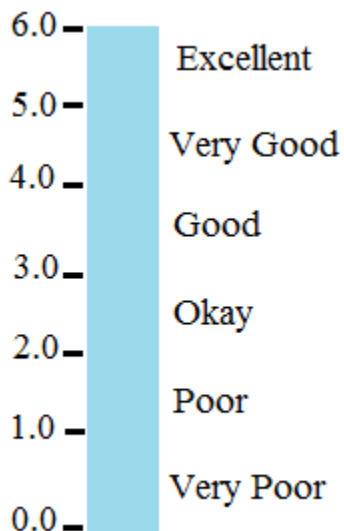
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

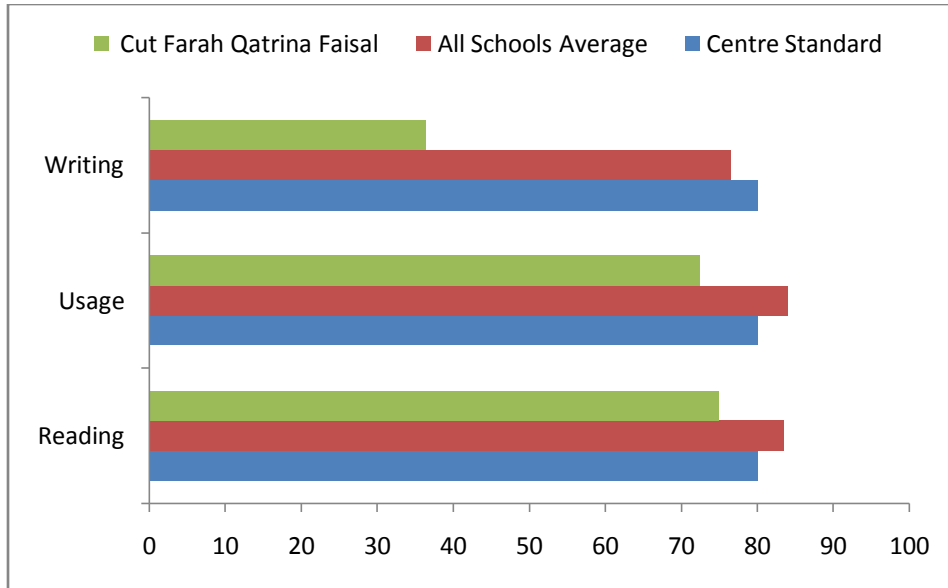
Stages/Subjects	Stages					
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English	1 - 4 (59%)					
Science	1 - 3 (58%)					
Mathematics	1 - 3 (43%)					

This is what the score mean:

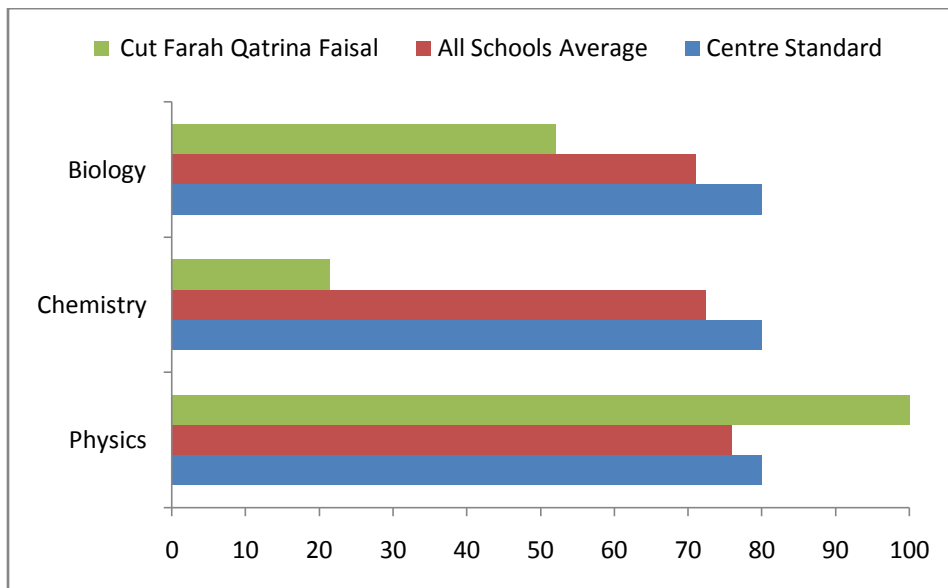


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

### Results for English

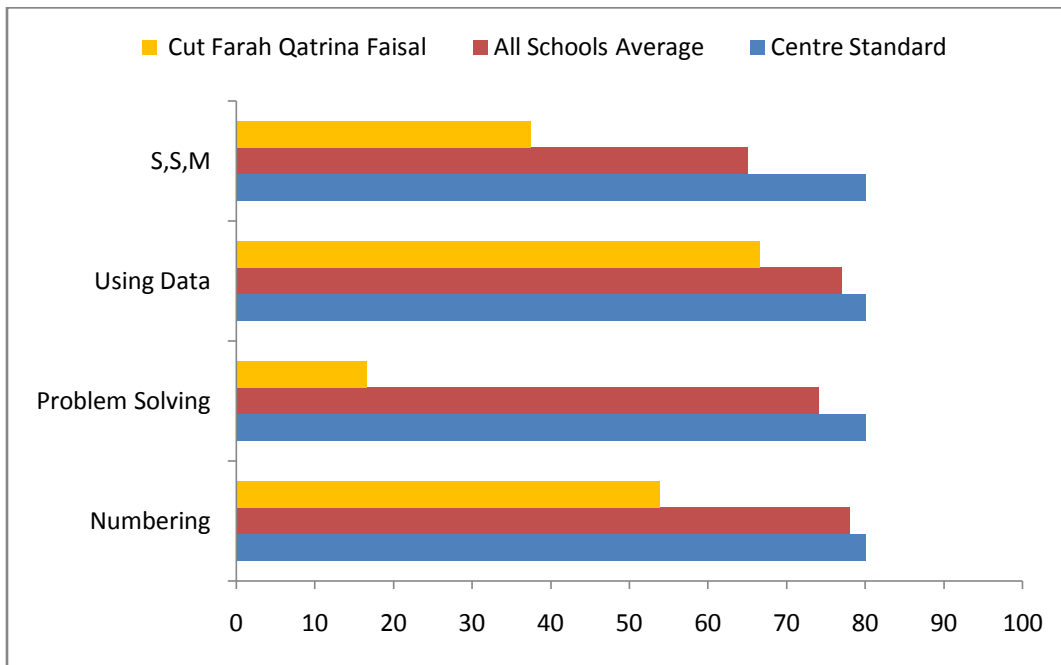


### Results for Science





## Results for Mathematics



### Note

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Student Name : **Dimas Satria Raksadana**

Reg. Number : **0552**

Examination : **Centre Diagnostic Progression Test (CDPT)**

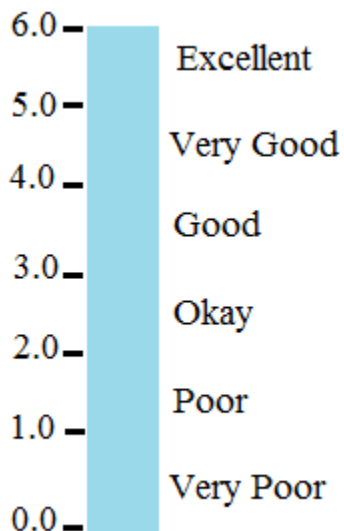
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

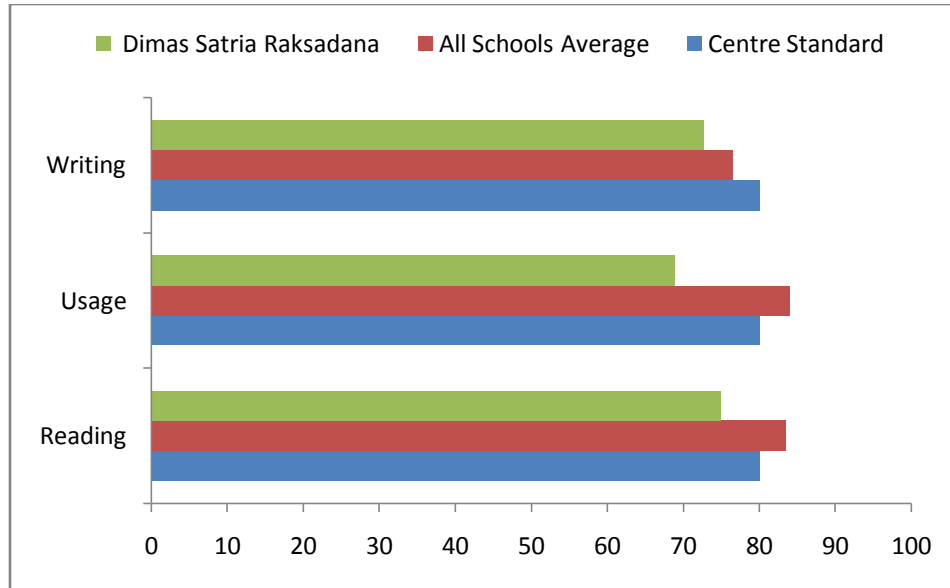
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (71%)					
Science	1 - 5 (78%)					
Mathematics	1 - 4 (67%)					

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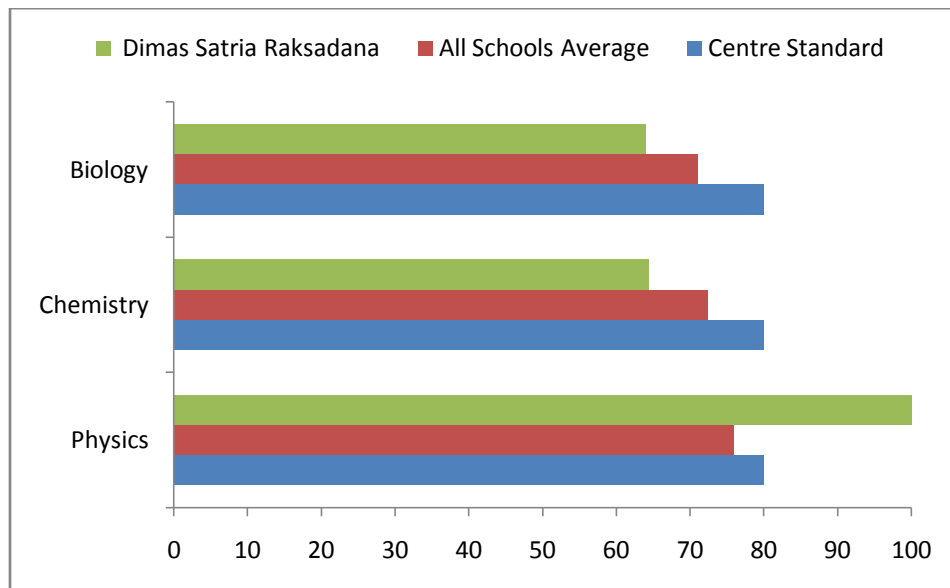


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

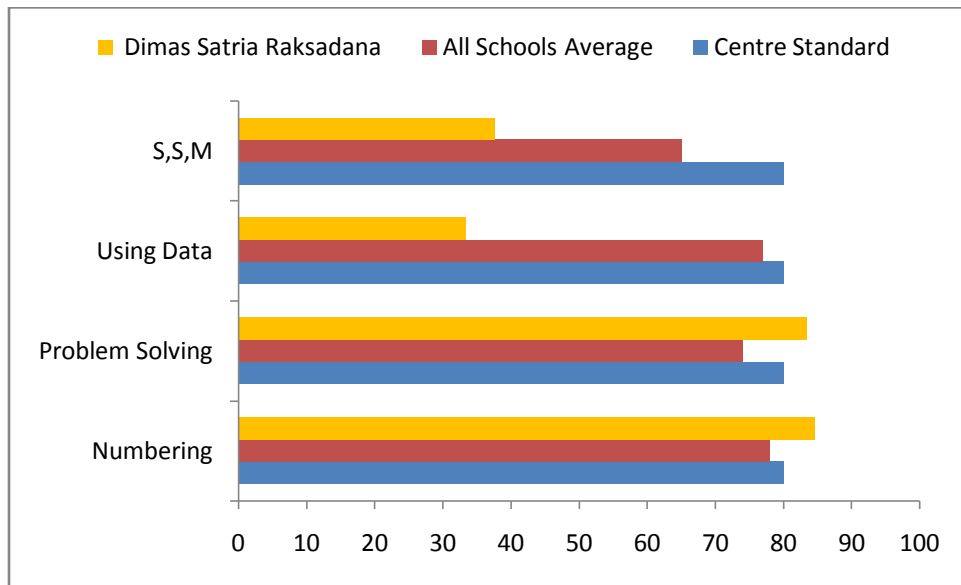
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Teacher Training and Education Development  
Institute  
Director,

Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : **Dina Kamilah**

Reg. Number : **0553**

Examination : **Centre Diagnostic Progression Test (CDPT)**

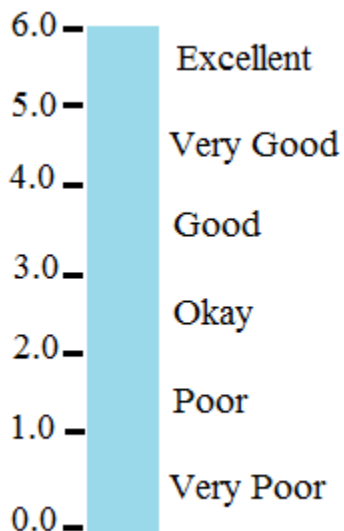
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

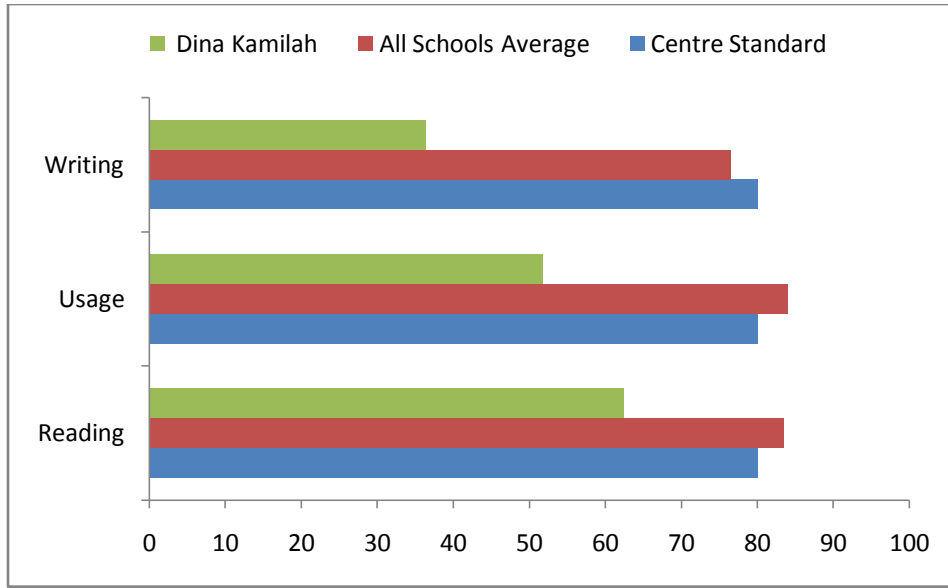
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 3 (47%)					
Science	1 - 3 (58%)					
Mathematics	1 - 3 (50%)					

This is what the score mean:

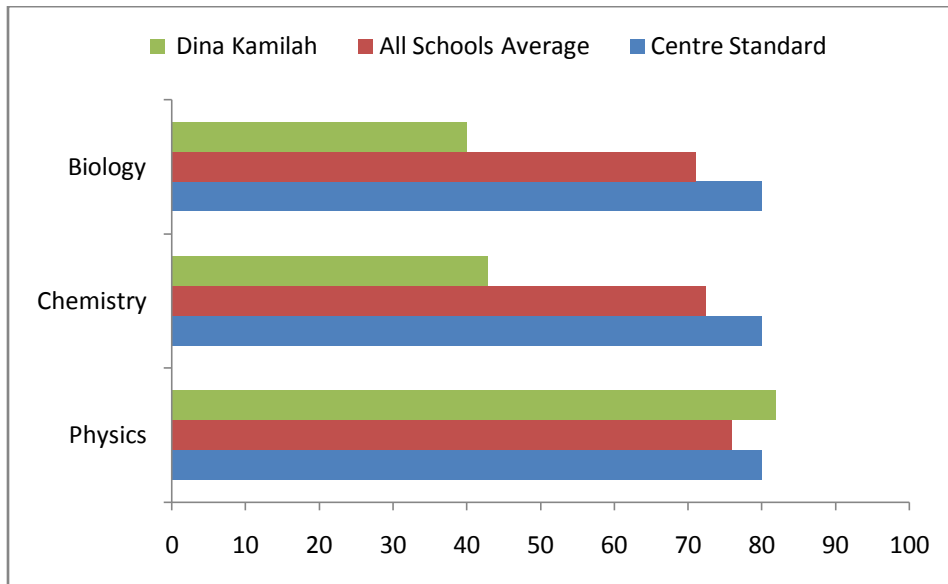


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

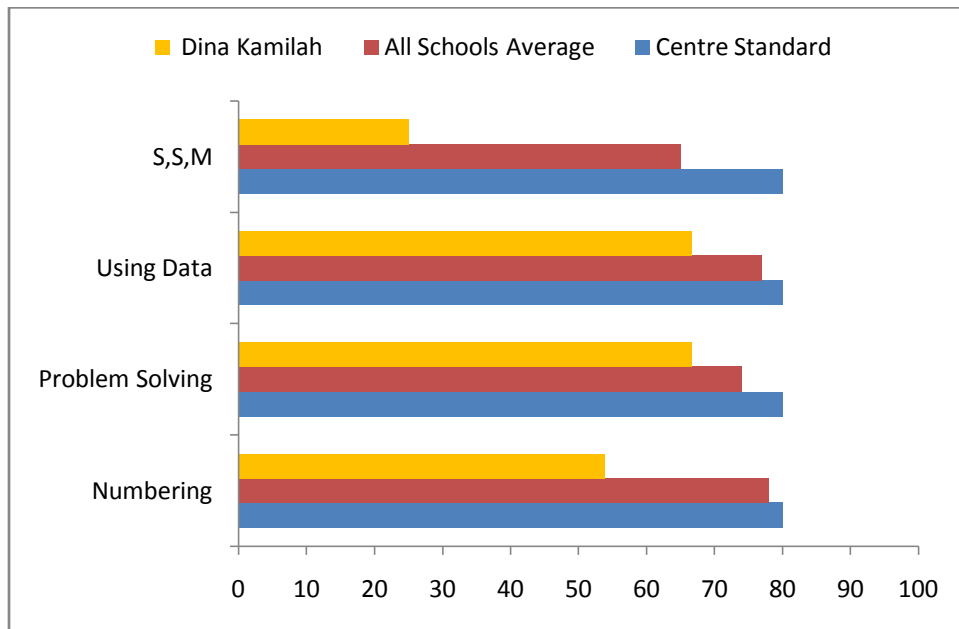
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
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Institute  
Director,

Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : Ella Azyyati Rahmadini

Reg. Number : 0554

Examination : Centre Diagnostic Progression Test (CDPT)

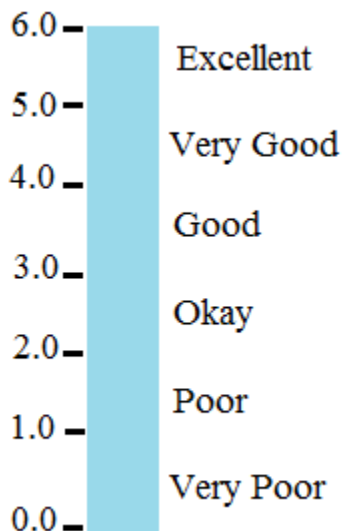
Period : January Session Year 2012

### Summary report

This table shows the overall performance

Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (86%)					
Science	1 - 5 (80%)					
Mathematics	1 - 5 (90%)					

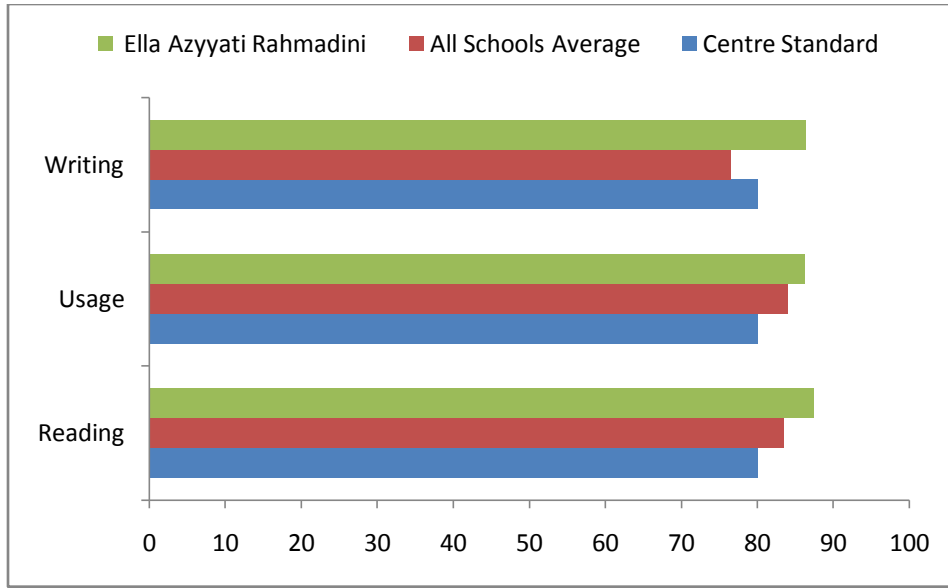
This is what the score mean:



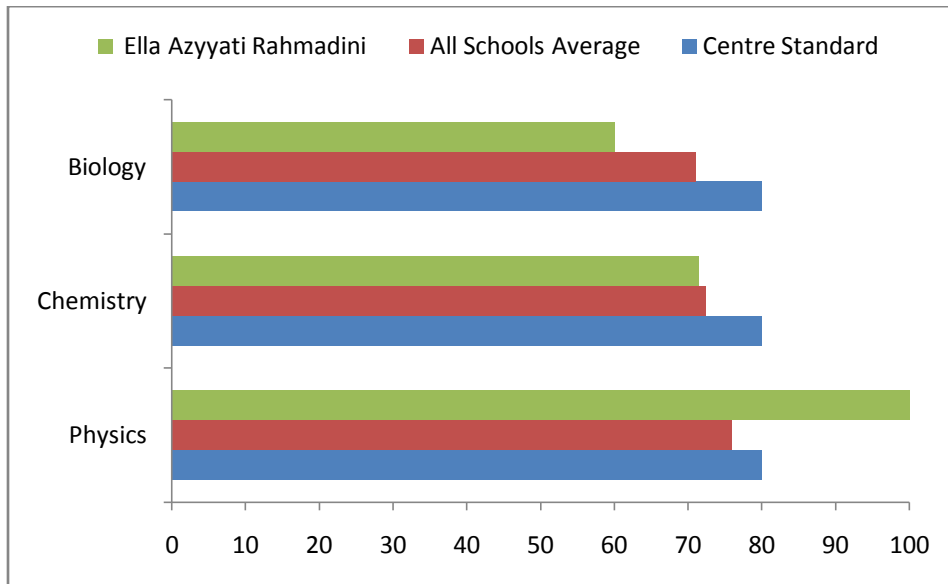


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

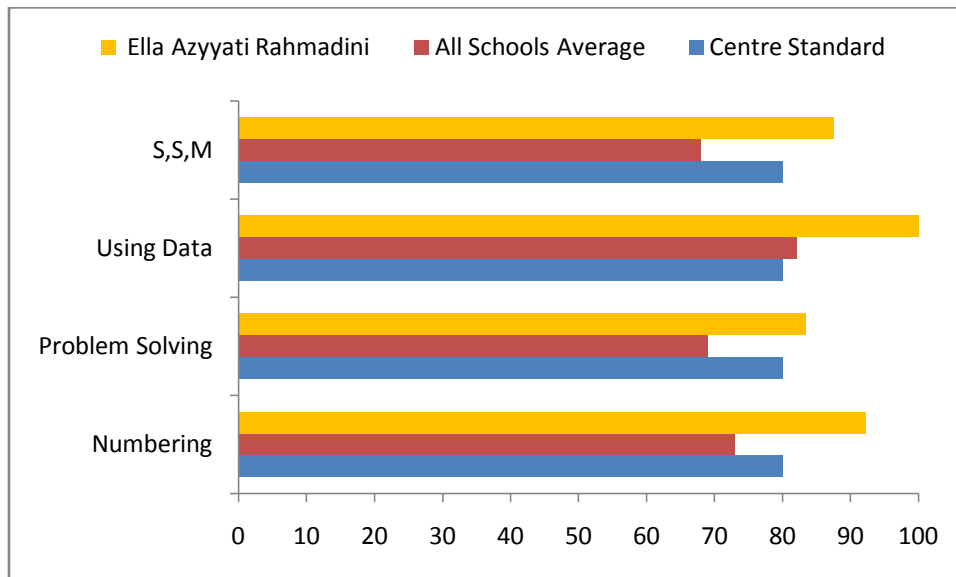
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
Institute  
Director,

Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : **Faradhila Revania Nurfanza**

Reg. Number : **0558**

Examination : **Centre Diagnostic Progression Test (CDPT)**

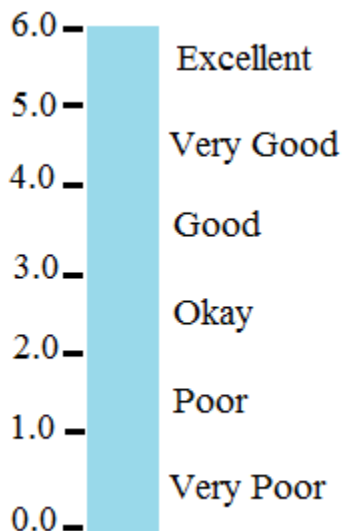
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

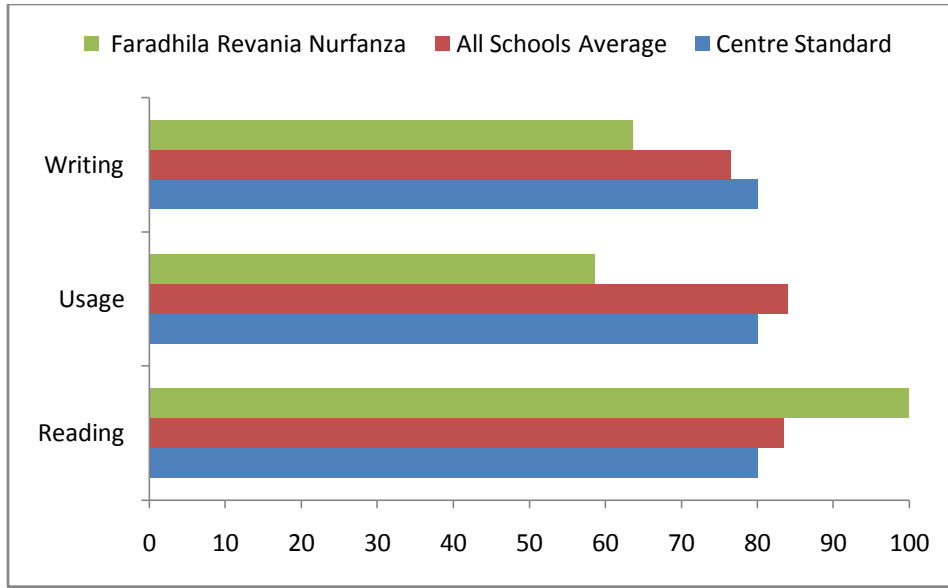
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (66%)					
Science	1 - 4 (74%)					
Mathematics	1 - 5 (80%)					

This is what the score mean:

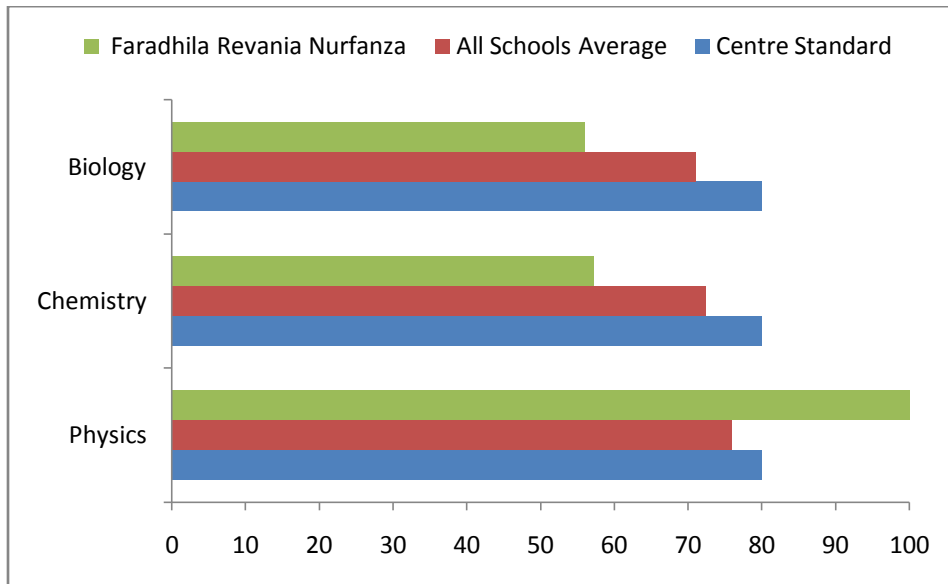


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

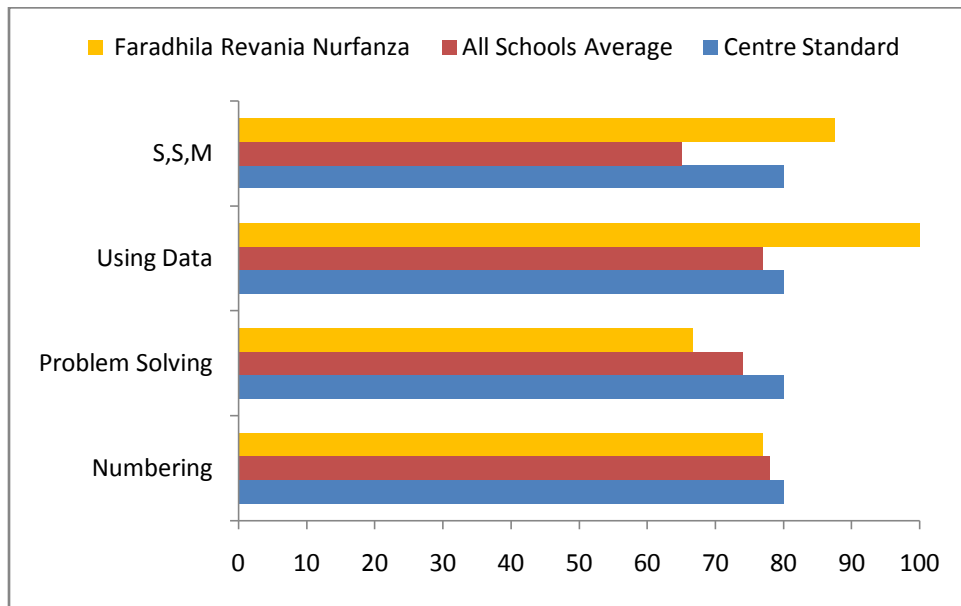
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
Institute  
Director,

Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : Farah Meytha Aisha

Reg. Number : 0559

Examination : Centre Diagnostic Progression Test (CDPT)

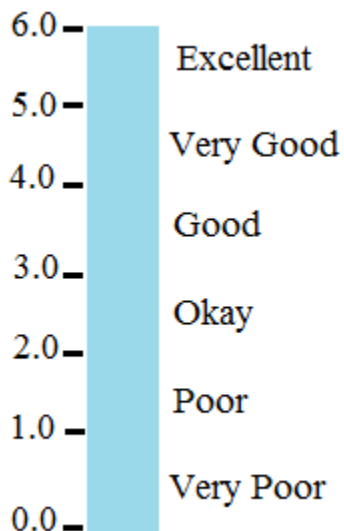
Period : January Session Year 2012

### Summary report

This table shows the overall performance

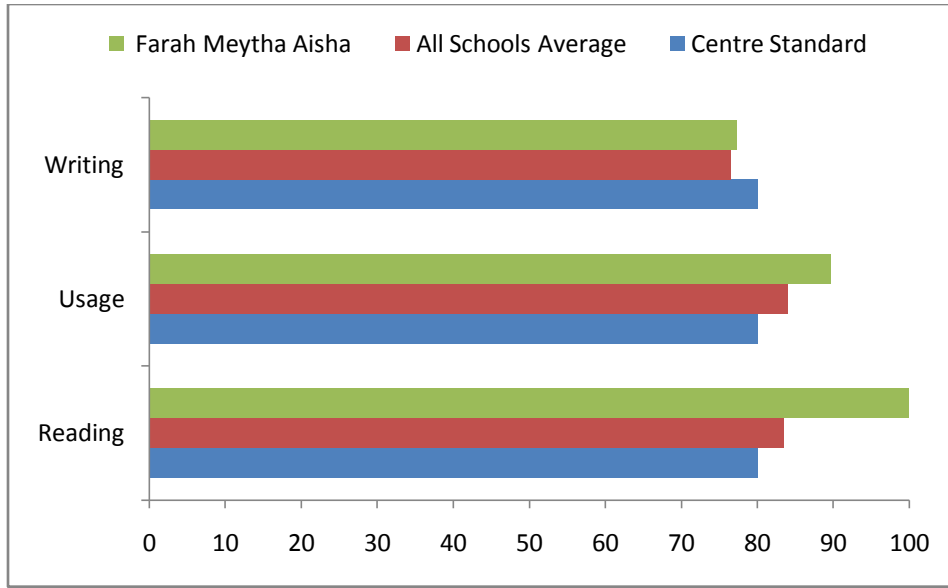
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (86%)					
Science	1 - 5 (80%)					
Mathematics	1 - 5 (90%)					

This is what the score mean:

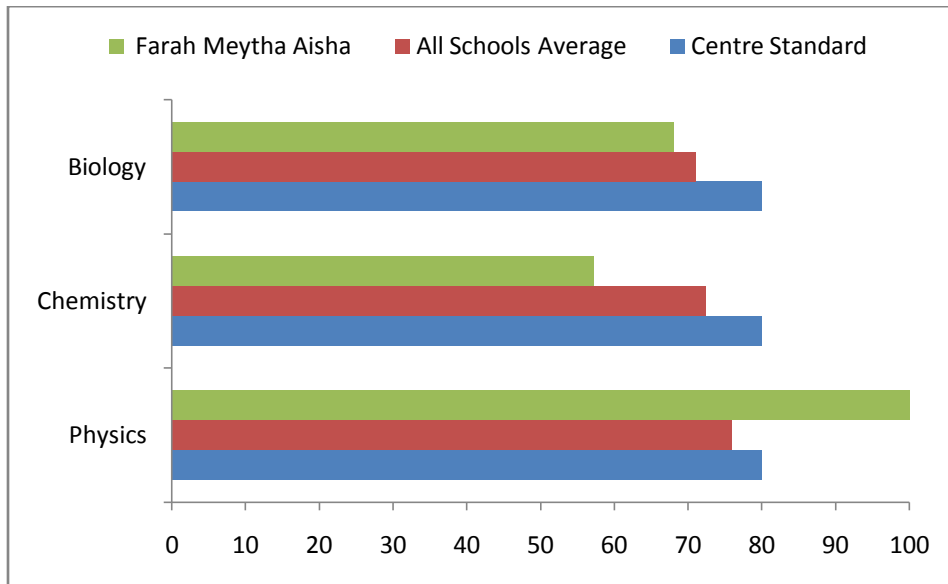


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

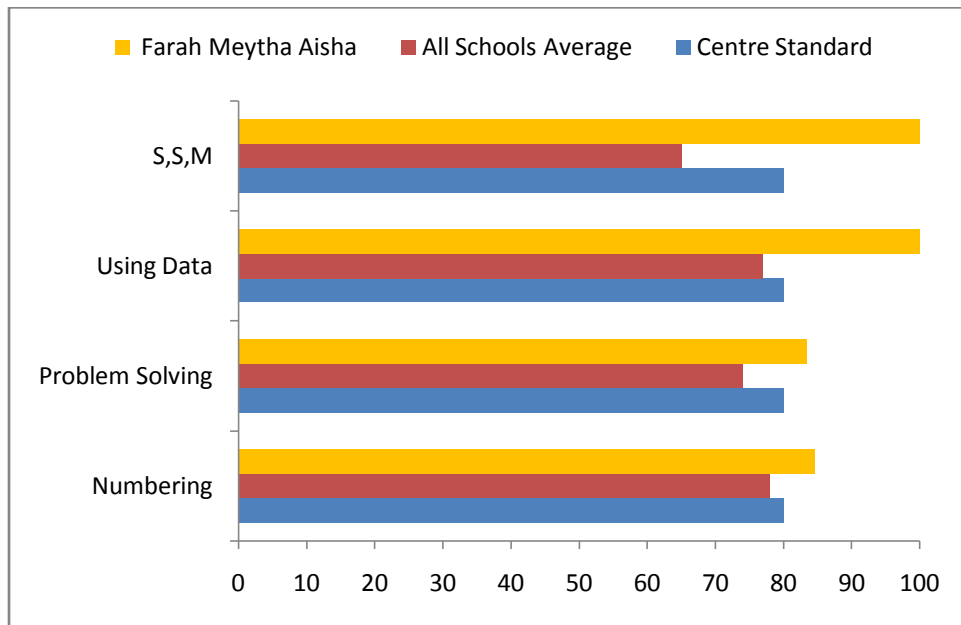
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
Institute  
Director,

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Student Name : Hazeledra Aryo Rafdian

Reg. Number : 0563

Examination : Centre Diagnostic Progression Test (CDPT)

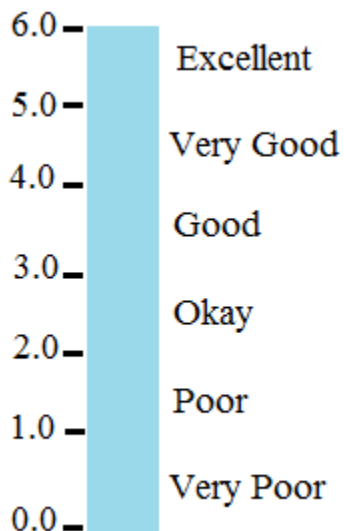
Period : January Session Year 2012

### Summary report

This table shows the overall performance

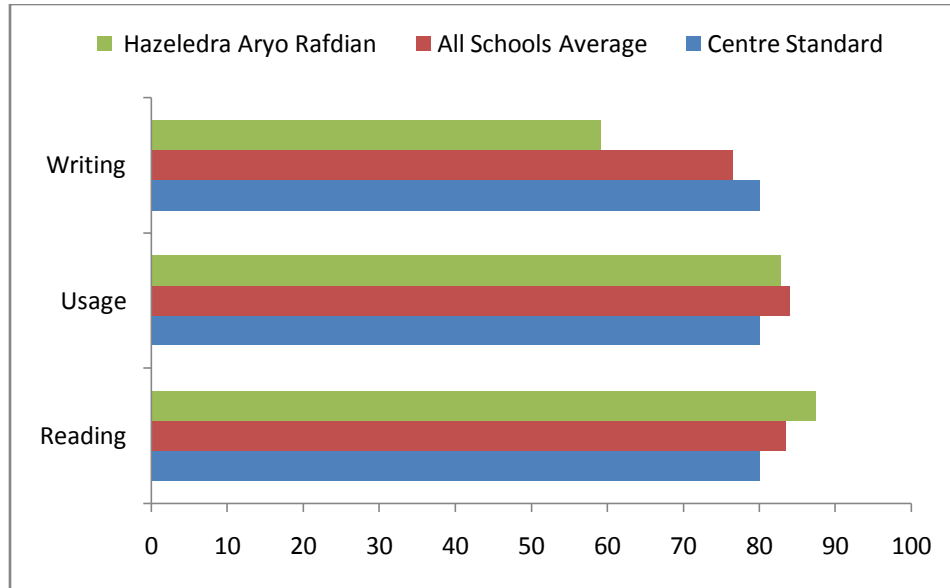
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (75%)					
Science	1 - 4 (64%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:

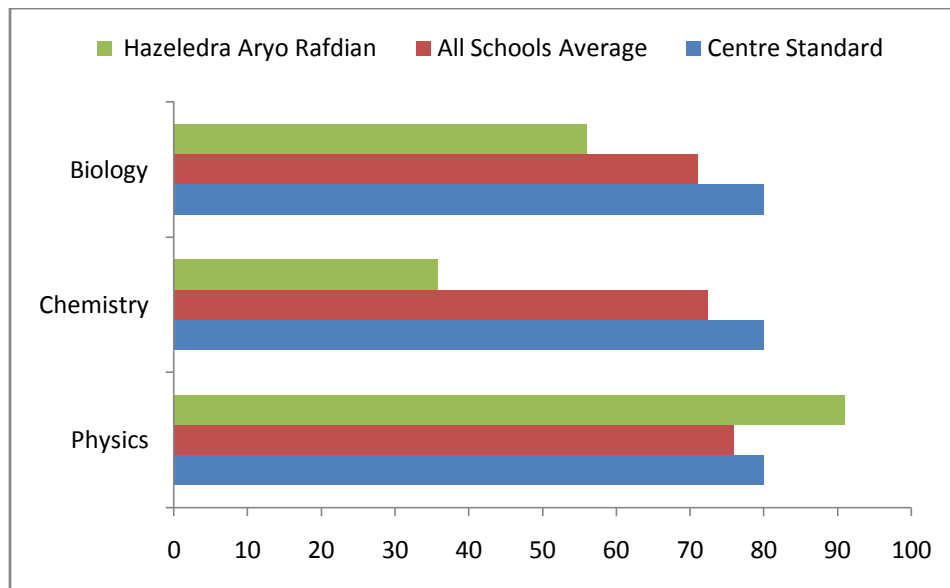


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

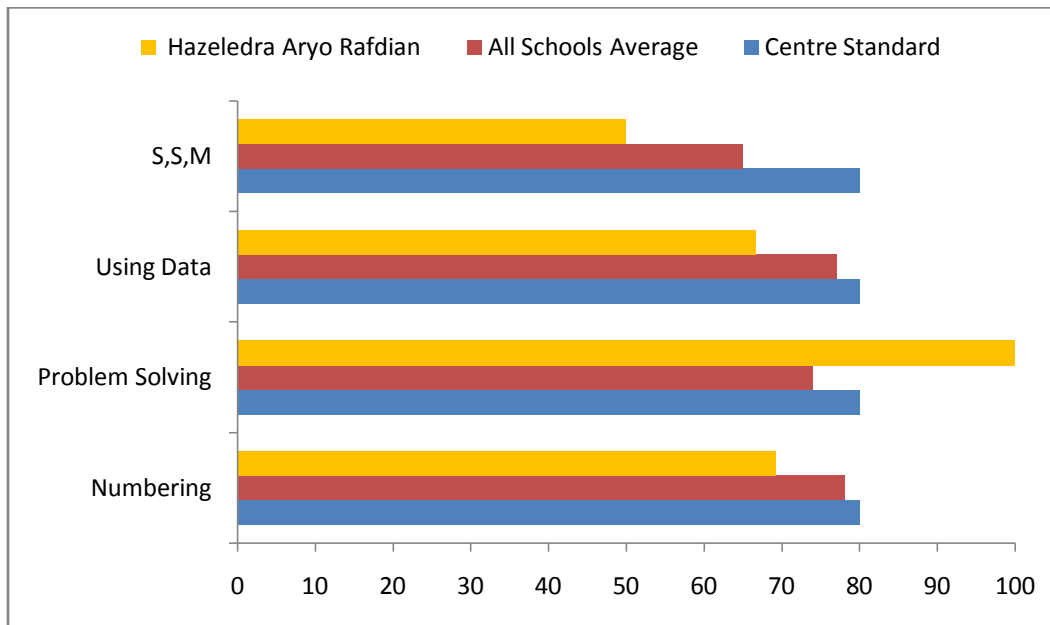
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
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Student Name : **Kamilah Rahmah**

Reg. Number : **0564**

Examination : **Centre Diagnostic Progression Test (CDPT)**

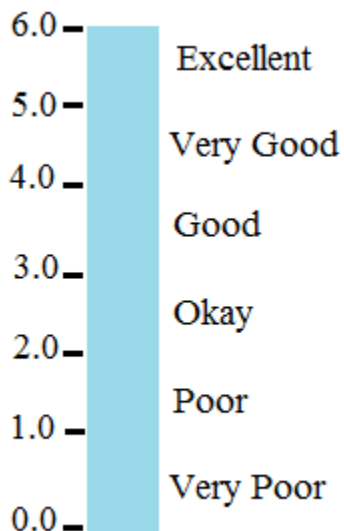
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

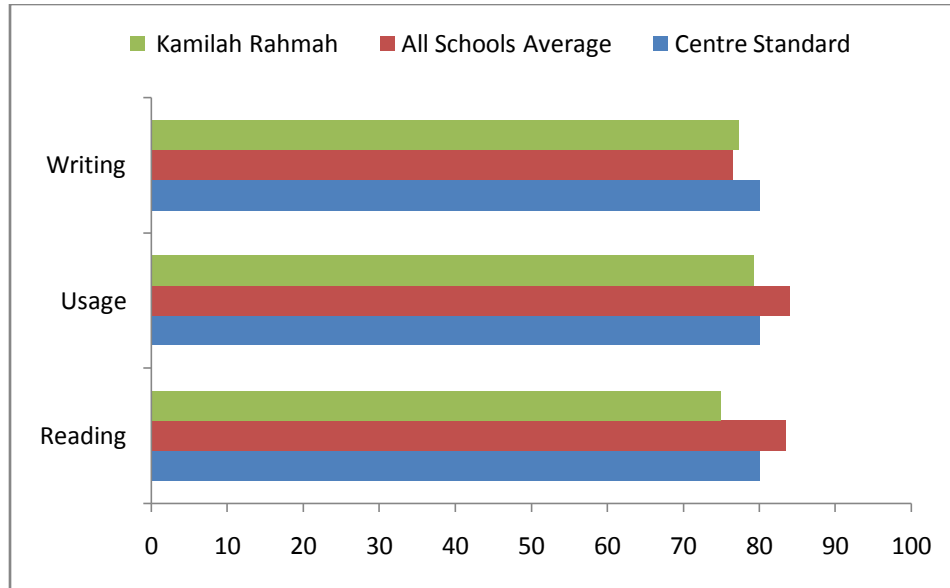
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (78%)					
Science	1 - 5 (76%)					
Mathematics	1 - 3 (53%)					

This is what the score mean:

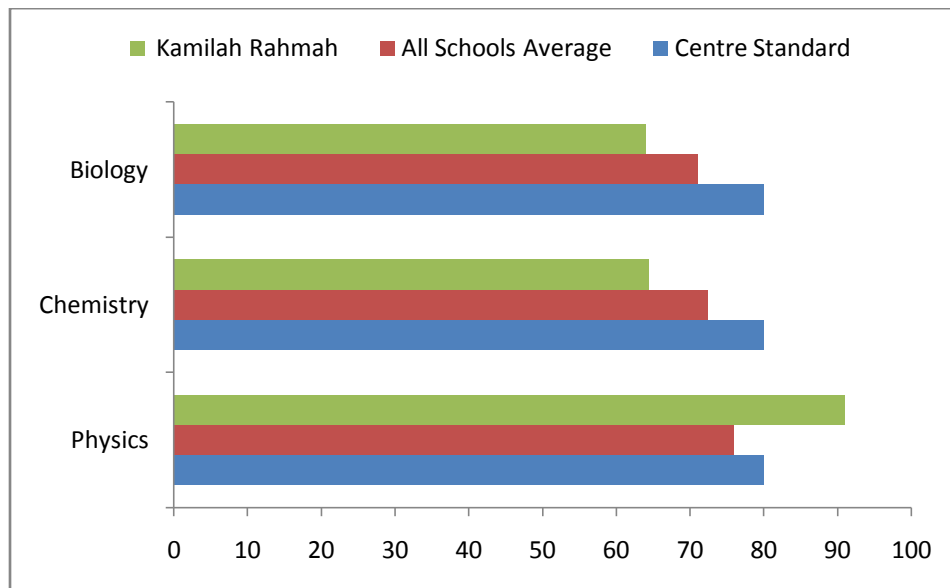


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

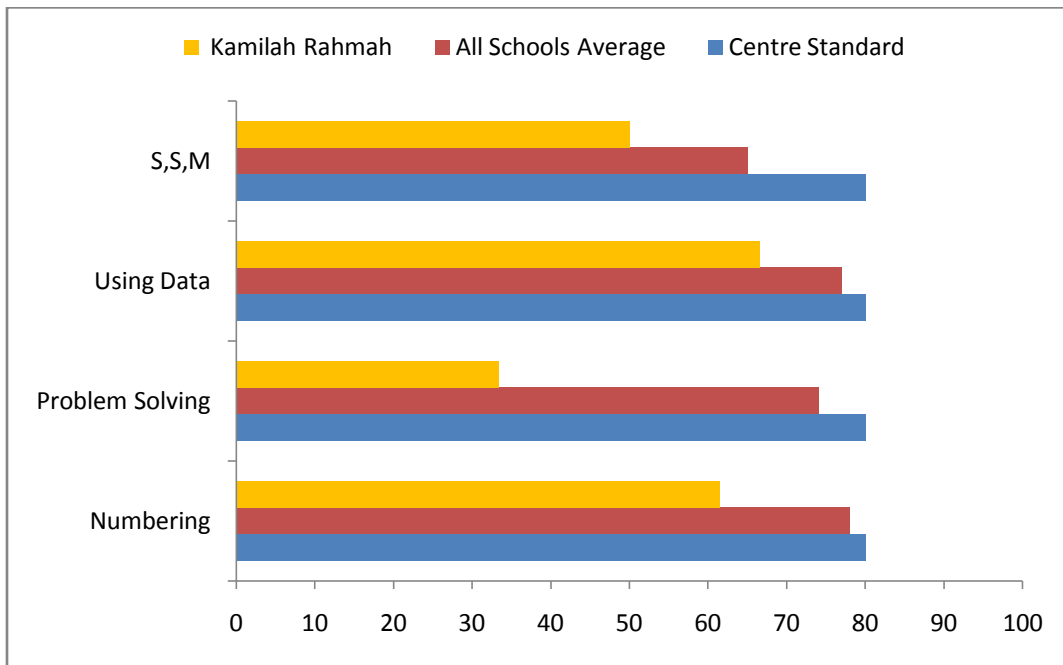
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
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Student Name : **Margareta Rahma Ayu**

Reg. Number : **0567**

Examination : **Centre Diagnostic Progression Test (CDPT)**

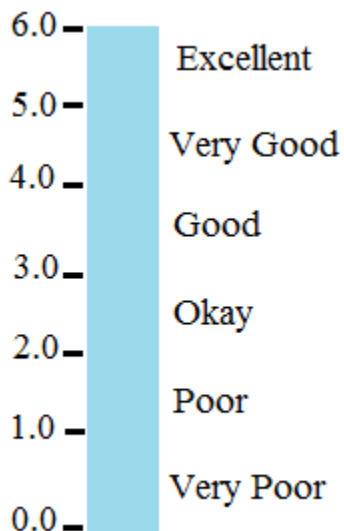
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

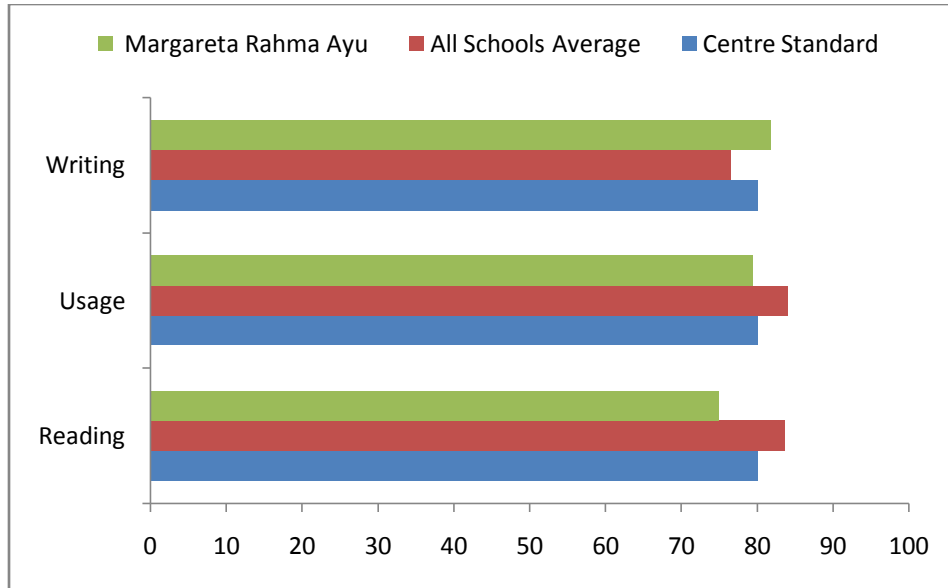
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (80%)					
Science	1 - 5 (80%)					
Mathematics	1 - 6 (93%)					

This is what the score mean:

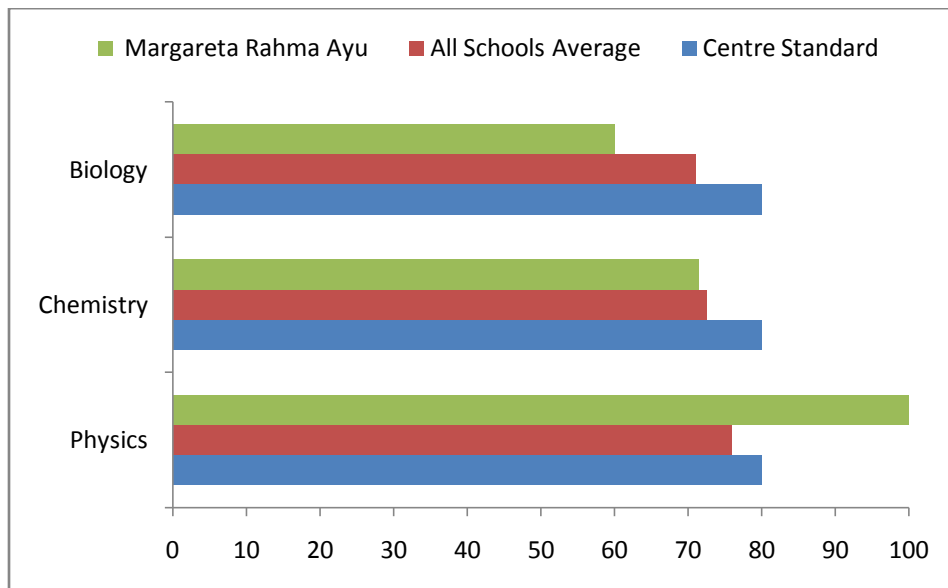


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

### Results for English

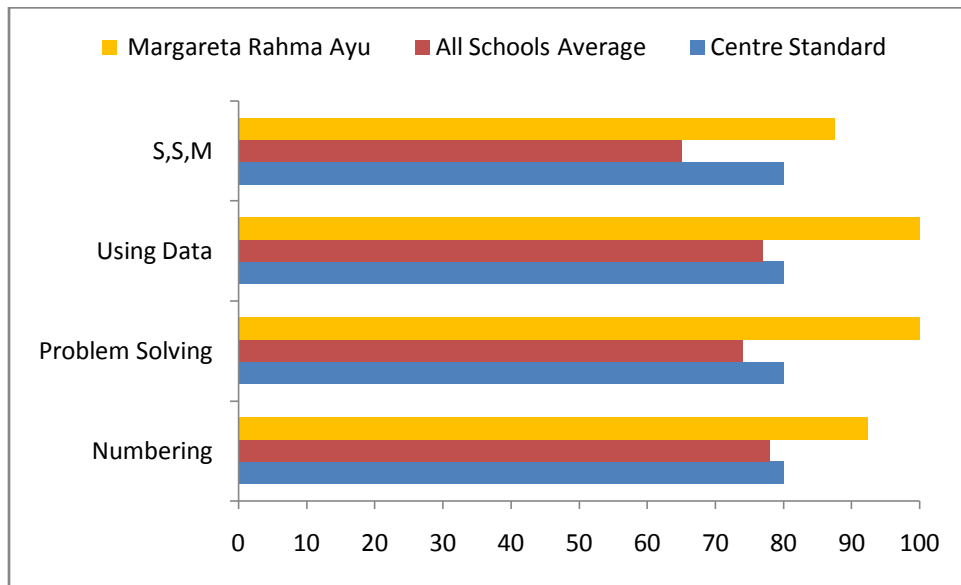


### Results for Science





## Results for Mathematics



### Note

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Teacher Training and Education Development  
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Student Name : Mikaila Kafka Akmalsyah

Reg. Number : 0568

Examination : Centre Diagnostic Progression Test (CDPT)

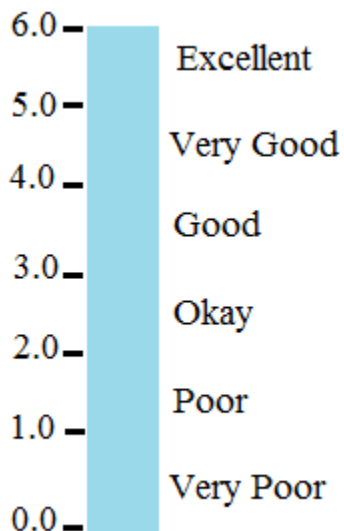
Period : January Session Year 2012

### Summary report

This table shows the overall performance

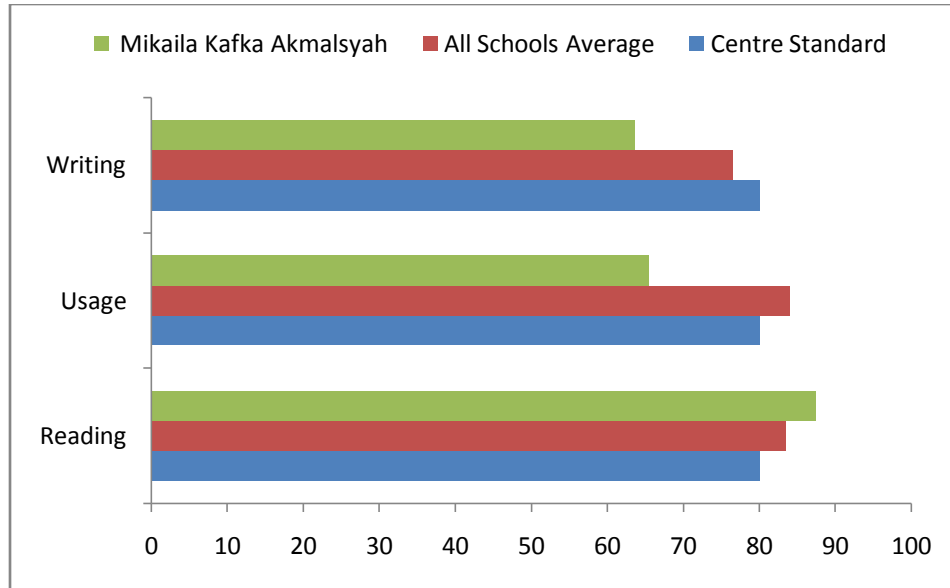
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (68%)					
Science	1 - 4 (72%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:

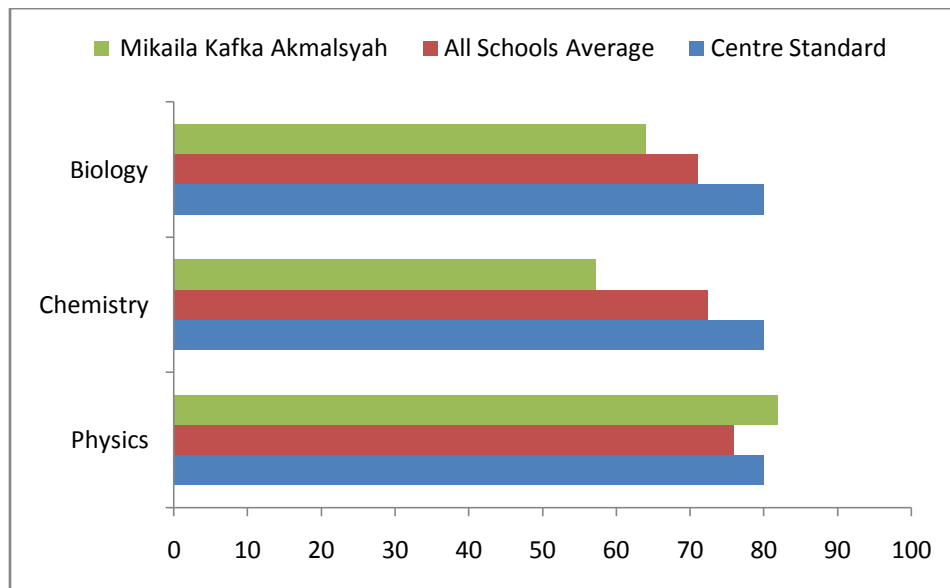


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

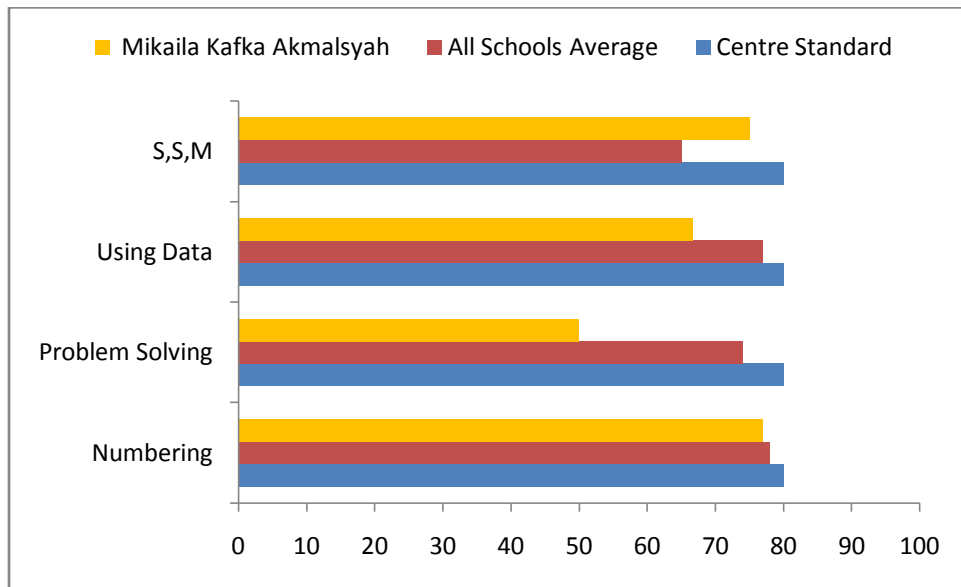
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
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Student Name : **Mirza Anindita Widyastuti**

Reg. Number : **0569**

Examination : **Centre Diagnostic Progression Test (CDPT)**

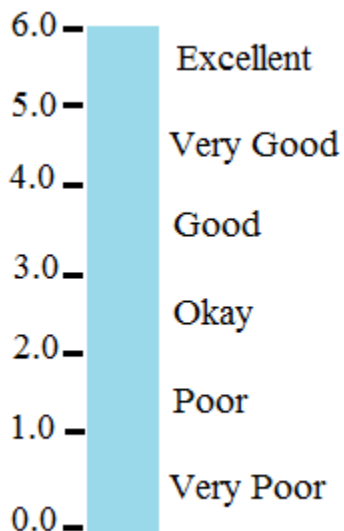
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

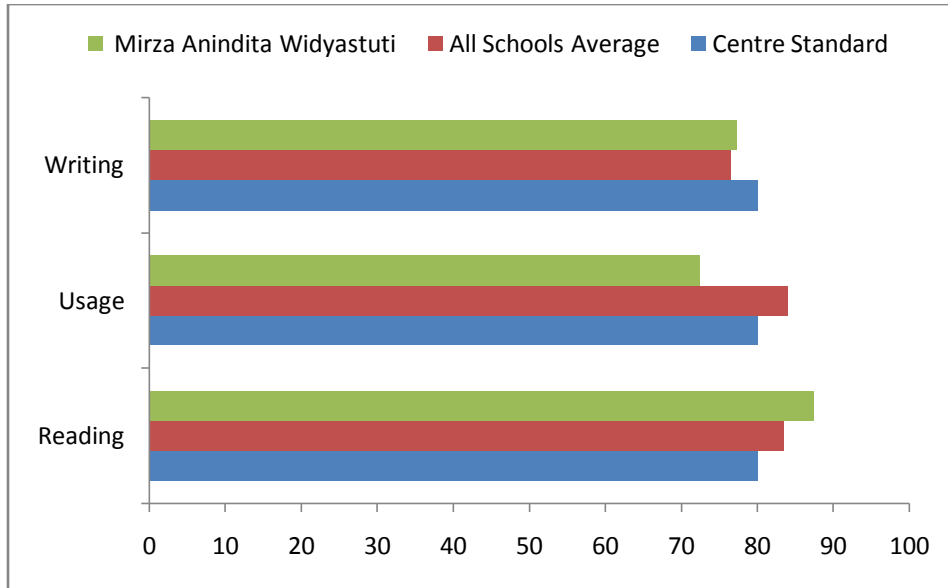
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (76%)					
Science	1 - 5 (80%)					
Mathematics	1 - 4 (73%)					

This is what the score mean:

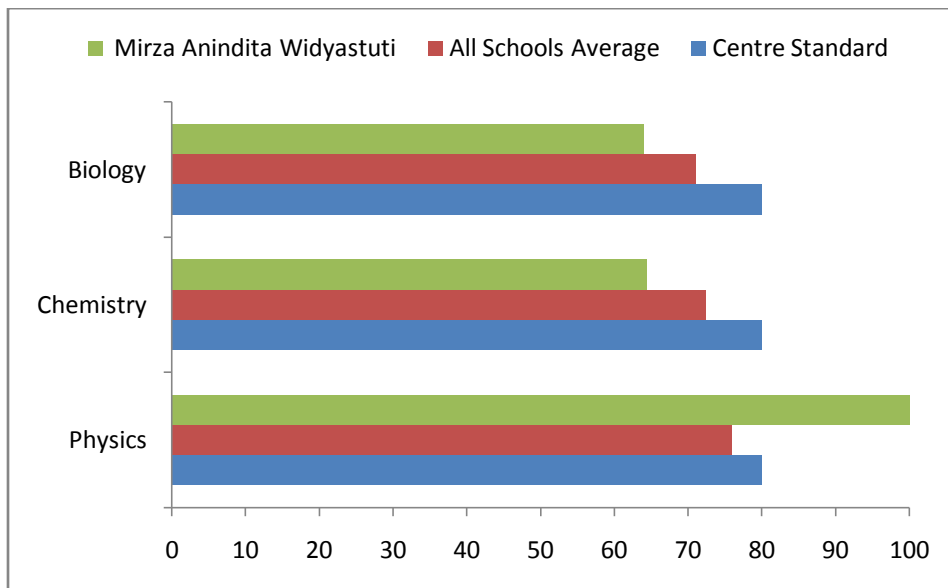


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

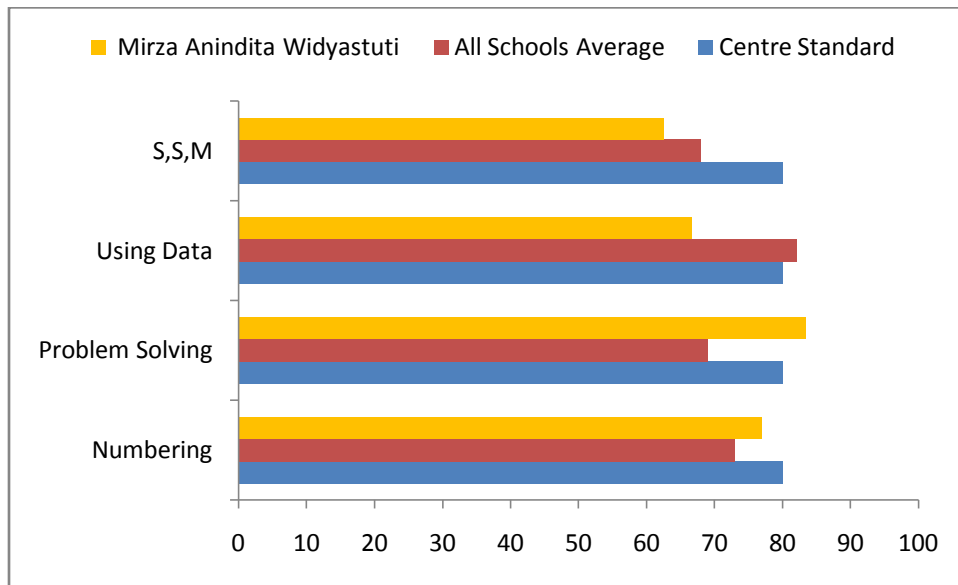
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
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Student Name : **Muhammad Thariq Al Wafi**

Reg. Number : **0578**

Examination : **Centre Diagnostic Progression Test (CDPT)**

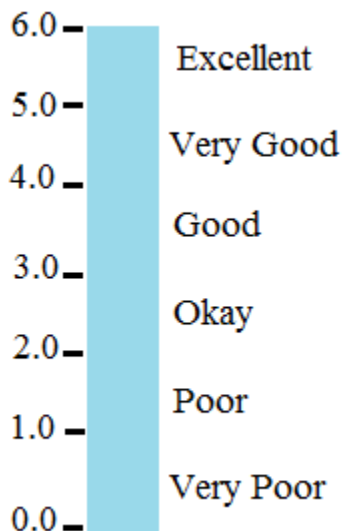
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (61%)					
Science	1 - 4 (72%)					
Mathematics	1 - 4 (70%)					

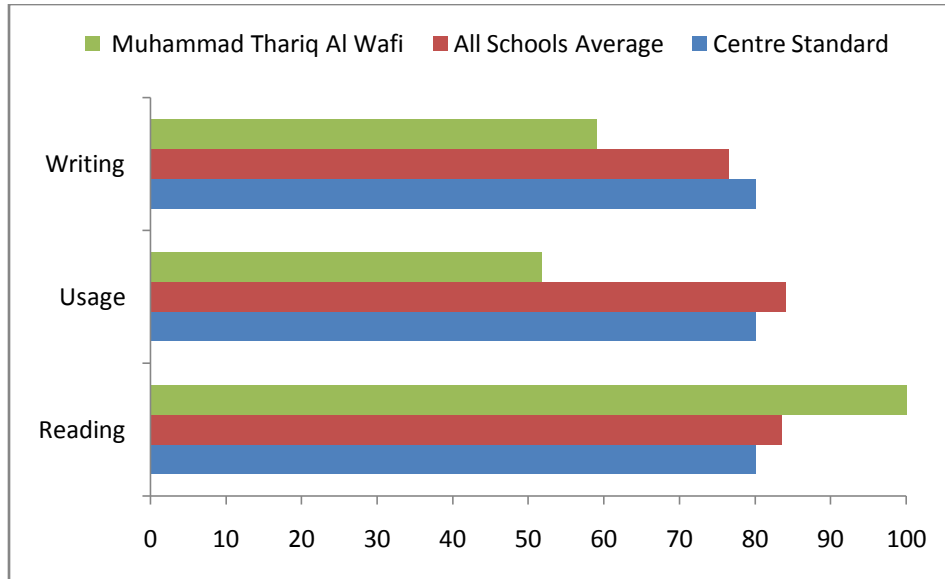
This is what the score mean:



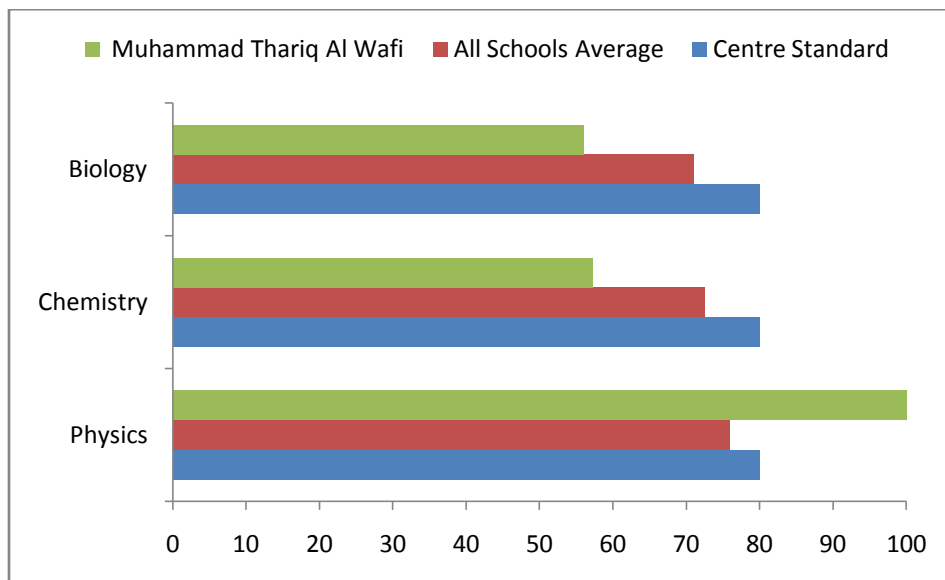


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

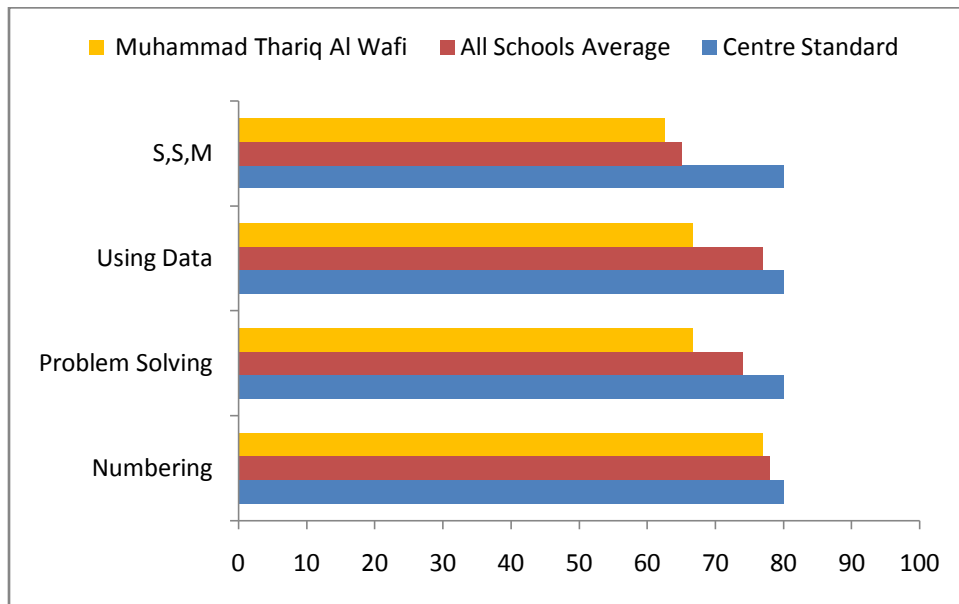
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
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Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : **Nabila Syafa Rahmania**

Reg. Number : **0582**

Examination : **Centre Diagnostic Progression Test (CDPT)**

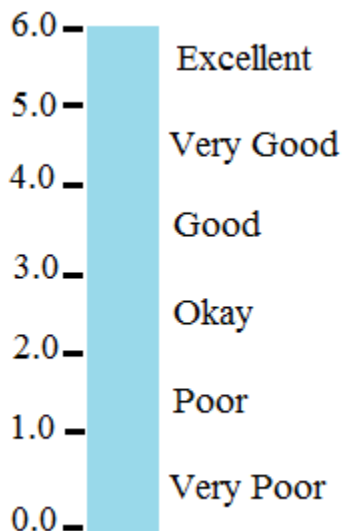
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

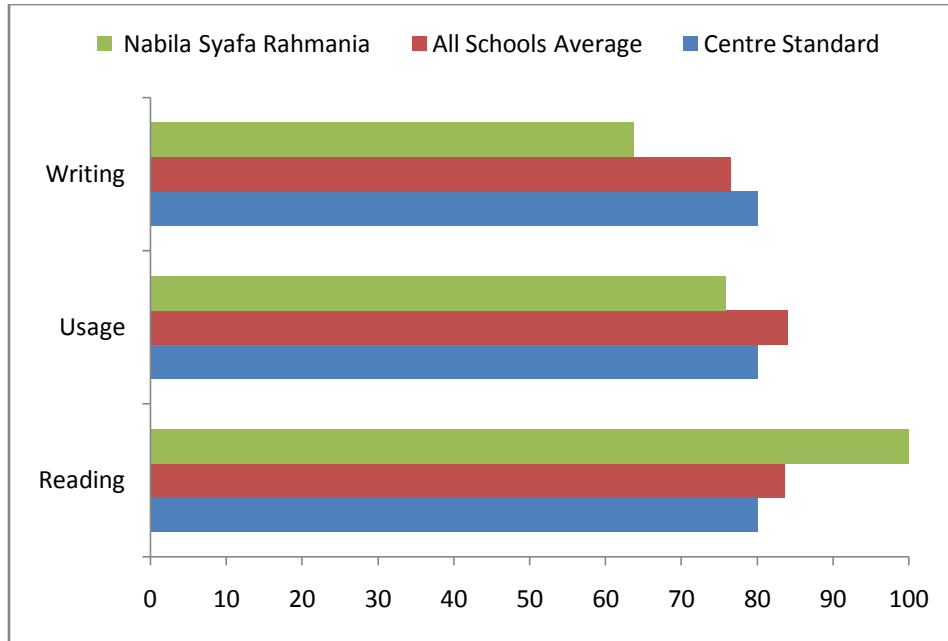
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (75%)					
Science	1 - 5 (84%)					
Mathematics	1 - 5 (77%)					

This is what the score mean:

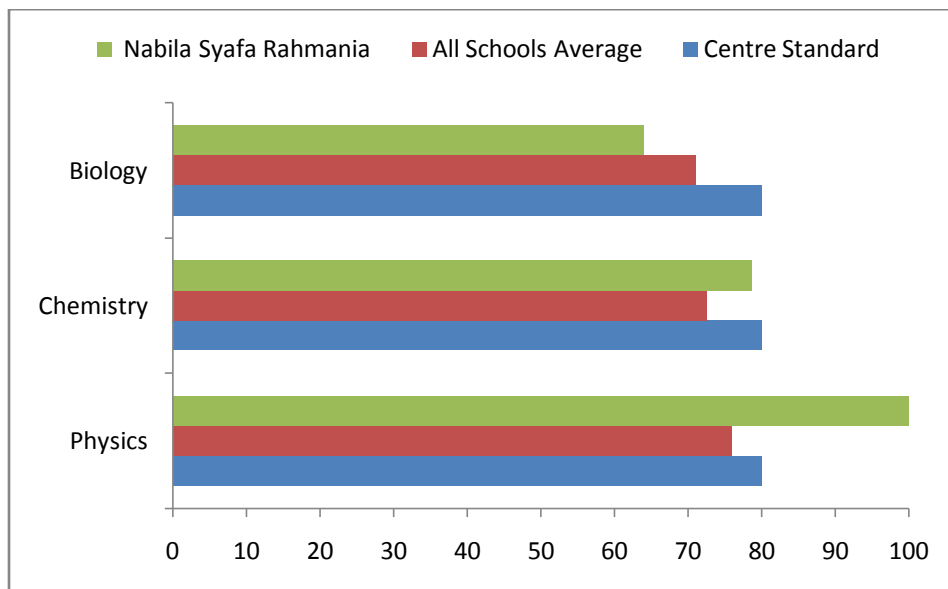


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

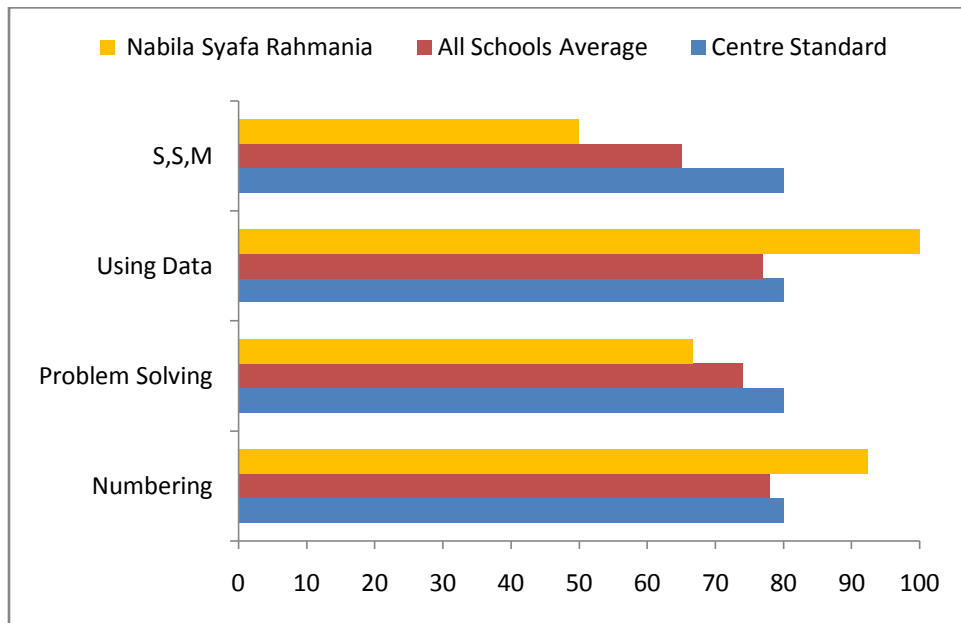
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
Institute  
Director,

Dr. Suprihadi Saputro, S.Pd., M.Pd.

Student Name : Naomi Aqira Putri Kinasih

Reg. Number : 0585

Examination : Centre Diagnostic Progression Test (CDPT)

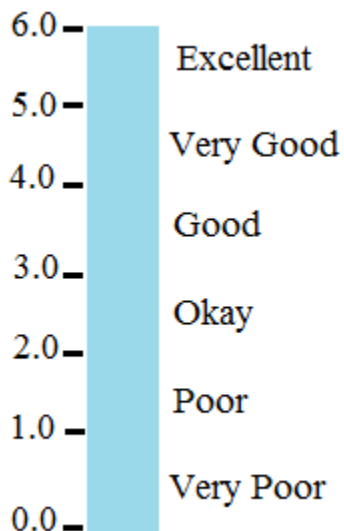
Period : January Session Year 2012

### Summary report

This table shows the overall performance

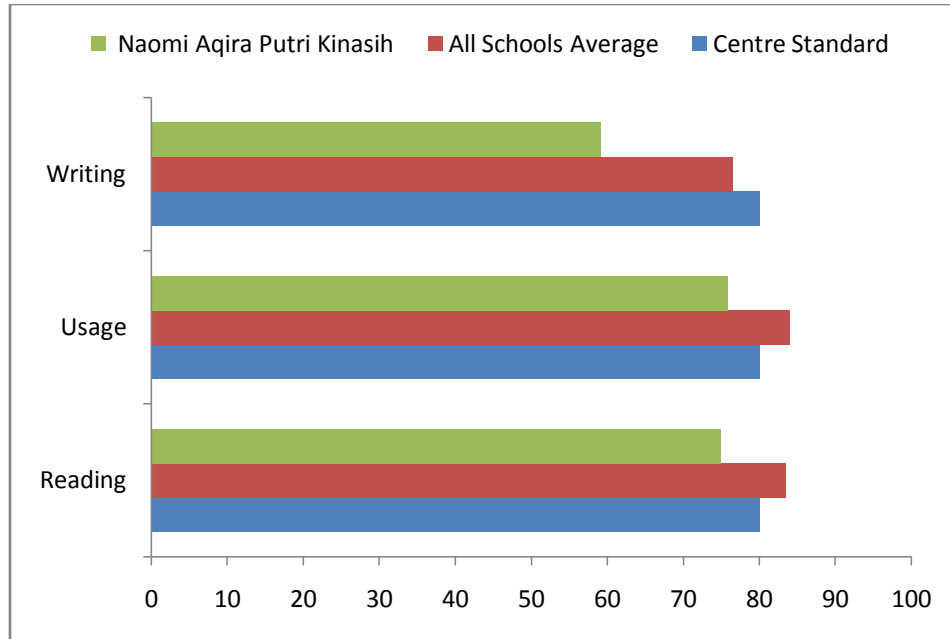
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 4 (69%)					
Science	1 - 4 (68%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:

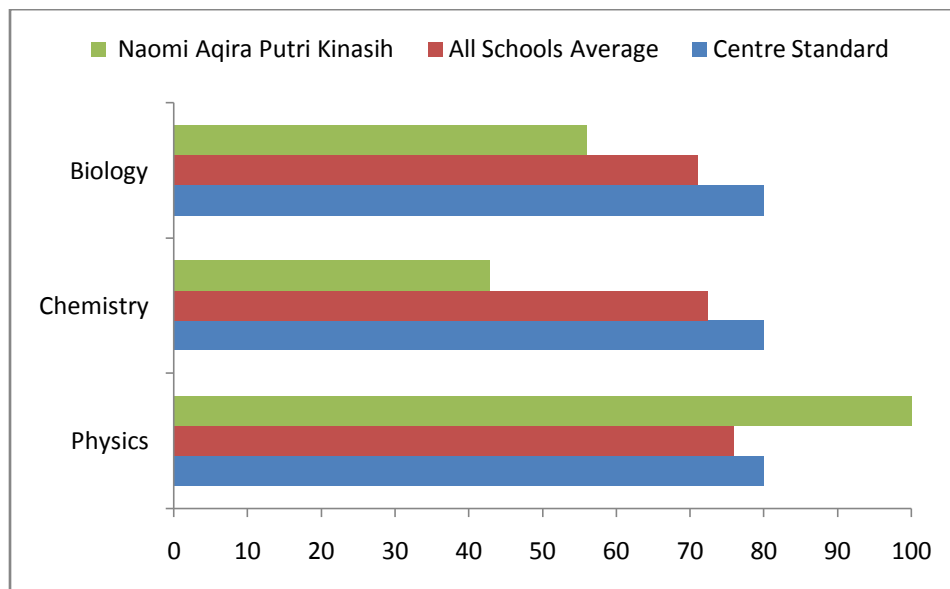


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

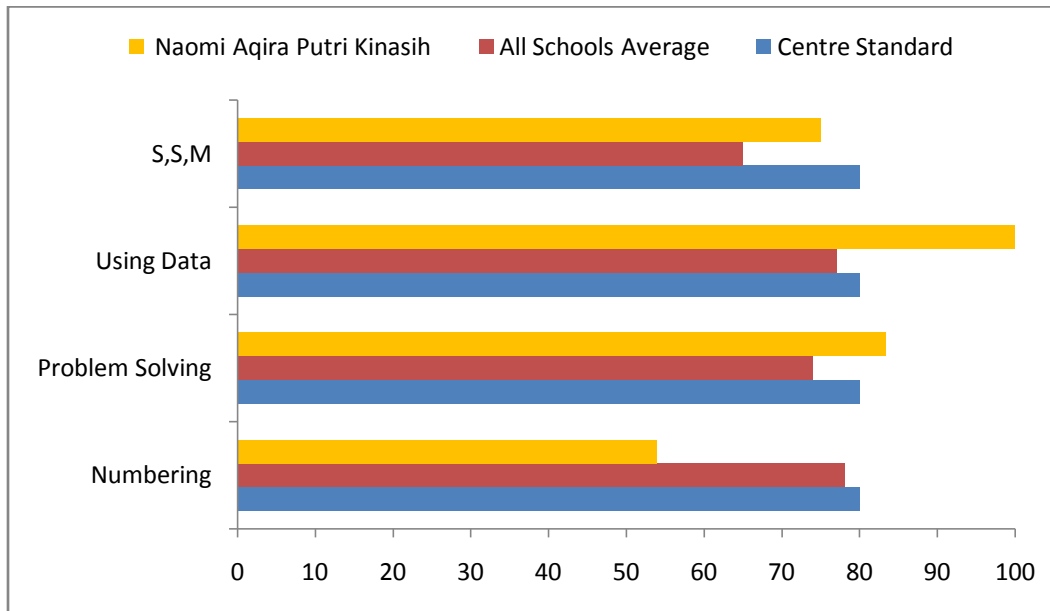
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2011  
Teacher Training and Education Development  
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Student Name : **Naura Nabila Muttaqin**

Reg. Number : **0587**

Examination : **Centre Diagnostic Progression Test (CDPT)**

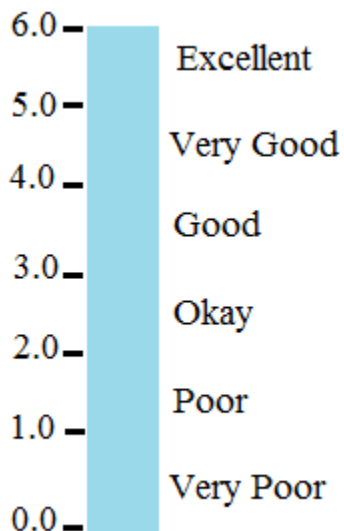
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

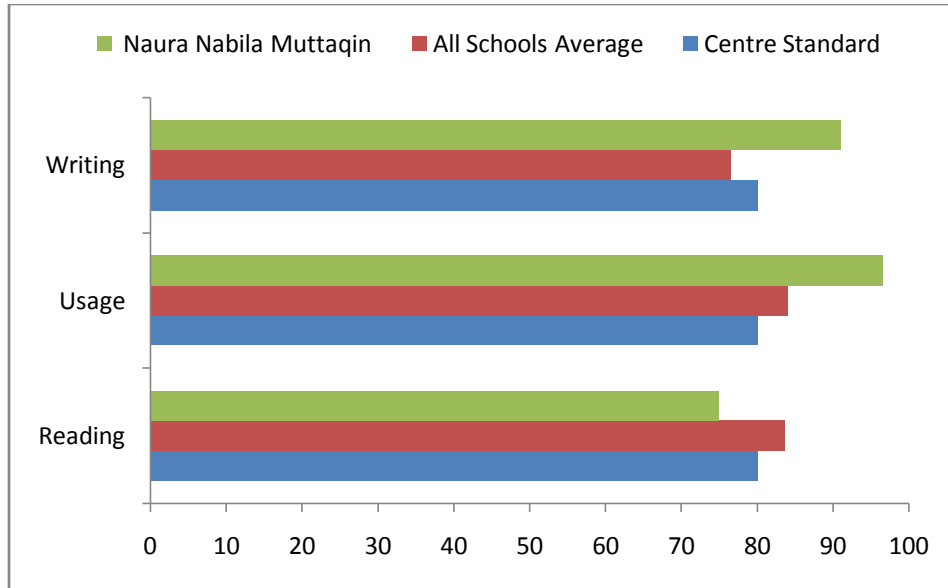
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (92%)					
Science	1 - 5 (84%)					
Mathematics	1 - 5 (87%)					

This is what the score mean:

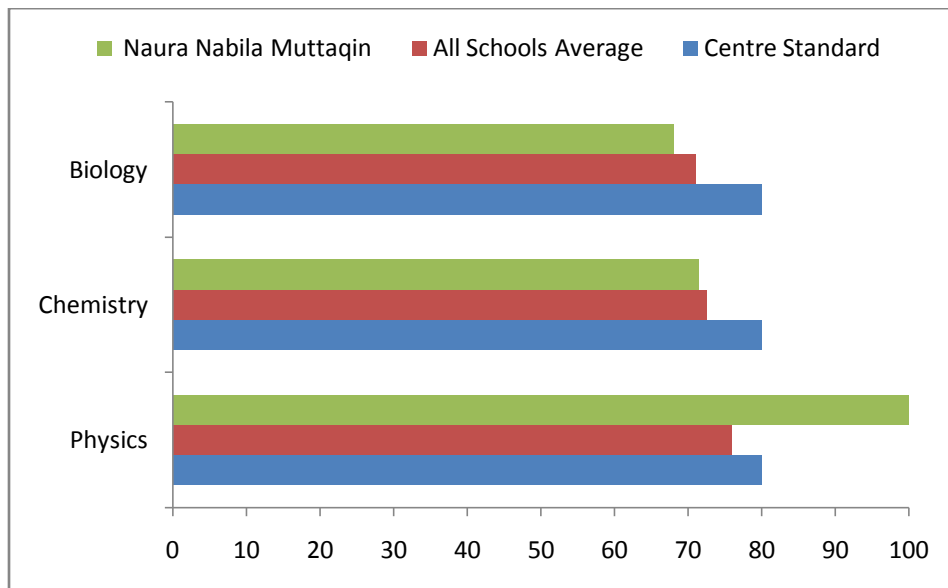


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

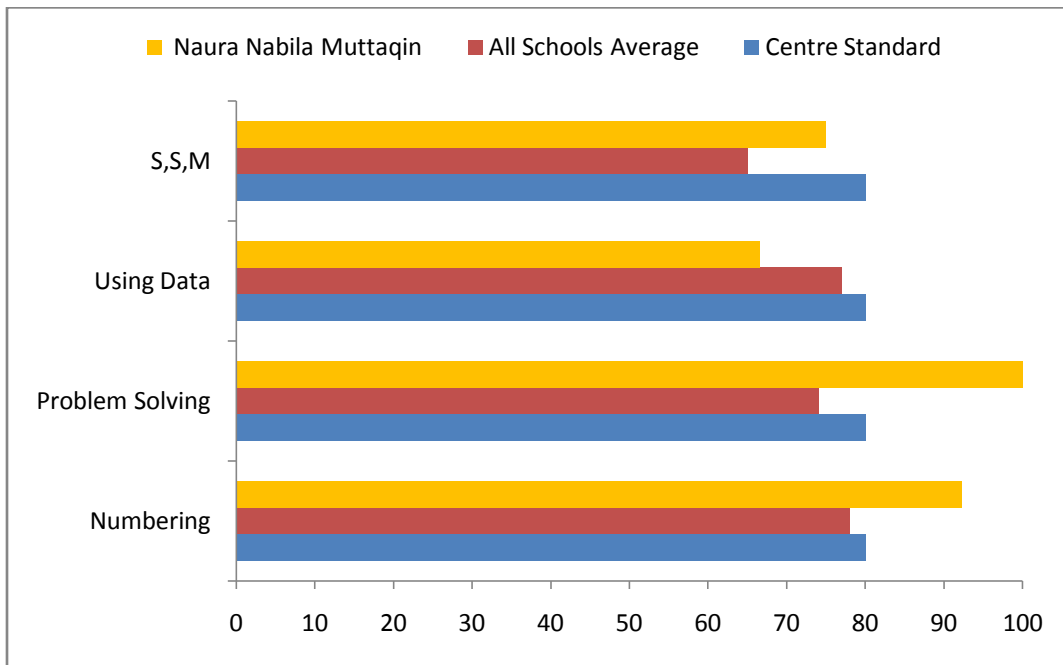
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
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Director,

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Student Name : Pradipta Farel Arrizqi

Reg. Number : 0589

Examination : Centre Diagnostic Progression Test (CDPT)

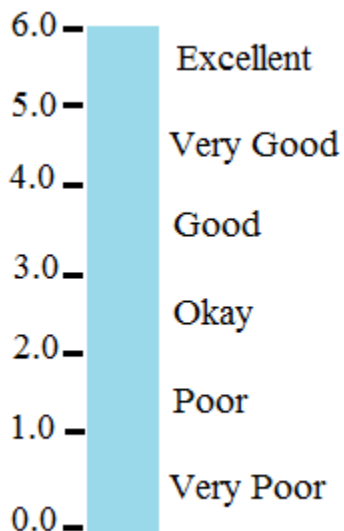
Period : January Session Year 2012

### Summary report

This table shows the overall performance

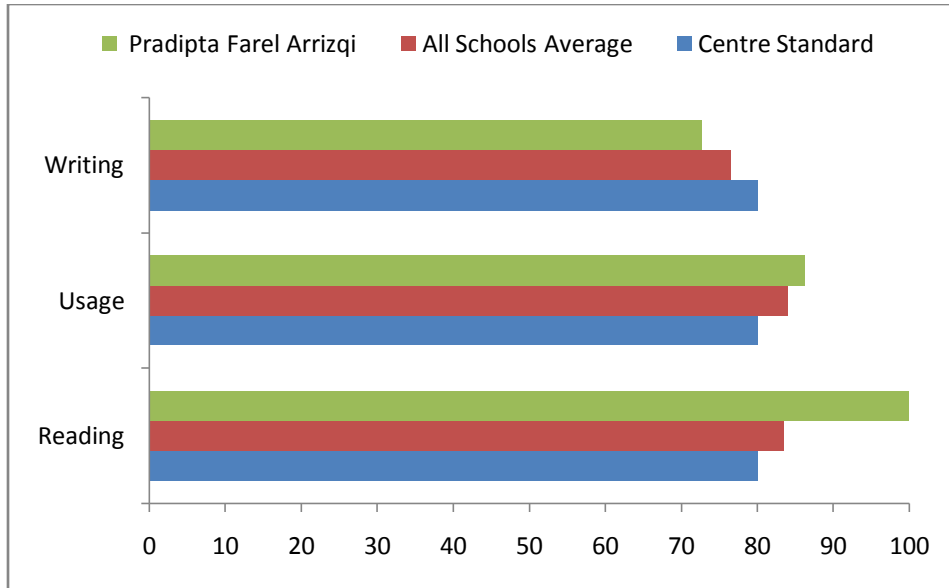
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (83%)					
Science	1 - 5 (78%)					
Mathematics	1 - 4 (70%)					

This is what the score mean:

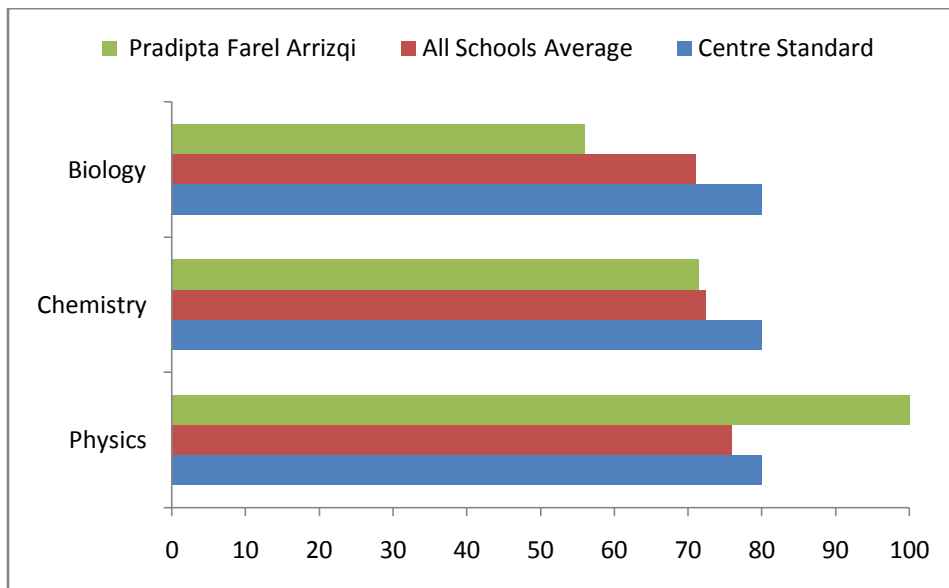


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

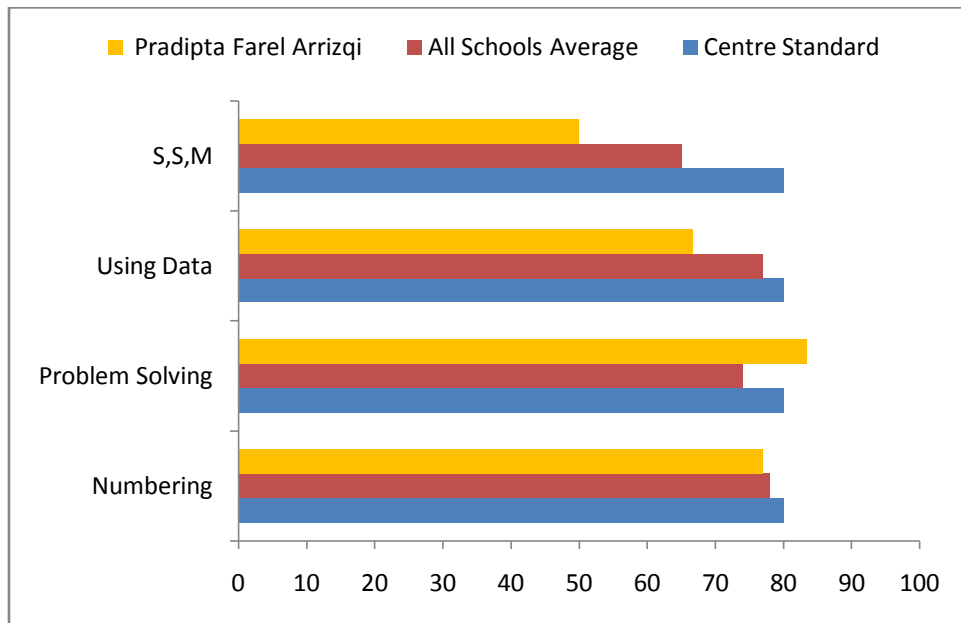
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2011  
Teacher Training and Education Development  
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Student Name : **Reyvan Wikra Baskara**

Reg. Number : **0592**

Examination : **Centre Diagnostic Progression Test (CDPT)**

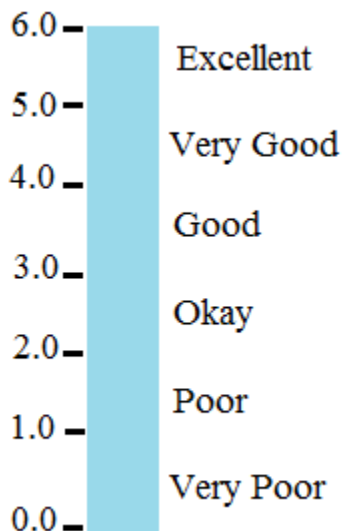
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (78%)					
Science	1 - 4 (64%)					
Mathematics	1 - 4 (73%)					

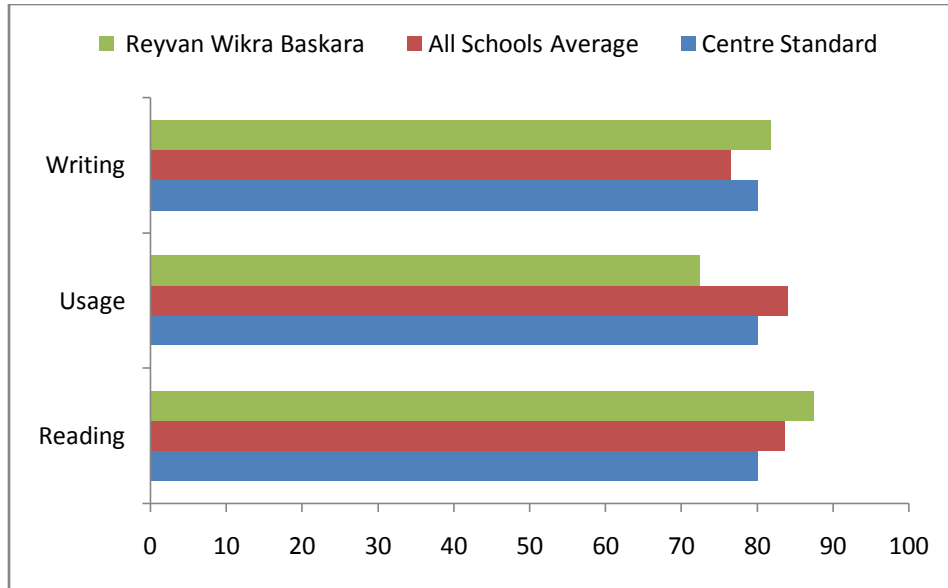
This is what the score mean:



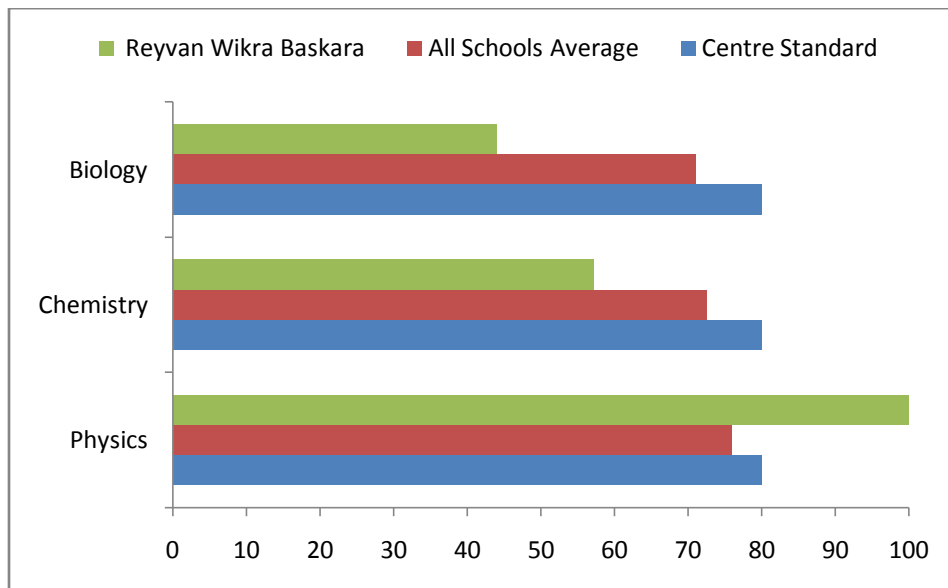


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

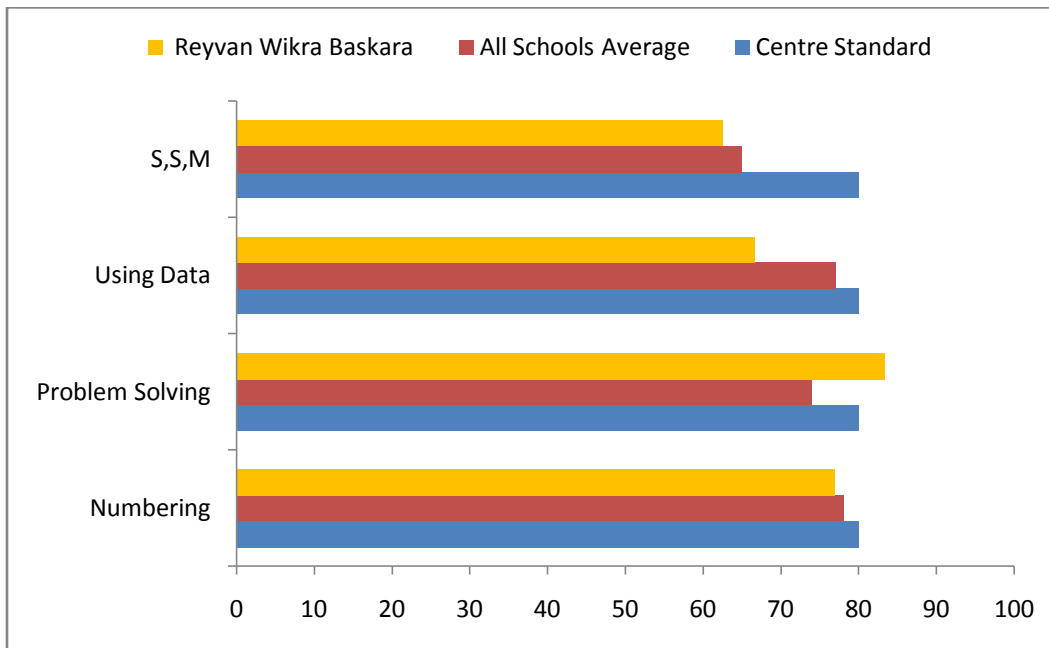
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Malang, March, 8<sup>th</sup> 2012  
Teacher Training and Education Development  
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Student Name : **Tamara Nur 'Aini**

Reg. Number : **0596**

Examination : **Centre Diagnostic Progression Test (CDPT)**

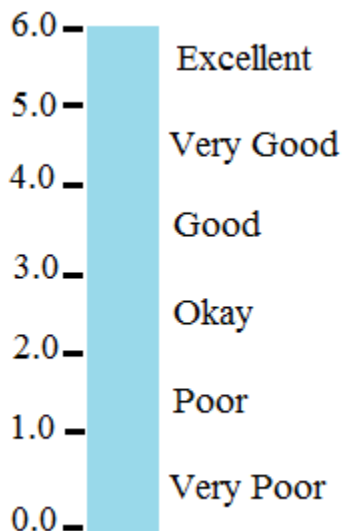
Period : **January Session Year 2012**

### Summary report

This table shows the overall performance

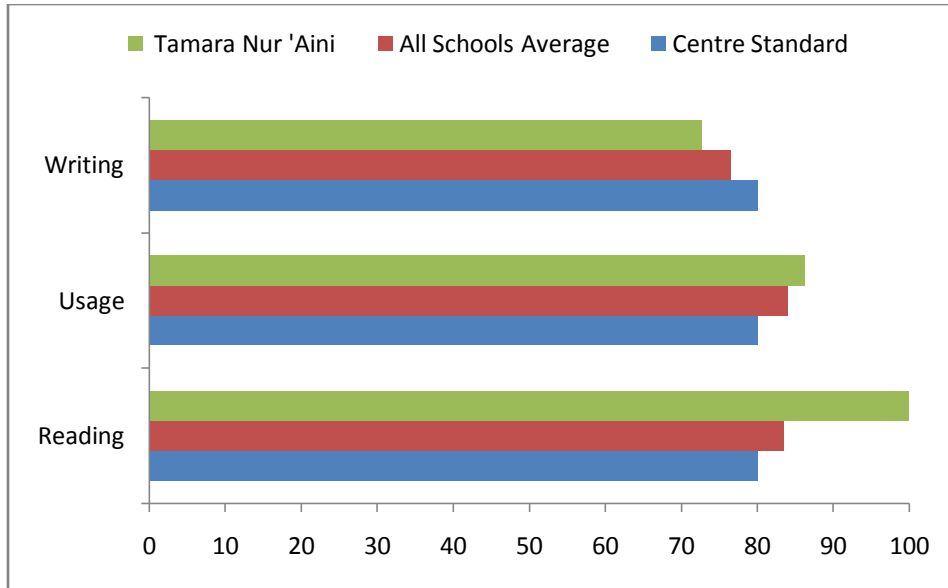
Stages/Subjects	Stages					
	I	II	III	IV	V	VI
English	1 - 5 (83%)					
Science	1 - 5 (80%)					
Mathematics	1 - 5 (83%)					

This is what the score mean:

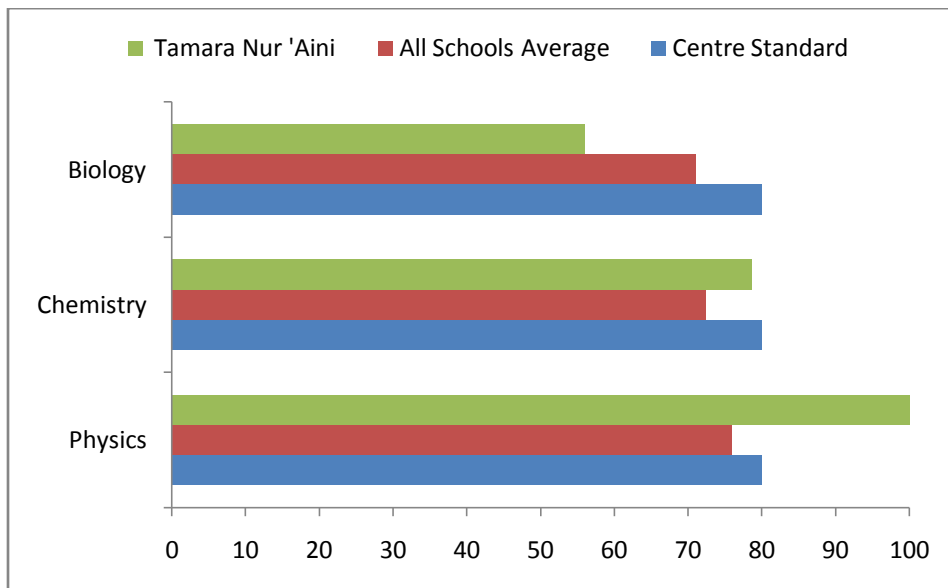


The following graphs show performance in Stage 1 Centre Diagnostic Progression Tests compared to current groups

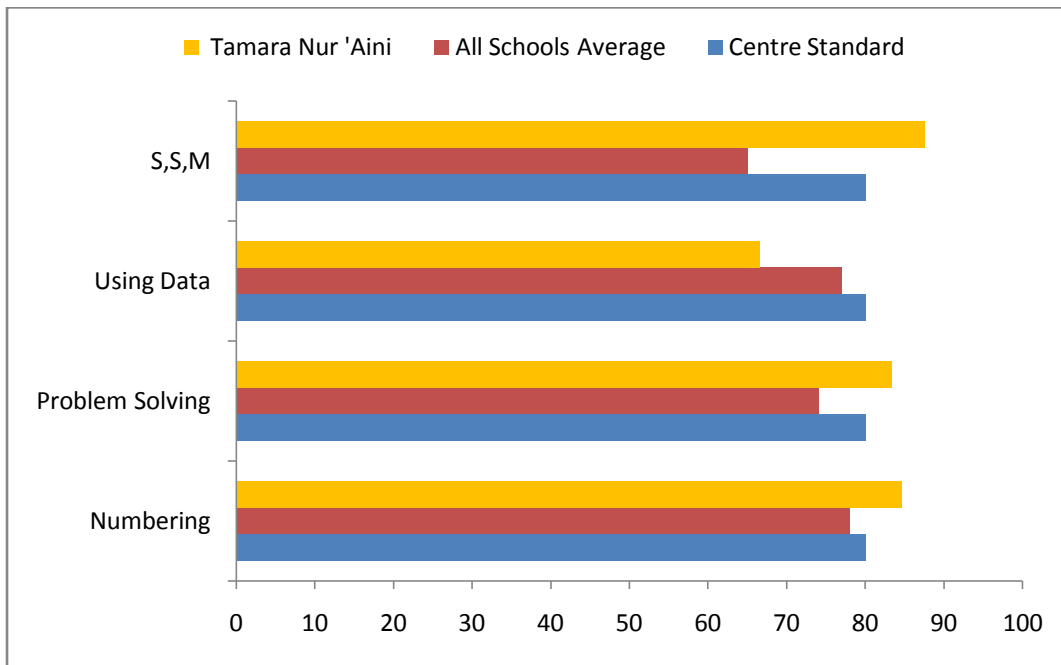
### Results for English



### Results for Science



## Results for Mathematics



### Note

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Human body consists of several parts. Name part of body below.



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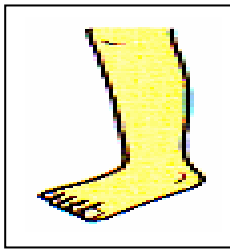


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1. Each part of body has different function. Match the part of body below with their function.



To listen



To breath



To walk

[3]

2. Tick (✓) the picture that show children keeping their body clean



Brush the teeth



No washing hair



Take a bath

[2]



3. There are many kinds of living things in the world. Living things have characteristics. Underline characteristics of living things below.

**Breathe**

**not move**

**Reproduce**

**not grow**

[2]

4. Classify the following things into living things and non-living things.

Write down in the box below.



Balloons



Car



Coconut



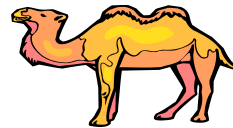
Broom



Grape



Helicopter



Camel



Boy

Living things	Non Living things

[4]

5. How to keep our body healthy and strong? Write two ways.

1.....

2.....

[2]

6. Healthy food is a kind food that contains a lot of nutriens.

a. Name 2 healthy foods.

1.....

2.....

[2]

b. Name two function of healthy food for us.

1.....

2.....

[2]

7. Clean water has many functions for our body to grow healthy.

Give 2 ticks (✓) to the correct sentences below.

**Clean water has color.**

**Clean water for cooking.**

**Clean water has no smell.**

**Clean water make our body itchy.**

[2]

8. Creature needs air for stay alive.  
Mention 2 functions of air in our daily life.

1.....

2.....

[2]

9. Circle the things below that need air to stay alive.



[2]

10. Give tick (✓) to the appropriate statements with healthy house.

Yes No

There are windows

There is no rubbish

There is rubbish bin

There is no plant

There are flies

[3]

11. Sheila activities are dance, studying, and playing that makes her body tired. She wants to take a rest. Name two (2) take a rest for health.

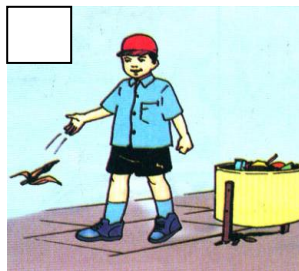
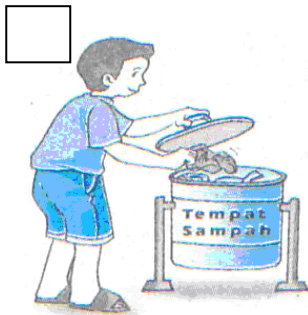
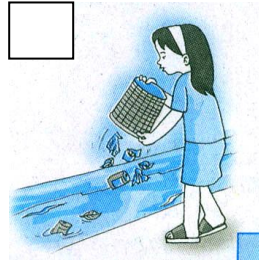
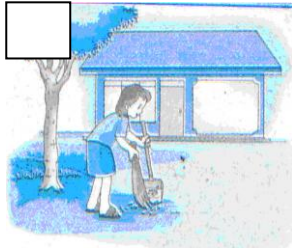
.....

.....

[2]

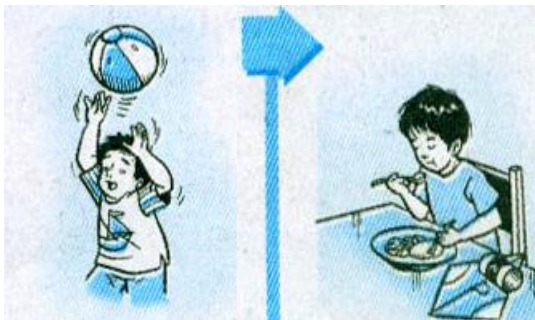


1. Give 3 ticks (✓) to the picture that show how to take care the environment.



[3]

2. Dion playing foot ball in the yard, after playing he eats.



To make his body healthy, before and after eats he must

..... and eat .....

[2]

3. Rubbish is classified into 2 groups.

Give two ticks (✓) the correct answer

Inorganic rubbish

Rubbish bin

Organic rubbish

Plastic rubbish

[2]

4. Rubbish divided into organic rubbish and inorganic rubbish.

Circle two organic rubbish below.



[2]

5.



Yuana planting rose plant and orange plant in the garden.

She hopes it can grow well. How to take care plants?

.....

.....

[1]

6. The shape of thing can be changed. How you change the shape of things.



.....

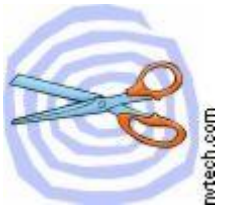
.....

[2]

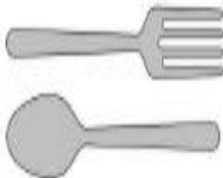
7. The things have many uses.  
Match things below with the way to use them.



To cut



To eat



To call someone

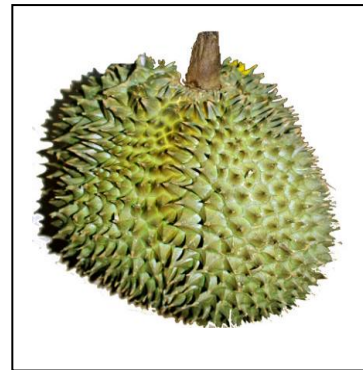
[3]

8. Draw a line to match the thing with characteristic.

Smooth ○



Rough ○



[3]



<b>NAME</b>	
-------------	--

<b>ENGLISH</b> <b>STAGE 2</b>  <b>60 MINUTES</b>
---

Write your name in the answer sheet

Answer all the questions in the answer sheet  
The number of marks is given in brackets [ ] of the end of each questions or part questions.

Read the text carefully.

### The Five senses

You can touch and feel with your hand.  
Some things are soft. Some things are hard.  
Some things are cold. Some things are hot.

You can hear with your ears.  
Some sounds are loud.  
Some sounds are quiet.  
Some sounds are very beautiful.

You can taste with your tongue.  
Some things are nice.  
Some things are nasty.

You can smell with your nose.  
Some smells are nice.  
Some smells are bad.

You can see with your eyes.  
In the daytime we can see lots of things.  
We can see colors.  
Some things are beautiful.  
Some things are ugly.

Complete the sentences with words from the boxes.

1. You can .....with your .....
2. You can .....with your.....
3. You can .....with your.....
4. You can .....with your.....
5. You can .....with your.....

**Smell sees taste**  
**Hear touch**

**Tongue ears hands**  
**Eyes nose**

6. Make sentences based on the table below.

Name of students	Like	Do not like
Anthony	Swimming	Playing football
Rima	Singing	Dancing

- a. ....
- b. ....

7. Match these questions and their answers.

- | Question                    | Answer              |
|-----------------------------|---------------------|
| a. What is the day today?   | a. my brother       |
| b. How do you go to school? | b. by motorcycle    |
| c. When is your birthday?   | c. today, is Monday |
| d. Who is that?             | d. next week        |
| e. Where is he?             | e. in his room      |

8. Underline the correct answer.

a. Andi studies hard (but, because) he wants to pass the exam.

c. She is sick (but, because) she comes to school.

d.

9. Fill the blanks with appropriate words.

a. I am hungry. I want to.....

b. I am sick. I want to.....

10. If you want to go to the bathroom. How do you say to the teacher?

.....

11. Write two good habits at school.

i. ....

ii. ....

12. Write a sentence using “ always”.

.....

13. Underline the correct verb.

a. Budi (perform-performs) wonderfully on the stage.

b. They ( sing-sings) loudly.

14. Write down the time sequence.

..... I pour the hot water

..... I put sugar and tea bag in the glass.

..... I stir the water.

..... I boil the water.

15. Rewrite these sentences using the correct punctuation.

a. we will have an exam on Wednesday.

.....

b. maya brings book pencil ruler and eraser to school.

.....

16. How many characters are there in Sponge Bob?

.....  
.....  
.....  
.....  
.....  
.....

Where is the story setting of the story?

Place : .....



.....

.....

.....

.....

.....

.....

[18]

- Text Structure [4]
- Sentence structure [4]
- Audience [4]
- Purpose [4]

**Name** \_\_\_\_\_

Progression test  
Stage 2  
Mathematics paper 3 : Answer sheet

1		
2		
3		
4		
5		
6		
7		
8		
9		
10		





Name	
------	--

Centre Progression test

Stage 2

Mathematics

Paper 1

45 minutes

Write your name in the space provided

Answer all the questions in the spaces provided in this booklet.

The number of marks is given in brackets [ ] at the end of each questions or part question.

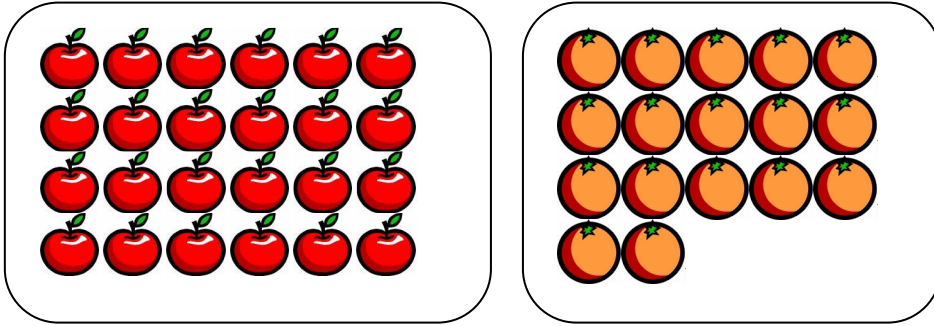
You should show all your working in this booklet.

You will need : pen, pencil, ruler

Calculators should not be used

Total Mark

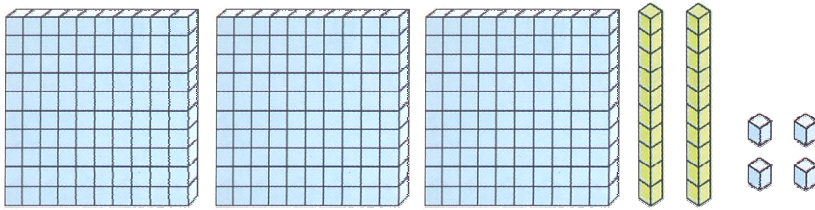
1. Compare the number of the object.



Amount of apples are .....than amount of oranges.

..... [ 1 ]

2.



How many box in the picture above.

..... [ 1 ]

3. Fill in the blank with > , < , or =

289 ..... 298

..... [ 1 ]

4. Which one the smallest number.

281    217    289    286

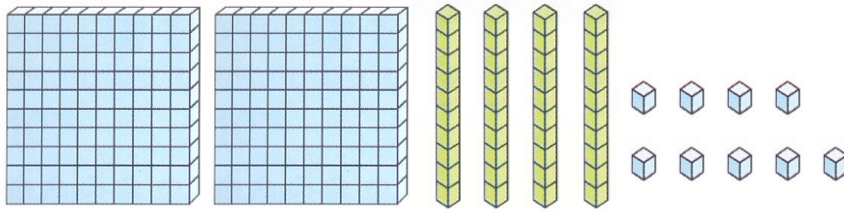
..... [ 1 ]

5. Arrange the number from the smallest.

429    432    433    431    434    430

..... [ 1 ]

6.



How many hundreds in the picture above?

..... [ 1 ]

7. 200 more than 80 are ....

..... [ 1 ]

8. Write 448 in words.

..... [ 1 ]

9. Fill in the missing number.

425    430    ...    440

..... [ 1 ]

10. 846    946    1046    1146

The rule is number pattern ...

..... [ 1 ]

11. 53    48    61    75

Which one the even number?

..... [ 1 ]

12. Write into additional form of hundreds, tens and ones.

408 = ..... + ..... + .....

..... [ 1 ]



18. Do the problem below.

$$\begin{array}{r} 155 \\ 79 \\ \hline \end{array} \quad -$$

.....

$$\begin{array}{r} 356 \\ \hline \end{array} \quad +$$

.....

..... [ 1 ]

19. There are 148 tennis balls in a box.

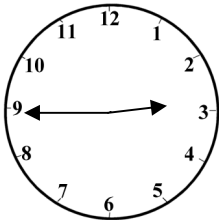
Melly puts in 12 more.

Zarra take 8 balls from the box.

How many balls in the box now?

..... [ 1 ]

20. Write the time in words.



..... [ 1 ]

21. A teacher arrives at 07.00

She works until 13.00

How long is she at school?

..... [ 1 ]

22. The children watching movie at quarter to five.

The movie finishes in one hour.

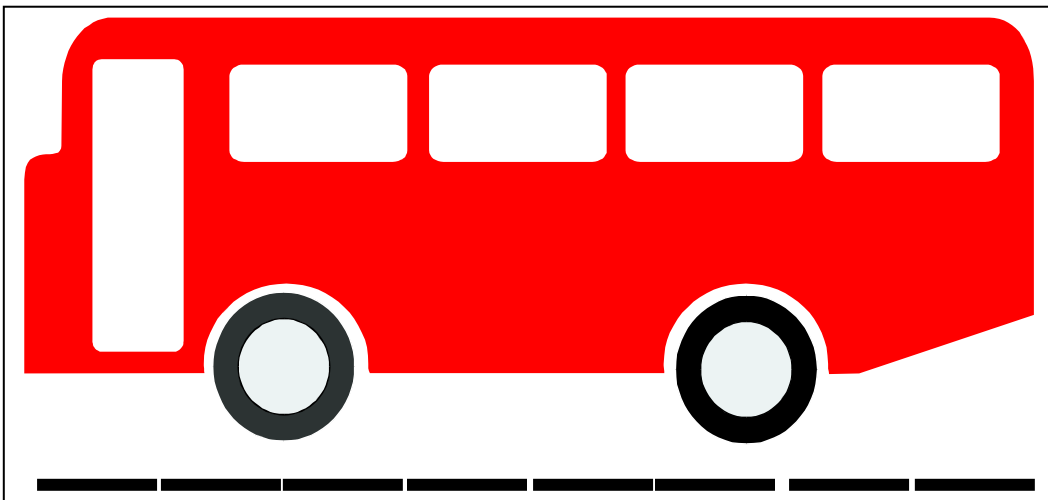
What time did the movie end?

..... [ 1 ]

23. Which one is longer, train or bus?

..... [ 1 ]

24. Measure the length if 1 m = 



The length of bus is ... m

..... [ 1 ]

25. From the data below, which is the heaviest ?

Object	Mass (g)
Bananas	650 gram
Carrot	350 gram
Cherry	280 gram
Chili	200 gram
Corn	550 gram

..... [ 1 ]

26. Circle the object which have less volume.



..... [ 1 ]

27. Wati uses 30 liter of water to wash some plates.

Nana uses 15 liter of water.

How much more water does Wati use than Nana?

..... [ 1 ]

28. The mass of a lobster is 356 g.

The mass of a chicken is 220 g more than the lobster.

What is the mass of the chicken?

..... [ 1 ]

29. Jennifer buys ribbon 3 metres.

She use 145 centimetre to wrap the gift.

How long is the ribbon she has left?

..... [ 1 ]

30. Robert has 1 kg of apples.

After he eaten 2 apples the mass of apples become 750 g.

What is the mass of apples that he has been eaten?

..... [ 1 ]



No	Name	
----	------	--

Centre Progression Test Stage 2	
Mathematic Paper 2	35 minutes

Write your name in the space provided.

Answer **all** the questions in the spaces provided in this booklet.  
The number of marks is given in brackets [ ] at the end of each question or part question.  
You should show all your working in this booklet.

You will need: pen, pencil, ruler.  
Calculators should not be used.

1. John reads a books.

On Friday she reads 17 pages.

On Saturday she reads 12 pages.

How many pages does she read altogether on Friday and Saturday ?

..... [1]

2. Rebecca's book 50 pages altogether.

On Saturday He has 17 pages left to read.

How many pages has he read so far?

..... [1]

3. Write the missing number!

$$51 = 25 + \dots + 8$$

..... [1]

4 . Match these numbers use line

24

27

28

30

**ODD**

**EVEN**

5. Fill in the missing numbers.

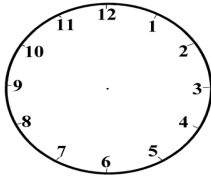
$$15 + 24 = 11 + \square + 2$$

..... [2]

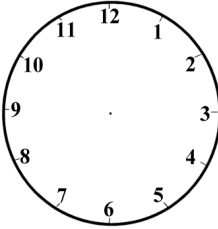
..... [1]

6. Draw in the the missing hour and minute hand.

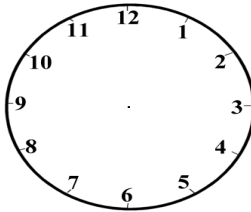
it is half past two



It is quarter past four



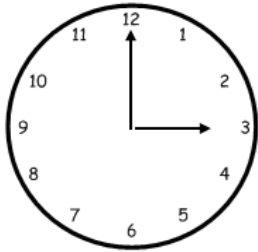
It is twenty past eight



7 What time is it?

.....

[3]



It's .....

8. Here are 2 lines.

A 

B 

Which line is shorter?

.....

[1]

.....

[1]

9. Maya has 56 pencils.  
He loses 21 of them.  
How many pencils does Maya have left?

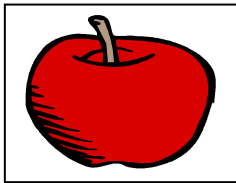
Write down your working out

.....pencils [2]

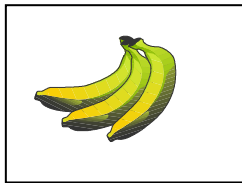
10. Circle the Even numbers.

11 16 18 20 24 28 22 32

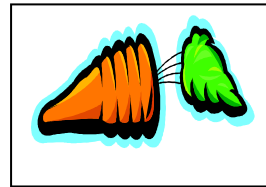
11. Mass of



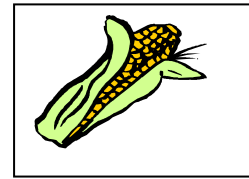
**200 gram**



**300 gram**



**100 gram**



**250 gram**

- a) The difference between the mass of apple and corn is ...  
gram
- b) The difference between the mass of apple and carrot is ...  
gram
- c) The difference between the mass of apple and corn is .....  
gram
- d) The total mass of apple and corn is ..... gram
- e) The total mass of apple and carrot is ..... gram

.....

[5]

12. The volume of water in the tank is 16 l. The volume of water in jug is 9 less than the tank. What is the volume of water in the jug?

The volume of water in the jug is .....l.

..... [1]

13. Maya mixed 5 l of water with 9 l of orange syrup to make drinks for her friends. How many liters of drinks did she make? She made ..... l of drinks.

..... [1]

14. Complete the pattern



Answer ..... [1]

15.

A							
B							
C							

(a) Which is the longest bar?

Answer ..... [1]

(b) What is the total length of the 3 bars?

Answer ..... [1]

Centre Progression test  
Stage 2

Mathematics

Paper 3

20 minutes

**Teacher Instructions**

1. Children should only have pens and an answer sheet. They are not allowed any other mathematical equipment, an eraser or paper for working out.
2. The administrator (teacher) will need a watch or a clock that tells the time accurately in seconds.



Read the text in italics slowly to the students:

Listen carefully to these instructions. You will not have the opportunity to ask questions during the test.

You will be asked 10 questions. On your answer sheet there is an answer box for each question. You should work out your answers in your head. Do not try to write down your calculations because this will take up too much time. For some of the questions, important information is already written down for you on the sheet.

Each question will be read aloud twice. You will then have time to work out your answer. If you don't know the answer to a question, leave it and wait for the next question. If you want to change your answer, put a cross through your first answer and write your new answer nearby.

You will have 5 seconds to answer each question. Each question is worth half a mark.

Do you have any questions about the test?  
(Begin the test.)

Write your name in the box at the top of your answer sheet.  
Now we are ready to start the test.



(Read each question 1-10 aloud twice leaving the appropriate amount of answering time after the second reading.)

1. What is 22 take away 2?
2. Work out 9 multiplied by 4.
3. John has 9 pencils and Rebecca has 8 pencils.  
How many pencils they have altogether?
4. What is 18 times 10?
5. Subtract 8 from 42.
6. 20 children each eat 2 apples.  
How many apples are eaten altogether?
7. Subtract 6 from 32.
8. 25 toys are shared equally between 5 children  
How many toys each child receive?
9. What is double 7?
10. What is 12 add 2?

**Now put down your pen. The test is finished.**







1. a) Classify the animals below into vertebrate and invertebrate animals.

Fish                      beetle                      grasshopper                      turtle  
Worm                      Lizard                      chicken                      mosquito

Write your answer on the following table!

Invertebrate animals:
_____
_____
_____
_____

Vertebrate animals:
_____
_____
_____
_____

[8]

b) Underline the correct statement about reptile.

- Reptile has vertebrae.
- Reptile reproduced by giving birth.
- It's body covered by rough scale.
- It's body covered by feather .

[2]

c) Do all bird can fly?

\_\_\_\_\_

[1]

d) Ronaldo observes an animal that he finds in the garden.

The animal has wings, 6 legs, antenna and reproduces by laying egg. Can you guess what animal is it?

Circle the correct answer!

Amfibi                      Bird                      Insect

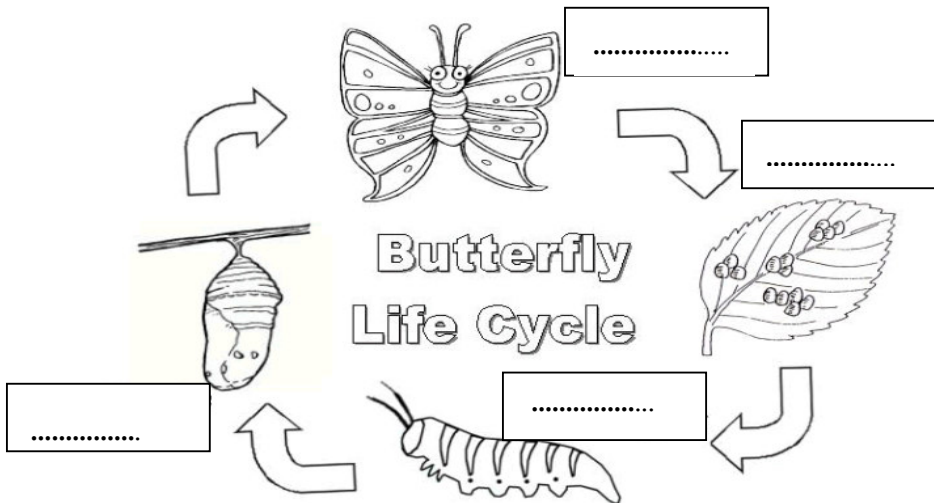
[1]

2. Bird can move by walking and flying. Now, explain how these animals move?

- Dolphin move by \_\_\_\_\_
- Frog move by \_\_\_\_\_
- Horse move by \_\_\_\_\_

[3]

3. Complete life cycle of butterfly below!

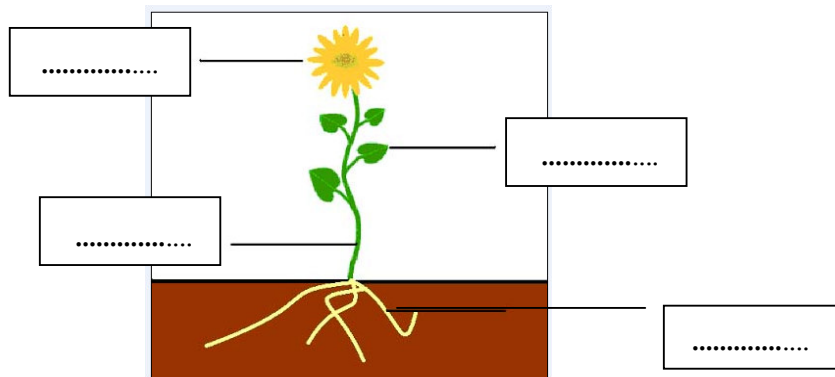


[4]

4. Animals need \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_ to stay alive.

[3]

5. a) Label the parts of plants on the following picture!



[4]

b) Which part of plant that has function to make food?

\_\_\_\_\_

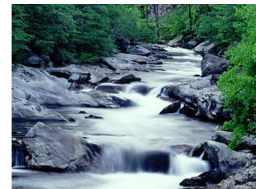
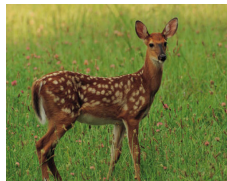
[1]

c) Plants need energy to make food. Where does energy come from?

\_\_\_\_\_

[1]

6. a) Match the animals below into with their habitat.



[4]

b) Write 2 plants that live in the desert.

\_\_\_\_\_

[2]

c) Can the penguins live in the grassland? Why ?

\_\_\_\_\_

\_\_\_\_\_

[2]

d) What animals that live in water and land habitat?

\_\_\_\_\_

[2]

7. a) Living things depend one another.

Flowers need bee for....

Circle the correct answer!

Food

Reproduction

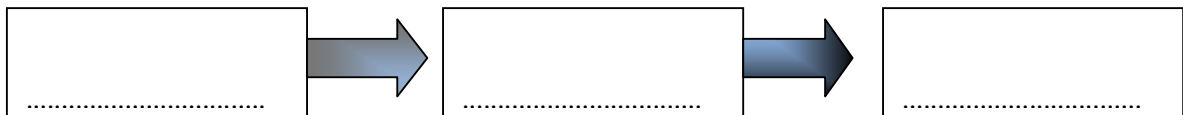
[1]

b) Arrange these following living things that show they need each other as food.

Caterpillar

Plant

Bird



[3]

**8. Some animals and plants are unbeneficial for human.**

**a) Mention 2 unbeneficial animals for human.**

Unbeneficial animals are \_\_\_\_\_  
\_\_\_\_\_

[2]

**b) Mention 2 beneficial plants for human.**

Beneficial plants are \_\_\_\_\_  
\_\_\_\_\_

[2]

**9. a) There are three states of material. They are solid, liquid and gas. Give two examples of each state.**

Solid
_____
_____

Liquid
_____
_____

Gas
_____
_____

[6]

**b) Can you guess what material is it?**

• Has color, smell and fixed shape.

• We can see and touch it.

It is \_\_\_\_\_

• Has no color and no fixed shape.

• We can feel and smell it

• We **can't** see and touch it.

It is \_\_\_\_\_

• Has color, smell and other have not.

• Has no fixed shape.

• We can see and touch it.

It is \_\_\_\_\_

[3]

10. a) If water is heated, it will change into \_\_\_\_\_

[1]

b) It process called \_\_\_\_\_

[1]

c) Sally puts an ice cream on the table and the air is hot now.  
What will happen to ice cream after an hour (60 minutes)

It will change into \_\_\_\_\_

[1]

d) It process called \_\_\_\_\_

[1]

11. How to separate these following mixture?  
(you can give more than one way).

a) Milk powder and corns

\_\_\_\_\_  
\_\_\_\_\_

[3]

b) Water and marbels

\_\_\_\_\_  
\_\_\_\_\_

[3]

c) Iron filling and rice

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[3]