

Breakthrough Workout Collection – list of problems and languages

The Breakthrough Workout collection of very easy puzzles for use in ordinary classroom teaching was created in 2015 by [Sarah Campbell](#) before she moved to Sweden. The following list allows you to move quickly to any particular unit by **clicking its name**. You can return to the list by **clicking the small blue arrow** at the top of the unit. In both cases you need to hold down Ctrl while clicking.

Problem Name	Main Language
Adjectives and Articles	French
C or V?	English
Codebreaker	English
Colourless Green Ideas	English
Comparing Germanic Languages	Various
Comparing Romance Languages	Various
Counting in Bambara	Bambara
Creating New Words in Zulu	Zulu
Discovering Cleopatra	Egyptian Hieroglyphics
Exploring the IPA	English / International Phonetic Alphabet
French Subjunctive Verbs	French
Illformed Sentences	English
Japanese Verb Forms	Japanese
Loan Words	Various inc Finnish
Pig Latin	English
Similarities and Differences in some European Languages	Various including Basque
Telling the Time in Estonian	Estonian
Tennis Shmennis	English
To be or to be	Spanish
Tok Pisin	Tok Pisin
Translating Abma	Abma
Using Hiragana	Japanese
Yodaspeak	English



(1) What language(s) does this problem involve?

French

What is the aim of this problem?

To work out the rules for saying that a country is beautiful in French, and for saying that you live in a particular country.

(2) Background Information

Nouns are people, places, objects and ideas. In French, nouns are divided into two categories (called 'genders'). The genders are 'masculine' and 'feminine'.

Nouns have different words for *the* depending on which gender they are. For masculine nouns, the word for *the* is *le*. For feminine nouns, the word for *the* is *la*. If a noun begins with a vowel, the word for *the* is *l'*.

Adjectives are used to describe nouns. Adjectives also change depending on whether the noun they are describing is masculine or feminine.

In French, country names have *the* in front of them.

(3) Data and Instructions

Read the French sentences below and look for patterns. Then complete the exercises on the next page.

Le Maroc est beau. <i>au Maroc</i>	Morocco is beautiful. <i>in Morocco</i>
La Chine est belle <i>en Chine</i>	China is beautiful <i>in China</i>
La France est belle <i>en France</i>	France is beautiful <i>in France</i>
Le Portugal est beau <i>au Portugal</i>	Portugal is beautiful <i>in Portugal</i>
L'Autriche est belle <i>en Autriche</i>	Austria is beautiful <i>in Austria</i>
L'Afghanistan est beau <i>en Afghanistan</i>	Afghanistan is beautiful <i>in Afghanistan</i>
Le Canada est beau <i>au Canada</i>	Canada is beautiful <i>in Canada</i>
Le Brésil est beau <i>au Brésil</i>	Brazil is beautiful <i>in Brazil</i>

	L'Iran est beau <i>en Iran</i>	Iran is beautiful <i>in Iran</i>	
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4) Tasks

a) Fill in the missing words.

Le Danemark est _____. J'habite _____ Danemark. (*Denmark is beautiful. I live in Denmark*)

La Tunisie est _____. J'habite _____ Tunisie.

L'Écosse est belle. J'habite _____ Écosse.

L'Uruguay est beau. J'habite _____ Uruguay.

b) Can you explain when *au* used for *in* before the name of a country, and when is *en* used?



(1) Solutions and Markscheme

a) Le Danemark est BEAU. J'habite AU Danemark. (*Denmark is beautiful. I live in Denmark*) **1 mark**

La Tunisie est BELLE. J'habite EN Tunisie. **1 mark**

L'Écosse est belle. J'habite EN Écosse. **1 mark**

L'Uruguay est beau. J'habite EN Uruguay. **1 mark**

b) *Au* is used before masculine country names except those beginning with a vowel. **1 mark**

En is used before feminine country names, and before masculine country names (or 'all country names') beginning with a vowel. **2 marks**

TOTAL MARKS = 7

(2) Commentary

Pupils are likely to be successful here if they are first confident with the notions of grammatical gender and articles, and can then initially make the link between 'le' / 'beau' / 'au' and 'la' / 'belle' / 'en'.

They will further be successful if they can recognise that, regardless of gender, 'en' will be used if the name of a country begins with a vowel, so they will need to look carefully at word level to spot the more detailed aspects of the rule.

Use of the apostrophe with words beginning with a vowel could be an interesting point for further discussion.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- How many words for 'beautiful' can you find in the French sentences?
- Why do you think there is more than one word for 'beautiful'?
- Is there any pattern to when 'beau' is used and when 'belle' is used? Look at the article (word for 'the') – does that help?
- How many different ways are there for saying 'in' in these French sentences?
- Why do you think there is more than one word for 'in'?
- Is there any pattern to when 'en' is used and when 'au' is used? Can looking at the article help?
- Does the article *always* help us know whether to use 'en' or 'au'?
- Find examples of when it doesn't help – what do those words have in common?
- Try and express the rules by saying out loud. Start your sentence with "We use 'belle' if..." etc
- (Extension) Do we have grammatical gender in English / your home language?
- (Extension) Do you think grammatical gender is useful? Why? Why not?



(1) What language(s) does this problem involve?

English

What is the aim of this problem?

To explore basic phonological structure in terms of consonants and vowels.

(2) Background Information

When you write a word, you write a string of **letters**; but when you say it, you say a string of **sounds**. Sometimes the letters and sounds line up neatly; for instance, *cat* has three letters and three sounds, and *bandit* has six of each. But they often don't match because the number of letters is different from the number of sounds. For example, *though* has six letters but only two sounds.

(3) Data and Tasks

Q.1. Your first task is to look at the words in Table 1 and count the letters and sounds. **Write these numbers** in the second and third columns, following the model of the word *though*. If you're unsure about the number of sounds, wait till you've done later questions and then come back to this one.

word	letters	sounds
cat	3	3
bandit	6	6
though	6	2
six		
honest		
ghost		
unit		

Table 1

Q.2. Most words where sounds and letters don't match have more letters than sounds, but one of the words in Table 1 is the other way round. Find it and **circle it**.

Q.3. Sounds belong to two classes: **consonants** and **vowels**. For instance, *cat* contains a consonant, then a vowel, then another consonant. You may have noticed (or been told) that we say *a* before a consonant (as in *a pear*) but *an* before a vowel (as in *an apple*). This gives you an easy way to tell whether a word begins with a consonant or with a vowel, so look at the list of words in Table 1 and **put a V** (for 'vowel') next to any word that begins with a vowel. (Remember: think pronunciation, not spelling!)

Q.4. The words from Table 1 are shown again in Table 2, together with a few other words. Your next job is to classify all the individual sounds in Table 2 as consonants or vowels, represented as C or V. To do

this, **write a string of Cs and Vs** to show the sounds in the word; so *cat* is CVC and *bandit* is CVCCVC. Ignore the difference between short vowels (like those in *cat* and *bandit*) and long ones like the one in *though* - just treat them all as single vowels.

Spelling	sounds
cat	CVC
bandit	CVCCVC
though	CV
six	
honest	
ghost	
unit	
sixth	
straight	
Wednesday	
February	
thick	

Table 2

Q.5. English allows Cs to combine fairly freely, but there are limits.

- Which word in Table 2 **begins** with the longest string of Cs? Find it and **circle it**.
- Which word in the second table **ends** in the longest string of Cs? Find it and **underline it**.
- Now think of a possible word that ends in an even longer string of Cs. Write it in the blank row at the bottom of Table 2, together with a CV spelling:

(1) Solutions and Markscheme

Markscheme:

Q.1: One point for each correct answer (max = 8)

Q.2,3: 2 points each (max = 4)

Q. 4: One point for each correct answer (max = 10)

Q.5: 2 points

Q.6: 4 points

Maximum total: 28

Q.1-3.

word	letters	sounds
cat	3	3
bandit	6	6
though	6	2
six	3	4
honest v	6	5
ghost	5	4
unit	4	5

Q.4-5.

Spelling	sounds
cat	CVC
bandit	CVCCVC
though	CV
six	CVCC
honest	VCVCC
ghost	CVCC
unit	CVVC
sixth	CVCCC
straight	CCCVC
Wednesday	CVCCCV
February	CVCCV or CVCVCV
thick	CVC

lengths / sixths / strengths

CVCCCC or CC....

(2) Commentary

The point of this problem is to get children to listen to what they actually say, and to see how different this can be from the spelling. In this, it builds on the phonological awareness that was so important when they were learning phonics in Year 1. It also introduces them to the idea of phonological structure and general rules (e.g. for the number of initial and final consonants).

- The examples generally have straightforward phonological structures, without any relevant regional or social variation.
- But some variation may emerge in the pronunciation of *February* - if so, it may be worth exploring in class to encourage careful listening.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Can you remember what you learned about grapheme-phoneme combinations, and digraphs, trigraphs and so on? That's what this problem is about.
- If you're not sure how a word is pronounced, just say it quietly to yourself and listen. You may be surprised by what you say! Don't assume that you pronounce every letter!



(1) What language(s) does this problem involve?

English

What is the aim of this problem?

To look at how ciphers rely on systems

(2) Background Information

You are on the trail of an international jewel thief, but you need to know where the next rendezvous with your informant from Kashmir will take place.

All you have is part of the cipher and a coded message from your informant, which will tell you what to do next. Can you crack the code?

(3) Data and Instructions

Here is the incomplete cipher – once you know where in the cipher each letter of the alphabet fits in, you will be able to work out which letters are being written using the code. The code is based on the layout of the cipher.

Can you work out where in the cipher grids the missing letters of the alphabet fit? Have a look, and then try and complete the exercises on the next page.

A	G H	M
C	J	O P
F		Q

	S T	
Y	U V	
	X	

4) Tasks

Crack the code!

L77V L7 JV VLT VVJVQCL QL LQLVN

JCFQV WJV VLT F<J>

^TJF [LQ> JQJ]N



(1) Solutions and Markscheme

One mark for each correct word

MEET ME AT THE STATION IN MINSK
BORIS HAS THE RUBY
WEAR ONLY BLACK

(2) Commentary

This is really just a bit of fun, but will hopefully get the students to think about the fact that codes and ciphers need an abstract system of representation, and that the system involves repetition of patterns, much like natural language.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

1. Why do some symbols look more like squares and some more like triangles?
2. What is the function of the dot?



(1) What language(s) does this problem involve?

English

What is the aim of this problem?

To explore sentences which are grammatically correct, but semantically incorrect.

(2) Background Information

The words 'semantic' and 'semantically' relate to the *meaning* of a sentence.

In 1957, famous linguist Noam Chomsky wrote a sentence which was grammatically correct, but semantically incorrect. He did this to prove it was possible for a sentence to have perfect grammar, but no real meaning in everyday life.

(3) Data and Instructions

This was Noam Chomsky's famous sentence:

Colourless green ideas sleep furiously.

Look carefully at the sentence and think about what makes it grammatically correct but semantically incorrect.

4) Tasks

a) There are at least three reasons why Noam Chomsky's famous sentence is semantically incorrect. Explain them below:

Reason 1	
Reason 2	
Reason 3	

b) Cross out one word from Noam Chomsky's sentence, and replace it with one which makes it *grammatically incorrect*. There are many different ways you could do this.

Colourless green ideas sleep furiously.

c) Rewrite Noam Chomsky's sentence by changing the words in bold so that it is *grammatically correct* and *semantically correct*. There are many different ways you could do this.

Colourless green **ideas** sleep **furiously**.

d) Write a sentence of your own which, like Noam Chomsky's original example, is *grammatically correct* but *semantically incorrect* ('nonsense').



(1) Solutions and Markscheme

a) Accept any reasonable answers which highlight the semantic ambiguity of the original sentence. Likely answers will be the notions that:

Reason 1	Something colourless cannot also be green / If something is green, it is not colourless. 1 mark
Reason 2	An idea is not a living being so does not / can not sleep. 1 mark
Reason 3	Something which sleeps, does not do so furiously. 1 mark

b) Accept any reasonable answer. **1 mark**

c) Accept any reasonable answer. **1 mark**

d) **2 marks** for any sentence which totally fulfils the criteria, **1 mark** for a sentence in which the criteria are fulfilled successfully for part of the sentence.

TOTAL MARKS AVAILABLE: 7

(2) Commentary

Success in this problem is centred around the notion of pupils understanding the difference between grammar and semantics, and can demonstrate to them that a sentence can be constructed correctly, but have no real-life meaning.

Students are likely to be most successful if they try to imagine / draw / describe / say aloud the sentence and their subsequent adapted sentences as they go along, as this should help them get a picture of whether or not a sentence 'sounds right' or describes something which is or could be 'real'.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Does this sentence make sense to you?
- Why / why not?
- Could the things described in this sentence exist in real life?
- Why / why not?
- Even if it doesn't make sense, can you understand it? Why could that be?
- Is the sentence correctly 'built' even if the meaning is silly?
- How can you / What word could you use to make the meaning more sensible?
- How can you / What word could you use to make the sentence incorrectly 'built'?
- Say it out loud to yourself.
- Do you agree that this is a good example of a grammatically correct but semantically incorrect sentence?
- How could this sentence help you with your own learning?
- *Teachers may also like to look at Lewis Carroll's 'Jabberwocky' to help introduce pupils to the idea of word classes and the morphological features of words which help us determine which parts of speech various elements belong to.*



(1) What language(s) does this problem involve?

Dutch, English, German and Swedish

What is the aim of this problem?

To compare four versions of the same texts and investigate similarities and differences.

(2) Background Information

Dutch, English, German and Swedish all belong to a group of related languages, called Germanic Languages.

Germanic Languages evolved from a language called Proto-Germanic which was spoken during the first millennium BC in Northern Europe. Dutch, English and German are part of a sub-group of languages called West Germanic, and Swedish is part of the North Germanic group.

Because they all originally developed from the same language, there are many similarities between the languages. The languages share many cognates – words which are the same or similar in more than one language, and which usually (but not always) have a shared meaning.

(3) Data and Instructions

Below are Dutch, English, German and Swedish translations of the same text, taken from visitors' brochures for the Vasa Museum in Stockholm. The texts explain that the Vasa was a ship which sunk in 1628 in Stockholm whilst on its maiden voyage (first trip). Its wreck was recovered and can be seen in the museum.

Look carefully at the four texts and then complete the exercises on the next page.

Dutch	Op 10 augustus 1628 begon de Vasa aan haar eerste reis en zonk derzelfde dag nog in de haven van Stockholm
English	On 10 August 1628, Vasa set sail on her maiden voyage and sank in Stockholm harbour.
German	Am 10. August 1628 sank das Kriegsschiff Vasa im Stockholmer Hafen – dem Tag, an dem es seine Jungfernfahrt antreten sollte.
Swedish	Vasa seglade ut på sin jungfrufärd och sjönk i Stockholms hamn den 10 augusti 1628.

4) Tasks

a) Complete the table by writing the Dutch, German and Swedish translations of the following words / phrases in the gaps:

English	Dutch	German	Swedish
sank			
harbour			
maiden voyage*			

*Here, 'maiden' means 'first'

b) The table below shows a list of English words. Find one or more examples of cognates in the text for each English word listed below and say which language(s) they come from.

English word	Cognate(s)	Language(s) the cognate(s) come from
ship		
day		
sailed		
began		



(1) Solutions and Markscheme

a)

English	Dutch	German	Swedish
sank	ZONK	SANK	SJÖNK
harbour	HAVEN	HAFEN	HAMN
maiden voyage*	EERSTE REIS	JUNGFERNFAHRT	JUNGFRUFÄRD

9 MARKS

b) The table below shows a list of English words. Find a cognate of each word in the text and say which language it comes from. Sometimes there might be more than one cognate for each word.

English word	Cognate(s)	Language(s) the cognate(s) come from
ship	SCHIFF	GERMAN
day	TAG DAG	GERMAN DUTCH
sailed	SEGLADE	SWEDISH
began	BEGON	DUTCH

5 MARKS

TOTAL = 14 MARKS

(2) Commentary

This is a relatively accessible problem, which introduces or reinforces the notion of cognates, and which should allow pupils to feel confident in gleaning some meaning from languages which may otherwise

have seemed inaccessible. Pupils could use colours to highlight the words they think are cognates.

Pupils, in particular those who happen to have some prior linguistic ability in any of the languages used in this problem, may also be able to spot cognates between the languages which do not appear in the English version.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Look for any words you definitely recognise, then look around them, does this help?
- Are any words spelled the same or similarly?
- Try and say the words out loud, does that help?
- (Extension) Which of the languages are most / least similar to one another? Why might that be?
- (Extension) Can you find any examples of words which are cognates in two or more of the languages shown, but NOT English?



(1) What language(s) does this problem involve?

French, Italian, Portuguese, Spanish

What is the aim of this problem?

To compare four versions of the same texts and investigate similarities and differences.

(2) Background Information

French, Italian, Portuguese and Spanish all belong to a group of related languages, called Romance Languages.

Romance Languages all evolved from Latin during the sixth to ninth centuries.

Because they all originally developed from the same language, there are many similarities between the languages. The languages share many cognates – words which are the same or similar in more than one language, and which usually (but not always) have a shared meaning.

(3) Data and Instructions

Below are French, Italian, Portuguese and Spanish translations of the same text, taken from visitors' brochures for the Vasa Museum in Stockholm. The texts explain that the Vasa was a ship which sunk in 1628 in Stockholm whilst on its maiden voyage (first trip). Its wreck was recovered and can be seen in the museum.

Look carefully at the four texts and then complete the exercises on the next page.

French	Le 10 août 1628, le Vasa a pris la mer pour son voyage inaugural et a sombré dans le port de Stockholm.
Italian	Il 10 agosto 1628 il vascello Vasa affondò nel porto di Stoccolma dopo essere salpato per il suo viaggio inaugurale.
Portuguese	A 10 de Agosto de 1628, o Vasa afundou-se no porto de Estocolmo na sua viagem inaugural.
Spanish	El Vasa se hizo a la vela en su primera travesía y se hundió en el Puerto de Estocolmo el 10 de Agosto de 1628.

4) Tasks

a) Complete the table by writing the French, Italian, Portuguese and Spanish translations of the following words / phrases in the gaps:

English	French	Italian	Portuguese	Spanish
Stockholm				
port				
the 10 th August				

b) The following phrases from the text all mean 'maiden voyage'. Here, 'maiden' means 'first'.

French	Italian	Portuguese	Spanish
voyage inaugural	viaggio inaugurale	viagem inaugural	primera travesía

Which words from each language are used to mean 'first' and which mean 'voyage'?

	French	Italian	Portuguese	Spanish
first				
voyage				

Apart from 'voyage' are any of the words in the table you have just completed cognates with English words? If you think they are, write the foreign word(s) and an example sentence in English to show they are cognates.

Foreign word(s)	English example sentence

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(1) Solutions and Markscheme

a)

English	French	Italian	Portuguese	Spanish
Stockholm	STOCKHOLM	STOCCOLMA	ESTOCOLMO	ESTOCOLMO
port	PORT	PORTO	PORTO	PUERTO
the 10 th August	LE 10 AOÛT	IL 10 AGOSTO	A 10 DE AGOSTO	EL 10 DE AGOSTO

12 MARKS

b)

	French	Italian	Portuguese	Spanish
first	INAUGURAL	INAUGURALE	INAUGURAL	PRIMERA
voyage	VOYAGE	VIAGGIO	VIAGEM	TRAVESÍA

8 MARKS

Foreign word(s)	English example sentence
INAUGURAL INAUGURALE INAUGURAL	ACCEPT ANY REASONABLE AND ACCURATE ANSWER EG. "THE PRESIDENT GAVE HIS INAUGURAL SPEECH"
PRIMERA	EG. PRIMARY SCHOOL IS THE FIRST SCHOOL CHILDREN GO TO.
TRAVESÍA	EG. HE TRAVERSED THE DESERT.

3 MARKS

TOTAL MARKS = 23

(2) Commentary

This is a relatively accessible problem, which introduces or reinforces the notion of cognates, and which should allow pupils to feel confident in gleaning some meaning from languages which may otherwise have seemed inaccessible. Pupils could use colours to highlight the words they think are cognates.

The final task demands a fairly sophisticated vocabulary from pupils, and they can be encouraged to say the words aloud and 'play around' with them in order to see if they can come up with any of the English cognates, which may well be in their passive vocabularies, if not their active ones.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Look for any words you definitely recognise, then look around them, does this help?
- Are any words spelled the same or similarly?
- Try and say the words out loud, does that help?
- Have you heard any words in English which sound / look a bit like this? Where have you heard / seen them?
- Are they words you would usually use? Why? Why not?
- (Extension) Which of the languages are most / least similar to one another? Why might that be?
- (Extension) Are any of the languages like English at all? What historical / geographical / social reasons could there be for this?



(1) What language(s) does this problem involve?

Bambara

What is the aim of this problem?

To work out meanings of numbers in Bambara, and use patterns to work out how to write certain numbers.

(2) Background Information

Bambara, also known as Bamana and Bamanakan, is spoken mainly in Mali in West Africa. It has about 6 million speakers.

(3) Data and Instructions

Here is a list of numbers in the Bambara language. Some are missing! Look carefully at the table and think about:

- a) any patterns you notice which are used to form the numbers
- b) how you would write the missing numbers

Then complete the exercises on the next page.

If you want, you can make notes on this page to help you.

1	<i>kelen</i>	19	
2	<i>fla</i>	20	<i>mugan</i>
3		21	
4	<i>naani</i>	22	<i>mugan ni fla</i>
5	<i>duurun</i>	23	<i>mugan ni saba</i>
6		30	<i>bi saba</i>
7		40	<i>bi naani</i>
8	<i>segi</i>	50	
9	<i>kononto</i>	55	
10	<i>tan</i>	60	
11	<i>tan ni kelen</i>	70	<i>bi wolonfla</i>
12		80	<i>bi segi</i>
13		90	
14	<i>tan ni naani</i>	100	<i>keme</i>
15		200	<i>keme fla</i>

16	<i>tan ni wooro</i>	300	
17	<i>tan ni wolonfla</i>	1000	<i>wa kelen</i>
18	<i>tan ni segi</i>	2000	

4) Tasks

a) Here is the table of numbers again. Work out the missing numbers and write them in the spaces.

1	<i>kelen</i>	19	
2	<i>fla</i>	20	<i>mugan</i>
3		21	
4	<i>naani</i>	22	<i>mugan ni fla</i>
5	<i>duurun</i>	23	<i>mugan ni saba</i>
6		30	<i>bi saba</i>
7		40	<i>bi naani</i>
8	<i>segi</i>	50	
9	<i>kononto</i>	55	
10	<i>tan</i>	60	
11	<i>tan ni kelen</i>	70	<i>bi wolonfla</i>
12		80	<i>bi segi</i>
13		90	
14	<i>tan ni naani</i>	100	<i>keme</i>
15		200	<i>keme fla</i>
16	<i>tan ni wooro</i>	300	
17	<i>tan ni wolonfla</i>	1000	<i>wa kelen</i>
18	<i>tan ni segi</i>	2000	

b) What is the English meaning of these Bambara words?

<i>ni</i>	
<i>bi</i>	

c) Write the following Bambara number as a figure:

wa saba ni keme naani ni bi duurun ni kelen = _____

d) In Bambara, *wolonfla* divided by *fla* equals *saba ni tilance*.

What, therefore, does *tilance* mean? _____



(1) Solutions and Markscheme

a)

1	<i>kelen</i>	19	<i>tan ni kononto</i>
2	<i>fla</i>	20	<i>mugan</i>
3	<i>saba</i>	21	<i>mugan ni kelen</i>
4	<i>naani</i>	22	<i>mugan ni fla</i>
5	<i>duurun</i>	23	<i>mugan ni saba</i>
6	<i>wooro</i>	30	<i>bi saba</i>
7	<i>wolonfla</i>	40	<i>bi naani</i>
8	<i>segi</i>	50	<i>bi duurun</i>
9	<i>kononto</i>	55	<i>bi duurun ni duurun</i>
10	<i>tan</i>	60	<i>bi wooro</i>
11	<i>tan ni kelen</i>	70	<i>bi wolonfla</i>
12	<i>tan ni fla</i>	80	<i>bi segi</i>
13	<i>tan ni saba</i>	90	<i>bi kononto</i>
14	<i>tan ni naani</i>	100	<i>keme</i>
15	<i>tan ni duurun</i>	200	<i>keme fla</i>
16	<i>tan ni wooro</i>	300	<i>keme saba</i>
17	<i>tan ni wolonfla</i>	1000	<i>wa kelen</i>
18	<i>tan ni segi</i>	2000	<i>wa fla</i>

14 MARKS

b) *ni* means **and** or **plus** 1 MARK

bi means **tens** or **ten times** 1 MARK

c) 3000 and 400 and 50 and 1, so **3451** 1 MARK

d) 7 divided by 2 is 3 and a half; so ***tilance*** is **a half** 1 MARK

TOTAL = 18 MARKS

(2) Commentary

The Bambara numbers for 1-10 do not follow a pattern, but have to be learned individually. The same applies to 20, 100 and 1000.

ni is used for adding on

bi is used for multiples

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Think about the pattern of numbers in English
- How do you think numbers like 'thirteen' and 'thirty' are related to 'three' and 'ten'?
- In Bambara, numbers follow a pattern once we get to eleven. Is that true in English? Find out where 'eleven' and 'twelve' comes from.



(1) What language(s) does this problem involve?

Zulu

What is the aim of this problem?

To explore derivational morphology in the process of new coinages – ie. the way we use existing words to create new ones.

(2) Background Information

Zulu, a South African language, has lots of words that have been based on already existing words. This is a common way that many languages use to make up new words. English does it, too, for example: English had the verb “play” first and by adding “-er” at the end, the new word “player” was created. Zulu really does a lot of this adding a little syllable here and there to already existing words to make new ones.

(3) Data and Instructions

Here are some examples of Zulu:

a) ukucula = to sing – this gives Zulu the following words:

- umculi = singer
- umculo = singing, music
- isiculi = person who sings often

b) ukudlala = to play – this gives Zulu the following words:

- umdlali = player
- umdlalo = game
- isidlali = playful person
- isidlalo = toy, thing to play with

4) Tasks

Give the Zulu words for the English words, using the original verb that gave Zulu all the new words.

a) ukubhula = to thrash – this gives Zulu the following word:

- thrashing stick (literally: thing to thrash with)

b) ukuthula = to inspect – this gives Zulu the following word:

- inspector =

c) ukucabanga = to think – this gives Zulu the following word:

- thought =

d) ukubuza = to ask – this gives Zulu the following word:

- question =

e) ukuthunga = to sew – this gives Zulu the following word:

- tailor =



(1) Solutions and Markscheme

1 mark for each correct suffix and 1 point for each correct prefix. **TOTAL = 10 MARKS**

- a) ukubhula = to thrash – this gives Zulu the following word:
- thrashing stick (literally: thing to thrash with) = isibhulo
- b) ukuthula = to inspect – this gives Zulu the following word:
- inspector = umthuli
- c) ukucabanga = to think – this gives Zulu the following word:
- thought = umcabango
- d) ukubuza = to ask – this gives Zulu the following word:
- question = umbuzo
- e) ukuthunga = to sew – this gives Zulu the following word:
- tailor = umthungi

(2) Commentary

The point of the problem is to allow children to see how new words are formed in any language, often by simply adding a syllable to an already existing word. Zulu is particularly adept at this, and by seeing how Zulu works, children may get a better understanding how English employs similar processes to create new words out of existing ones: un- gets put in front of a word to change it to the opposite, for example: “fair” – “unfair”. It alerts children to the fact that words have regular “bits” to them that add new meanings or can change existing words’ meanings.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- What does Zulu do to make the verb into a person doing the activity (a bit like English adding “-er” on the end in words such as “singer”, “dancer” or “player”)?
- Zulu makes a distinction between people and things – you have to use a different syllable in front of the new word depending on whether it is a living person or an inanimate object.



(1) What language(s) does this problem involve?

Egyptian hieroglyphics

What is the aim of this problem?

To work out the meanings of two words written using hieroglyphics.

(2) Background Information

The picture opposite below shows two Egyptian 'cartouches' from the Greco-Roman period.

A cartouche is a set of hieroglyphic characters that represents a name, a word or a phrase.

One of these cartouches represents the name of the Queen 'Cleopatra' and the other is the name of another well known Ancient Egyptian ruler.

(3) Data and Instructions

Look carefully at the two cartouches, A and B. Think carefully about the type and number of symbols you see, and look out for any patterns or sequences. Then complete the exercises on the next page.



A



B

4) Tasks

a) Which of the cartouches represents the name 'Cleopatra'? Tick A or B.

A	<input type="checkbox"/>
B	<input type="checkbox"/>

b) How did you work this out? Explain what clues in the cartouche helped you come to your decision.

c) Can you work out what the other cartouche spells? (Remember it is the name of another Ancient Egyptian ruler!)



(1) Solutions and Markscheme

a)

A	
B	/

1 mark

b) Accept any reasonable answer which expresses any of the three bullet points in the *Cleopatra* section of the commentary below.

3 marks

c) PTOLEMY

1 mark

TOTAL MARKS = 5

(2) Commentary

Cleopatra

- Each symbol refers to a sound (or "letter").
- The bottom one must be "*Cleopatra*" because there are nine symbols that could correspond to the nine letters in "Cleopatra."
- There are two "*eagle*" symbols on the right side of the bottom word, and there are two "a" sounds toward the end of the name "*Cleopatra*."

Ptolemy

The first two symbols (starting from the left), arranged vertically must represent "C" and "l". The next four represent "e" "o" "p" and then the first "a". Finally, the next two arranged vertically represent "t" and "r", and then comes the final "a". Applying this knowledge to the first hieroglyph, we get "p" with a "t" below, then an "o", then "l" then "e" and then two unknown sounds. However, the hint that this must be the name of another famous character from Ancient Egyptian history helps pupils guess that the last two symbols must represent "m" and "y" to form the name "*Ptolemy*."

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Look at the way the symbols are arranged – are they all in a row like in English?
- Does the same symbol appear twice in either of the cartouches? Why would this be?
- Can this help us work out which one means Cleopatra?
- Which letters/ symbols from the word Cleopatra also appear in the other cartouche?
- Can this help us work out some of the sounds / letters which make up that name?
- Do you know anyone from history with those sounds in their name?
- Can you use the internet to help narrow down who it might be?



(1) What language(s) does this problem involve?

English and the International Phonetic Alphabet (IPA)

What is the aim of this problem?

To work out which words are being spelled using the IPA, and to use the IPA to show how words can be pronounced in English .

(2) Background Information

In English, the spelling of a word doesn't always tell you how to say it: think of words like **one** and **two**, or **though** and **thought**.

The International Phonetic Alphabet is a way of showing how to say or pronounce a word – each symbol (letter) in the alphabet stands for a single sound, and the IPA can be used to show how words in any language are pronounced.

The IPA uses some letters that will be new to you, and puts a forward slash (/) at the beginning and the end of each word.

(3) Data and Instructions

Look at this table showing words written in English and IPA. Don't forget, some English words can be pronounced in different ways depending on the speaker's accent. Look carefully at which letters / symbols are used to represent which sounds. Then complete the exercise below.

English	IPA
cat	/kæt/
cot	/kɒt/
cart	/kɑ:t/
court	/kɔ:t/
cut	/kʌt/
bed	/bed/
bid	/bɪd/
bide	/baɪd/
bead	/bi:d/

English	IPA
dog	/dɒg/
cow	/kaʊ/
horse	/hɔ:s/
sheep	/ʃi:p/
ship	/ʃɪp/
this	/ðɪs/
these	/ði:z/
thud	/θʌd/
song	/sɒŋ/

4) Tasks

a) Fill in the table by writing the word in either IPA or English, whichever is not shown. Use the examples above to help you.

English	IPA
caught	
bud	
pig	
shop	
that	
bath	
thing	

IPA	English
/sɪt/	
/si:t/	
/saɪt/	
/dɪʃ/	
/hæŋ/	
/si:z/	
/ðeɪ/	



(1) Solutions and Markscheme

English	IPA
caught	/kɔ:t/
bud	/bʌd/
pig	/pɪg/
shop	/ʃɒp/
that	/ðæt/
bath	/bɑ: θ /, /bæ θ /
thing	/ θ ɪŋ /

IPA	English
/sɪt/	sit
/si:t/	seat
/saɪt/	sight, cite, site
/dɪʃ/	dish
/hæŋ/	hang
/si:z/	seize, sees, seas
/ðeɪ/	they

IPA answers = 2 marks for fully correct answer, 1 mark for partially correct answer (at least two symbols correctly used)

English answers = 1 mark per correct answer

TOTAL = 21 MARKS

(2) Commentary

IPA is intended to be a way of representing the sounds of spoken language. It is based on the Latin alphabet, but includes many additional symbols and marks.

Given the very wide variety of sounds that speakers use, the finite IPA can only ever give approximations to any individual's pronunciation – but it is a lot better than relying on English in which it can be difficult to ascertain the pronunciation of a word from its spelling.

An English word (e.g. *bath*) may have more than one common pronunciation. Several English words (e.g. *seize, sees, seas*) may have the same pronunciation and hence the same IPA representation.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Saying the words out loud and slowly will help you to hear the pronunciation
- Some of the IPA characters look unfamiliar, but they often suggest something. So what does ɪŋ at the end of the IPA for 'song' look like?
- What other links can you spot between IPA characters and English letters?



(1) What language(s) does this problem involve?

French

What is the aim of this problem?

To explore the use of the subjunctive in French in subordinated clauses.

(2) Background Information

In French, when constructing a longer sentence out of a combination of two shorter ones, sometimes the verb needs changing in the original sentence when it is linked to a new sentence-part to make a longer sentence.

(3) Data and Instructions

In the French sentences below, you'll see that sentence (a) has become part of a longer sentence (b). However, unlike English (where sentence (a) keeps the same verb form), in French the verb changes in the original sentence (a).

- (a) Nous sommes seuls dans l'univers. – *We are alone in the universe.*
(b) Il est possible que nous soyons seuls dans l'univers. – *It is possible that we are alone in the universe.*
- (a) Il boit du Pernod. – *He drinks Pernod.*
(b) Il est douteux qu'il boive du Pernod. – *It's doubted whether he drinks Pernod.*
- (a) Vous partez. – *You leave.*
(b) Je suggère que vous partiez. – *I suggest that you leave.*
- (a) Nous allons au cinéma. – *We go to the cinema.*
(b) Marie préfère que nous allions au cinéma. – *Marie prefers that we go to the cinema.*
- (a) Nous passons les vacances à Paris. – *We spend the holidays in Paris.*
(b) Il est important que nous passions les vacances à Paris. – *It is important that we spend the holidays in Paris.*

4) Task

(a) In sentences 1 (b) and 2 (b), what is different about the meaning of the original sentences (sentences (a)) now that they have become a part of the longer (b) sentences?

(b) In sentences 3 (b), 4 (b), and 5 (b), what is different about the meaning of the original sentences (sentences (a)) now that they have become a part of the longer (b) sentences?



(1) Solutions and Markscheme

a. 1 mark for correct answer: In sentences a and b, the original (a) sentence has come to be not sure as a result of becoming part of the longer (b) sentences. For example, in 1. A. “We are alone in the universe” is a statement, no doubt there. But in 1. B. “It is possible that we are alone in the universe” the speaker is not certain about us being alone – there may be other life out there as far as they are concerned.

b. 1 mark for correct answer: Here the (a) sentences all express certainty, stating facts: “You leave”. However, in the longer (b) sentences, the (a) component is now expressing the wish or desire or intention (not a fact anymore) of the speaker: “I suggest that you leave”.

(2) Commentary

English did have a subjunctive verb form, but this seems to have gone out of fashion. Instead of saying “I wish I **were** rich” (where “were” is the subjunctive”) we nowadays are more likely to say “I wish I was rich”. However, many languages, such as French, still retain their subjunctive form and this allows students to see that: “*I was rich*” means something different from “I wish *I was rich*”, as a result of becoming part of a longer (sub-ordinated) sentence.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

How does the (a) sentence “feel” differently from being used on its own compared to being used inside the whole (b) sentence?



(1) What language(s) does this problem involve?

English

What is the aim of this problem?

To explore that a sentence's meaning does not just depend on being grammatically, but also the meanings / associations of the words used.

(2) Background Information

Noam Chomsky (famous linguist) made up a sentence to show that a sentence can be grammatically correct, but at the same time make no sense at all. His example was: "Colourless green dreams sleep furiously", which is perfectly grammatical English. However, "colourless" does go against "green", while "dreams" are not creatures that can sleep, and finally how do you "sleep furiously"?

(3) Data and Instructions

The sentences below are all grammatically correct, but somehow they do not make sense. Your task is to explain for each one, what makes the sentence so odd.

- (a) The bird neighed.

- (b) He had left next Friday.

- (c) She broke her scarf.

- (d) The teacher counted the sky.

- (e) The car crashed for two hours.



(1) What language(s) does this problem involve?

Japanese

What is the aim of this problem?

To work out how to form the ‘-te’ form of Japanese verbs if you know the basic or ‘plain’ form.

(2) Background Information

Japanese verbs have a form ending in –te (or –de) which is a bit like the English –ing form of verbs.

It can also be used with the word *kudasai* to form a polite request, e.g. *suwaru* ‘sit down’ → *suwatte kudasai* ‘please sit down’.

(3) Data and Instructions

Here is a list of verbs in their basic or ‘plain’ state and their corresponding –te forms. You can use the plain forms to work out the rules for forming the –te form.

Look carefully at the verbs and see what rules and patterns you can spot. Then complete the exercises on the next page.

Plain form	-te form	Meaning
arau	aratte	wash
aruku	aruite	walk
asobu	asonde	play
hairu	haitte	enter
isogu	isoide	hurry
kasu	kashite	lend
kau	katte	buy
kiku	kiite	listen
motsu	motte	hold
nomu	nonde	drink
okuru	okutte	send
oyogu	oyoide	swim
shinu	shinde	die
tasu	tashite	add
tatsu	tatte	stand
wakaru	wakatte	understand
yobu	yonde	call
yomu	yonde	read

4) Tasks

a) Write the '-te' form of each verb in the space provided

Plain form	-te form	Meaning
kesu		shut
matsu		wait
nugu		take off
tobu		jump

b) Write the plain form of each verb in the space provided

Plain form	-te form	Meaning
	koide	row
	shimeshite	indicate
	kande	bite



(1) Solutions and Markscheme

a)

Plain form	-te form	Meaning
kesu	KESHITE	shut
matsu	MATTE	wait
nugu	NUIDE	take off
tobu	TONDE	jump

b)

Plain form	-te form	Meaning
KOGU	koide	row
SHIMESU	shimeshite	indicate
ACCEPT ANY OF THE FOLLOWING FOUR ANSWERS: <ul style="list-style-type: none"> • IMPOSSIBLE TO TELL FOR SURE • KANU • KAMU • KABU 	kande	bite

(2) Commentary

It can be seen that the plain forms all end in *-u*, and that it is the letter(s) just before the *-u* that determines the form of the *-te* form, as shown in the following table:

The case of *kande* is a kind of trick. While you can always predict the *-te* form from the plain form, the opposite is not true. A *-nde* ending can arise from three different stems, *-bu*, *-mu*, *-nu*. So you can't tell from the data whether it should be *kamu*, *kanu* or *kabu*. In fact it's *kamu*, but the correct answer is that it could be any of the three.

Points of interest/confusion are as follows:

(a) why do *motsu*, *tatsu* not have *motshite*, *tatshite*? Although they end in -su, actually you have to take *ts* as if it were a single letter

(b) notice that for some endings, the -te becomes -de. Can you spot the pattern? Students may not know this, but if the consonant in the stem is “voiced” (b, g, m, n) then the t of the -te form is also voiced. Compare ku -> ite, gu -> ide. An exception is -ru however, so this is not a hard-and-fast rule.

(c) Besides -nde, a -tte ending can relate to three different stems: vowel, -ru, -tsu.

(d) In case you need to know (avoid giggling schoolchildren), the -shite ending is pronounced as two syllables [ʃi+te].

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Are any of the plain forms similar to one another?
- If so, are their ‘te’ forms similar?
- Can this help you when it comes to working out the ‘te’ forms of other verbs?
- Do all the ‘te’ forms actually contain a ‘t’? If they don’t, what letter do they use instead?
- Are there any patterns you can spot in the forms which don’t use a ‘t’?
- (Extension) Do we do anything similar to this in English? Do we ever add endings to verbs? Why?
- (Extension) If you could invent a new sort of verb ending for English, what would it be, and how would it change the meaning of the verb?



(1) What language(s) does this problem involve?

Estonian, Finnish and Swedish.

What is the aim of this problem?

To explore the process of loan words entering a particular language.

(2) Background Information

Here are some common vocabulary lists from Finnish and Estonian – two closely related languages, which because of their close relationship (like Italian and Spanish for example) resemble each other quite a bit. However, Finnish has been influenced by Swedish, as Finland was once ruled by Sweden, something that never happened to Estonia, so Estonian escaped the Swedish influence.

(3) Data and Instructions

Finnish	English translation
mä	I
sä	you
hän	“he” or “she”
se	it
torstai	Thursday
päivä	day

Estonian	English translation
ma	I
sa	you
ta	“he” or “she” or “it”
neljapäev	Thursday
päev	day

Swedish	English translation
jag	I
du	you
han	he
hon	she
det	it
torsdag	Thursday
dag	day

4) a) From the set of words in the data above, pick out the Finnish words that have been influenced by Swedish.

b) Explain your choices.

c) Why do you think would Finnish have borrowed from Swedish, and not the other way around (Swedish borrowing from Finnish)?



(1) Solutions and Markscheme

a. The Finnish words that have come from Swedish: “hän” and “torstai”. 1 mark for each correct answer.

b. Explanation: these two words look similar to the Swedish words: “han” (which means “he”, which is a pronoun, and the Finnish “hän” has become the pronoun for both “he” and “she”) and the word “torsdag” is very similar to Finnish “torstai” which also means exactly the same.

1 mark for each correct explanation.

Students may also mention:

When you look at the Estonian word for Thursday, “neljapäev”, not only is it very different from the Finnish “torstai”, but it has the word “day” (“päev”) in it, and the word for “day” in Finnish is “päivä”, which is very similar to the Estonian word for “day” – so the Finnish word for Thursday must have come from elsewhere and not from the same origins as the Estonian.

c. The background information mentions that Finland belonged to Sweden – this suggests that Sweden ruled – usually the people in charge get to speak their language and everyone else has to fit in, learning the rulers’ language. The Swedes living in Finland probably did not have to learn Finnish, but the Finns had to learn Swedish, which ultimately resulted in the Swedish influence on Finnish, but hardly any effect from Finnish on Swedish.

(2) Commentary

This problem allows children to realise how languages when in contact go on to influence each other (as happened so often in the history of English with Old English taking on words from Old Norse thanks to the Viking settlers, and then from Norman French after the Norman Conquest). It also highlights how the more powerful / influential group’s language becomes the source / target for speakers who do not belong to that group.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Can you see any words that are similar in Swedish and Finnish? Try saying the words aloud – sometimes the spelling is a little bit changed, but when you say the words you may feel that the sounds (despite different letters in the words) may be quite similar.
- Can you see any words that are almost the same in Estonian and Finnish? These must be the original words in Finnish and won't have been borrowed from Swedish.
- What happens in groups where you have one really powerful or really cool person? What do the other people in the group tend to do when they see a really powerful or cool person in their group?



(1) What language(s) does this problem involve?

'Pig Latin'

What is the aim of this problem?

To work out how the language game 'Pig Latin' works, and create some examples of your own.

(2) Background Information

'Pig Latin' is a language game which has been played by children since at least the 1850s.

It involves speaking English, but altering the words so that the meaning isn't clear to anyone who doesn't know the rules. Children could use Pig Latin to share secrets, and it is just one of many similar language games which remain popular with children today.

(3) Data and Instructions

Below are the titles of six popular children's books written in Pig Latin. Look at them carefully and see if you can work out how Pig Latin sentences are formed.

Then complete the exercises on the next page.

Ivatepray eacefulpay
Artemisway owlfay
Arryhay otterpay andway ethay amberchay ofway ecretssay
Oodnightgay istermay omtay
Ethay ionlay ethay itchway andway ethay ardrobeway
Ethay oybay inway ethay ipedstray yjamaspay

4) Tasks

a) Look at the titles again and write the names of the books in correct English in the space provided. Even if you haven't heard of the books, you can use the rules of Pig Latin to work them out.

Pig Latin	English
Ivatepray eacefulpay	
Artemisway owlfay	
Arryhay otterpay andway ethay amberchay ofway ecretssay	
Oodnightgay istermay omtay	
Ethay ionlay ethay itchway andway ethay ardrobeway	
Ethay oybay inway ethay ipedstray yjamaspay	

b) Use the rules you have worked out to write these words in Pig Latin.

Pig Latin	English
book	
house	
computer	
angry	

c) Explain in your own words how you turn the following types of words into Pig Latin:

Words starting with a vowel: _____

Words starting with a consonant: _____



(1) Solutions and Markscheme

a)

Pig Latin	English
Ivatepray eacefulpay	PRIVATE PEACEFUL
Artemisway owlfay	ARTEMIS FOWL
Arrayhay otterpay andway ethay amberchay ofway ecretssay	HARRY POTTER AND THE CHAMBER OF SECRETS
Oodnightgay istermay omtay	GOODNIGHT MISTER TOM
Ethay ionlay ethay itchway andway ethay ardebway	THE LION THE WITCH AND THE WARDROBE
Ethay oybay inway ethay ipedstray yjamaspay	THE BOY IN THE STRIPED PYJAMAS

6 marks

b)

Pig Latin	English
book	OOKBAY
house	OUSEHAY
computer	OMPUTERCAY
angry	ANGRYWAY

4 marks

c)

Words starting with a vowel: ACCEPT ANY REASONABLE ANSWER WHICH EXPLAINS THAT WORDS STARTING WITH A VOWEL HAVE 'WAY' ADDED TO THE END OF THE WORD.

1 mark

Words starting with a consonant: ACCEPT ANY REASONABLE ANSWER WHICH EXPLAINS THAT FOR WORDS STARTING WITH A CONSONANT, THE FIRST CONSONANT (OR CONSONANT CLUSTER) IS MOVED TO THE END OF THE WORD AND HAS 'AY' ADDED TO IT.

2 marks

TOTAL MARKS = 13

(2) Commentary

Many pupils will be likely to recognise one or more of the book titles without having to 'decode' it, and this should act as a way in to being able to look for the rules which govern Pig Latin. Saying the words out loud and / or using colour coding might help pupils hear or see how the usual structure of the words is being adapted for the Pig Latin forms.

If they study the data before looking at the questions, pupils are likely to notice that there are two ways of forming Pig Latin – depending on whether the word starts with a vowel or a consonant. This should further help them narrow down the rules, and could prompt discussion on the reasons for the two different approaches.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Do any of the words look familiar?
- Can you guess any of the book titles just by looking at the Pig Latin version?
- Read some of the Pig Latin words out loud – does this help?
- Look carefully one of the words you have worked out – which letters have moved? From where? To where? Why?
- Test your theory out on another word – does it work?
- Does it work for all words?
- If you find a word your rule doesn't work for, why do you think it doesn't work? Start again by looking at the letters in this word and seeing how they have been moved. Is there a second rule? Test it out!
- (Extension) Do you know any other games like Pig Latin?
- (Extension) Can you make up a language game similar to Pig Latin and explain the rules to a classmate? Or get them to work out the rules and explain them to you?
- (Extension) Ask your parents, relatives and teachers if they ever played Pig Latin or a game like it. Can you find any different variations of the game?

(1) What language(s) does this problem involve?

English, French, Spanish, Catalan and Basque

What is the aim of this problem?

To use English, French and Spanish colour words and Catalan food vocabulary to work out the meanings of Catalan and Basque colour words.

(2) Background Information

Catalan is a language spoken in north-eastern Spain and southern France. The Catalan language has many similarities with Spanish and French.

Basque is a language spoken in north-western Spain and southern France. It has many differences from Spanish and French, but there are some similarities.

(3) Data and Instructions

In the table you will see English, French and Spanish colour words. Look carefully at them and think about any similarities or patterns you notice.

Then complete the exercises on the next page.

English	French	Spanish
black	noir	negro
white	blanc	blanco
grey	gris	gris
pink	rose	rosa
red	rouge	rojo
blue	bleu	azul
yellow	jaune	amarillo
green	vert	verde
orange	orange	naranja
purple	violet	púrpura
brown	brun	marrón

4) Tasks

a) Here is the table of colour words again, this time with columns for Catalan and Basque. Below the table there is a list of the colour words in Catalan and in Basque. They are shown in alphabetical order. Decide which word means which colour, and write them in the columns.

English	French	Spanish	Catalan	Basque
black	noir	negro		
white	blanc	blanco		
grey	gris	gris		
pink	rose	rosa		
red	rouge	rojo		
blue	bleu	azul		
yellow	jaune	amarillo		
green	vert	verde		
orange	orange	naranja		
purple	violet	púrpura		
brown	brun	marrón		

Catalan colours in alphabetical order

blanc, blau, gris, groc, marro, negre, porpra, rosa, taronja, verd, vermell

Basque colours in alphabetical order

arrosa, beltz, berde, gorri, gris, hori, laranja, more, marroi, urdin, zuri

If you need some help with the Basque colours, look in the box below – it contains the names of some foods in Basque, along with the colour of each food. This should help you decide which colour is which.

Basque food item	Basque colour	English meaning of food item (Question c)
alberjina	more	
jogurt	zuri	
kafe	beltz	
melo	hori	
tomate	gorri	

c) Finally, in the table above, write the English meaning of the Basque food word in the column.



(1) Solutions and Markscheme

English	French	Spanish	Catalan	Basque
black	noir	negro	negre	beltz
white	blanc	blanco	blanc	zuri
grey	gris	gris	gris	gris
pink	rose	rosa	rosa	arrosa
red	rouge	rojo	vermell	gorri
blue	bleu	azul	blau	urdin
yellow	jaune	amarillo	groc	hori
green	vert	verde	verd	berde
orange	orange	naranja	taranja	laranja
purple	violet	púrpura	porpra	more
brown	brun	marrón	marro	marroi

22 MARKS

Basque food item	Basque colour	English meaning of food item (Question c)
alberjina	more	aubergine
jogurt	zuri	yoghurt
kafe	beltz	coffee
melo	hori	melon
tomate	gorri	tomato

5 MARKS

TOTAL = 27 MARKS

(2) Commentary

Catalan is quite closely related to Spanish and French, so this part of the problem is pretty straightforward. Basque, however, is a 'language isolate' and not closely related to the languages that surround it, so this part of the problem is more difficult.

Some students may know that colour words, like other adjectives, can have more than one form according to gender and number. For simplicity just one form is shown here.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Look for links in the spelling of words.
- Say words out loud for further hints as to their meaning



(1) Solutions and Markscheme

One mark for each correct explanation.

- a. The verb “neighing” is associated semantically with horses, NOT with birds.
- b. The adverbial phrase “next Friday” suggests a future event, yet the verb phrase “had left” is a past tense – perfect, which suggests the action has already been completed.
- c. Scarves are not items that can be broken in the way a cup or a mobile phone can.
- d. Sky is an abstract concept, which makes it strange to think of it as an object that can be counted.
- e. The verb “crash” suggests a one-off event that only happens for an instant, yet the adverbial “for two hours” suggests that the action was ongoing.

TOTAL = 5 MARKS

(2) Commentary

This problem invites students to think about the contrast between semantics (meanings) and grammar (combining words into sentences). A sentence can be grammatically fine, but still be nonsense, because of impossibilities or incompatibilities in terms of the meanings of the different words used.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Can you see any words that don’t go together in the sentences?



(1) What language(s) does this problem involve?

Estonian

What is the aim of this problem?

To explore how the analogue clock is divided up in constructions for telling time in Estonian.

(2) Background Information

Some languages divide the clock up differently than we do in English. For example, “half zeven” in Dutch translates literally as “half seven (7.30 in English)”, but what Dutch speakers actually mean is “half before seven (6.30 in English)”. Estonian, the language of Estonia, a small country on the Baltic coast in North-Eastern Europe also uses a way of dividing up the clock which might seem unusual to speakers of English.

(3) Data and Instructions

Telling time in Estonian:

Kell on kaks. = It is two o'clock.

Kell on pool kaks. = It is half one.

Kell on veerand kaks. = It is quarter past one.

Kell on kolmveerand kaks. = It is quarter to two.

Vocabulary:

Estonian:	English:
üks	one
kaks	two
kolm	three
neli	four
viis	five
pool	half
veerand	quarter
kolmveerand	three-quarters
kell	o'clock
on	is

(4) Tasks

Q.1. Translate the following English sentences into Estonian:

a. It's three o'clock. _____

b. It's half past three. _____

c. It's half past four. _____

d. It's quarter to four. _____

e. It's quarter to five. _____

f. It's quarter past four. _____

Q. 2. Explain how Estonian divides up the clock compared to English.



(1) Solutions and Markscheme

1. Translations – two marks maximum for completely correct translation. One mark if wrong number is used.
 - a. It is three o'clock = Kell on kolm.
 - b. It is half past three = Kell on pool neli. (literally the Estonian is: It is half towards four.)
 - c. It is half past four = Kell on pool viis. (literally: It is half towards five.)
 - d. It is quarter to four = Kell on kolmveerand neli. (literally: It is 3 quarters towards four)
 - e. It is quarter to five = Kell on kolmveerand viis. (literally: It is 3 quarters towards five)
 - f. It is quarter past four = Kell on veerand viis. (literally the Estonian is: It is quarter towards the fifth hour).

2. Three marks for reasoning along these lines: In English, we think of the clock as in two parts, the first half hour is past the previous hour and then we start working towards the coming hour. In Estonian however, instead of thinking past the hour, it starts to look toward the next hour. So there is no “quarter past the hour that has just been”, instead Estonian says it is a quarter on the way towards the hour coming up. The same goes for half hours – English thinks of the half hour as “past the hour that has just been”, but Estonian thinks of the half hour as “going towards the coming hour” (in this is similar to German). And instead of saying a quarter to the coming hour as English does, Estonian however thinks of this as $\frac{3}{4}$ towards the coming hour.

Two marks: If the student mentions the “half before” aspect of the Estonian way telling time, along with the “quarter to” being “3 quarters before” concept.

One mark: If the student only mentions the “half before” aspect of the Estonian way of telling time.

(2) Commentary

To allow children to experience different ways of telling time; realising that how we divide the clock up is rather arbitrary and that there are different ways of doing it.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- In the background information, Dutch telling time is compared to English. Can you see how Estonian is similar in some aspect of telling time to Dutch?

(4) Find out more

Scan this QR code to find out more about Estonia and Estonian on the Ethnologue website, or visit www.ethnologue.com/country/EE





(1) What language(s) does this problem involve?

English

What is the aim of this problem?

To look at an aspect of phonological reduplication in English

(2) Background Information

When speakers of English want to indicate some degree of scepticism or derision (that is to say, they don't much like something, or find it odd) in response to something they have heard, they sometimes use a reduplication pattern as follows.

Speaker A: I want to watch the tennis.

Speaker B: Tennis-shmennis. We're watching the football.

Speaker A: I think we should paint the hallway blue.

Speaker B: Blue-shmoo. It should be green.

(3) Data and Instructions

Look at the following data:

breakfast-shmeakfast

lunch-shmunch

dinner-shminner

England-shmingland

Scotland-shmotland

Wales-shmales

Ireland-shmireland

history-shmistory

geography-shmography

biology-shmology

Lady Gaga-ladyshmaga

Royal Blood-royalshmud

Biffy Clyro-biffyshmyro

In an example like *lunch-shmunch*, we will call *lunch* the source word and *shmunch* the reduplicated word.

4) Tasks

Now complete the following sentences which explain the rules for *shm*-reduplication.

With single words, *shm* in the reduplicated word usually replaces the _____ which appears at the start of the first _____ syllable of the source word. If the source word begins with more than one _____, then both are replaced. If the source word begins with a _____, then *shm* appears before that _____ in the reduplicated word. If the first syllable is not the _____ syllable, that syllable is omitted in the reduplicated form. With names, *shm* replaces the first _____ or _____ in the _____ word; the _____ word is not *shm*-reduplicated.



(1) Solutions and Markscheme

One mark for each correct answer

With single words, *shm* in the reduplicated word usually replaces the **consonant** which appears at the start of the first **stressed** syllable of the source word. If the source word begins with more than one **consonant**, then both are replaced. If the source word begins with a **vowel**, then *shm* appears before that **vowel** in the reduplicated word. If the first syllable is not the **stressed** syllable, that syllable is omitted in the reduplicated form. With names, *shm* replaces the first **consonant** or **consonants** in the **second** word – the **first** word is not *shm*-reduplicated.

(2) Commentary

There is variability in speaker behaviour with these patterns. For instance, in cases where the source word has initial consonant clusters, some speakers will try to remove only the first consonant (e.g. *breakfast-shmreakfast*). Similarly, if the first syllable is not stressed, some speakers will still copy the unstressed material to the reduplicated word (e.g. *unwilling-unshmillling*) while others will not (*unwilling-shmillling*).

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

1. How much agreement is there in the class on these patterns? Try some new words to see whether each pupil uses *shm*-reduplication in the same way, especially with regard to consonant clusters and in cases where the first syllable or syllables are not stressed.
2. What does the class make of other reduplication patterns in English? For instance, what is the function of reduplication in the following instances?
 - a. Do you want a soft drink or a drink-drink?
 - b. Do you mean American football or football-football?
 - c. Oh no, you've misunderstood: they're not living-together living-together.
 - d. I don't want an e-book, I want a book-book.



(1) What language(s) does this problem involve?

Spanish

What is the aim of this problem?

Understand patterns in the use of *ser* and *estar*, gender, and pronoun omission in Spanish.

(2) Background Information

Spanish is, of course, the main language of Spain – though several other languages are spoken there, including Catalan and Basque.

Spanish is one of the most widely spoken languages in the world. It is estimated to have over 400 million native speakers – ahead of English and second only to Mandarin.

(3) Data and Instructions

There are two ways to say “I am ...” in Spanish: “soy ...” and “estoy ...”.

Similarly, there are two ways of saying “he is ...” or “she is ...”: “es ...” and “está ...”.

In the table, Pablo and Nina are talking about themselves and about each other.

Pablo says:		Nina says:	
soy un chico	I am a boy	soy una chica	I am a girl
estoy feliz	I am happy	estoy muy feliz	I am very happy
soy alto	I am tall	soy alta	I am tall
soy español	I am Spanish	soy española	I am Spanish
estoy en Madrid	I am in Madrid	soy de Madrid	I am from Madrid
estoy hambriento	I am hungry	estoy despierta	I am awake
estoy cansado	I am tired	estoy muy cansada	I am very tired
Nina es buena	Nina is good	Pablo es malo	Pablo is bad
es mi amiga	she is my friend	es mi amigo	he is my friend
está en Barcelona	she is in Barcelona	es de Barcelona	he is from Barcelona
es inteligente	she is intelligent	está triste	he is sad
está muy entusiasmada	she is very excited	está aburrido	he is bored

4) Tasks

(a) What do you notice about pronouns (I, he, she) in Spanish?

(b) What do you notice about nouns (e.g. boy, girl, friend) and adjectives (e.g. tall, tired) in Spanish?
Do all adjectives and nouns behave the same way?

(c) Can you work out when to use “soy...” and when to use “estoy ...”? Can you work out when to use “es ...” and when to use “está ...”?

(d) Translate the sentences in the table.

Paco says:		Anna says:	
_____ hombre	I am a man	_____ mujer	I am a woman
_____ fuerte	I am strong	_____ delgada	I am thin
	I am not thin		I am not strong
_____ enojado	I am angry		I am not angry
_____ confundido	I am confused	_____ ansiosa	I am anxious
	Anna is confused	_____ dormido	Pablo is asleep
	she is not anxious	_____ gordo	he is fat
_____ bonita	she is pretty	_____ de mal humor	he is grumpy



(1) Solutions and Markscheme

- (a) Pronouns are omitted. (In this exercise they are omitted, but may be used for emphasis or for clarity.) **1 MARK**
- (b) *-o* and *-a* endings for masculine and feminine. Exceptions: *-e* adjectives don't change; *feliz* doesn't change. **1 MARK + 1 MARK FOR RECOGNISING THERE ARE EXCEPTIONS**
- (c) *soy* and *es* used for permanent conditions (e.g. boy, girl, tall, intelligent, from Madrid); *estoy* and *está* for temporary conditions (e.g. hungry, tired, excited, bored, in Madrid). (This is an over-simplification, but it suffices for this exercise.) **2 MARKS – ONE FOR IDENTIFYING EACH 'CONDITION'**

Paco says:		Anna says:	
<i>soy un</i> hombre	I am a man	<i>soy una</i> mujer	I am a woman
<i>soy</i> fuerte	I am strong	<i>soy</i> delgada	I am thin
<i>no soy delgado</i>	I am not thin	<i>no soy fuerte</i>	I am not strong
<i>estoy</i> enojado	I am angry	<i>no estoy enojada</i>	I am not angry
<i>estoy</i> confundido	I am confused	<i>estoy</i> ansiosa	I am anxious
<i>Anna está confundida</i>	Anna is confused	<i>Pablo está</i> dormido	Pablo is asleep
<i>no está ansiosa</i>	she is not anxious	<i>es</i> gordo	he is fat
<i>es</i> bonita	she is pretty	<i>está</i> de mal humor	he is grumpy

29 MARKS

TOTAL = 34 MARKS

(2) Commentary

Spanish nouns and adjectives have gender, like French (and many other languages) but unlike English. The masculine and feminine endings are '-o' and '-a'. Adjectives ending '-e' and those ending in a consonant do not vary with gender.

The verbs *ser* and *estar* are both translated as *to be* in English. The distinction between *ser* and *estar* is not easy for English speakers. It is not helped by the fact that in some expressions either form can be used, sometimes with a subtle difference in meaning. And different forms are used, in some cases, in South American and Castillian Spanish. In this problem the issue is simplified: *ser* is used for permanent

conditions and *estar* for temporary conditions.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- What do you notice about adjectives and nouns for females? How is that different for males?
- Do you notice any exceptions?
- Pablo says 'I am a boy' and 'I am happy'. Would he say the same things tomorrow or next week? Could these things change? How do you think that might be connected to 'soy' and 'estoy'?



(1) What language(s) does this problem involve?

Tok Pisin

What is the aim of this problem?

Deduce meanings in a language related to English

(2) Background Information

Papua New Guinea is a country just north of Australia in the Pacific Ocean, with a population of about 5.5 million. The people speak a total of over 800 different languages, which could make communication difficult.

However, this language barrier is overcome by using Tok Pisin, a second language spoken by about three-quarters of the population.

(3) Data and Instructions

The table shows some words in Tok Pisin and in English translation. You should be able to understand many of the Tok Pisin words if you say them aloud. Look at the table carefully, then fill in the gaps.

Tok Pisin	English	Tok Pisin	English
haus	house	haus bilong yu	
haus bilong mi	my house	haus bilong king	
haus moni	Bank	haus sik dok	
haus sik	hospital	haus bilong wasim klos	
maus	mouth	gras bilong het	
gras bilong dok	fur of dog	maus gras	
gras nogut	weeds	katim gras (2 meanings)	
meri	woman, wife, girl	klos meri	
lek bilong pik	leg of pig	backsait bilong lek	
wara	water, river	gris bilong pik	
solmit	salted meat	haiskul	
	leg of dog	bret	
	saltwater	kukim bret	
	grass	kikbal	
	Bed	belo bilong klok	



(1) Solutions and Markscheme

1 MARK PER CORRECT ANSWER

TOTAL = 20 MARKS

Tok Pisin	English	Tok Pisin	English
haus	house	haus bilong yu	your house
haus bilong mi	my house	haus bilong king	palace
haus moni	Bank	haus sik dok	animal hospital
haus sik	hospital	haus bilong wasim klos	laundry
maus	mouth	gras bilong het	hair (on head)
gras bilong dok	fur of dog	maus gras	moustache
gras nogut	weeds	katim gras (2 meanings / 2 marks)	cut grass, cut hair
meri	woman, wife, girl	klos meri	women's clothes
lek bilong pik	leg of pig	backsait bilong lek	back of leg, calf
wara	water, river	gris bilong pik	pig fat, lard
solmit	salted meat	haiskul	high school
lek bilong dok	leg of dog	bret	bread
solwara	saltwater	kukim bret	bake bread
gras	grass	kikbal	football
bet	bed	belo bilong klok	ring of an alarm clock

(2) Commentary

When speakers of different languages mix together, a common language, called a pidgin, often develops. Tok Pisin developed in that way. It is a mixture of English and the native languages of Papua New Guinea. The name 'Tok Pisin' comes from 'Talk Pidgin', and 'Pidgin' is thought to have come from 'business'. So the language is 'business talk'.

Tok Pisin is now a native language for some people. A pidgin that has become a native language is called a creole.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Try saying the Tok Pisin words out loud
- Look for similar sounding English words



(1) What language(s) does this problem involve?

Abma

What is the aim of this problem?

To work out the meanings of sentences in Abma, and to translate some sentences from English to Abma.

(2) Background Information

Abma is an Austronesian language spoken in parts of the South Pacific island nation of Vanuatu by around 8,000 people.

In the Abma sentences you will read below, there is no separate word for 'the' or 'he'.

(3) Data and Instructions

Read these sentences in Abma carefully and think about any grammatical rules or patterns you notice. Also, see if you can work out the meanings of some of the individual words.

Then complete the exercises on the next page.

Abma	English
Mwamni sileng.	He drinks water.
Nutsu mwatbo mwamni sileng.	The child keeps drinking water.
Nutsu mwegau.	The child grows.
Nutsu mwatbo mwegalgal.	The child keeps crawling.
Mworob mwabma.	He runs here.
Mwerava Mabontare mwisib.	He pulls Mabontare down.
Mabontare mwisib.	Mabontare goes down.
Mweselkani tela mwesak.	He carries the axe up.
Mwelebte sileng mwabma.	He brings water.
Mabontare mworob mwesak.	Mabontare runs up.
Sileng mworob.	The water runs.

Here are some other words you will need for the exercises:

Abma	English
seserakan	teacher
mwegani	eats
bwet	taro (a kind of sweet potato)
muhurai	walks
butukul	palm tree

4) Tasks

a) Use the language in the data section to help you translate these English sentences into Abma.

English	Abma
The teacher carries the water down	
The child keeps eating	
Mabontare eats taro	
The child crawls here	
The teacher walks downhill	
The palm-tree keeps growing upwards	
He goes up	

b) Now use the language in the data section to help you translate these Abma sentences into English.

Abma	English
Sesesrakan mweelkani bwet mwabma	
Sileng mworob mwisib	
Mwelebte bwet mwesak	



(1) Solutions and Markscheme

a)

English	Abma
The teacher carries the water down	SESESRAKAN MWESELKANI SILENG MWISIB.
The child keeps eating	NUTSU MWATBO MWEGANI.
Mabontare eats taro	MABONTARE MWEGANI BWET.
The child crawls here	NUTSU MWEALGAL MWABMA.
The teacher walks downhill	SESESRAKAN MUHURAI MWISIB.
The palm-tree keeps growing upwards	BUTSUKUL MWATBO MWEKAU MWESAK.
He goes up	MWESAK.

7 marks

b)

Abma	English
Sesesrakan mweelkani bwet mwabma	THE/A TEACHER CARRIES (THE) TARO HERE. OR: THE/A TEACHER BRINGS (THE) TARO.
Sileng mworob mwisib	(THE) WATER RUNS DOWN/DOWNWARDS/DOWNHILL.
Mwelebbe bwet mwesak	HE BRINGS / CARRIES (THE) TARO UP/UPWARDS/UPHILL.

3 marks

TOTAL MARKS = 10

(2) Commentary

Pupils are likely to have most success in this problem if they look for similarities in the English sentences, then look for corresponding similarities in the Abma sentences – this applies to both grammatical features and to vocabulary items.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- Are any of the English sentences similar to one another?
- Are any of the corresponding Abma sentences similar?
- Can you use a process of elimination to decide which Abma words translate the similar words and which have other meanings?
- Could you make yourself a vocabulary list with the words you have worked out? Would it help you when it came to building your own Abma sentences / translations?



(1) What language(s) does this problem involve?

Japanese

What is the aim of this problem?

To match Japanese words written using the 'hiragana' system to their pronunciations.

(2) Background Information

There are a variety of different ways of writing the Japanese language. Some words are written using 'logographs' (picture-like symbols which represent whole words) and others are written using a phonetic alphabet, where symbols represent sounds.

One of the phonetic alphabets used is called hiragana, and it is used when children are learning to read, or to spell complicated or unusual words.

(3) Data and Instructions

Look at these words written using the hiragana script. Think carefully about the type and number of symbols you see, and look out for any patterns or sequences. Then complete the exercises on the next page.

1	あか
2	さと
3	でんき
4	あさ
5	かつどん
6	かお
7	きた
8	つど

4) Tasks

a) Here are the Japanese words from the data section again. There is also a list of pronunciations, in a random order. Match the pronunciation to the Japanese word by writing the letters in the correct place in the answer grid. The English translation is given in brackets in case you are interested!

1	あか
2	さと
3	でんき
4	あさ
5	かつどん
6	かお
7	きた
8	つど

A	kita (north)
B	kao (face)
C	denki (electricity)
D	tsudo (every time)
E	asa (morning)
F	katsudon (pork and rice)
G	aka (red)
H	sato (village)

Answer Grid

1	2	3	4	5	6	7	8

b) How would you pronounce these words? Write the pronunciation(in English) in the space provided. Use the data above to help you.

おでき (eruption)	
だん (group)	

c) How would you write the following words using hiragana? Write the word in the space provided.

satsu (banknote)	
kanten (point of view)	



(1) Solutions and Markscheme

a)

Answer Grid

1	2	3	4	5	6	7	8
G	H	C	E	F	B	A	D

8 marks

b)

おでき (eruption)	odeki
だん (group)	dan

2 marks

c)

satsu (banknote)	さつ
kanten (point of view)	かんでん

6 marks (one per correct symbol)

TOTAL MARKS = 16

(2) Commentary

Way in: The longest Hiragana form presumably corresponds to the longest pronunciation; so Hiragana 5, with four characters, presumably has pronunciation F, katsudon.

Now how can you use four characters to represent a pronunciation written with 8 letters? Guess: each character shows a syllable – a combination of a consonant followed by a vowel. (This is obvious if you already know that some writing systems work like that.) So the first Hiragana character means ‘ka’ and the second ‘tsu’. But that leaves a single syllable, ‘don’, with two characters. Guess: since all the other syllables are ‘open’ (i.e. there’s no final consonant), maybe the final consonant ‘n’ gets a separate character. So the third character is ‘do’ and the fourth ‘n’.

If your guesses are right, they’ll guide you to a sensible solution; but of course they may be wrong, so keep an open mind until you’ve checked the rest of the data. For example, the guess about ‘n’ is

immediately confirmed when you look for other words containing 'n', and you find just one pronunciation (C. denki) and one Hiragana form with the 'n' character in just the right place. Now you've cracked the characters in 'katsudon', all the other characters will be easy to pin down.

Turning to the questions, most of them can be answered directly on the basis of the available data. BUT two can't. These are 2.2b and 2.3b, both of which raise the same difficulty: how to go beyond the basic data to see if you understand the principles behind the correspondences. 2.2b includes a Hiragana character that's not in the basic data, but it's built out of the TA symbol plus a little equals sign. If you look at the other characters, you'll also find the little equals sign on DO, which is otherwise identical to TO, and also on DE, though there's no corresponding character without it. What you have to do is to see the pattern here, and complete the analogy:

$$TO : DO :: 1 : DE :: TA : 2$$

What is '2'? Once you see it laid out like that, it's obvious that 2 = DA. Likewise in 2.3b, where you need the character for TE, which isn't in the basic data. But the pattern tells you that 1 = TE, so you simply remove the little equals sign from DE, and you have the solution.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

Prompt questions for this problem are included within the commentary.



(1) What language(s) does this problem involve?

'Yodaspeak'

What is the aim of this problem?

To rewrite sentences spoken by Star Wars character Yoda.

(2) Background Information

In the Star Wars movies, the character Yoda spoke English with a distinctive word order. This was apparently done deliberately to make him seem different and special.

(3) Data and Instructions

Look at these examples of sentences spoken by the character Yoda in the Star Wars movies. In these sentences, Yoda uses his special 'Yodaspeak' word order. We can call these 'pure' Yodaspeak sentences. Think about what they mean and how they are different to 'regular' English sentences.

Take you to him I will.
A domain of evil it is.
Help them you could.
Always two there are.
Truly wonderful the mind of a child is.
Much to learn you still have.
When nine hundred years old you reach, look as good you will not.
Your apprentice Skywalker will be.
Lost a planet Master Obi-Wan has.
Your father he is.
Unexpected this is.
Hiding in the Outer Rim Grievous is.
Go I will. Good relations with the Wookies I have.

Now look at this next set of Yoda quotes. These are also said by Yoda in the film but don't use 'pure' Yodaspeak. In fact, some of them use regular English. We can call these 'alternative' Yodaspeak sentences.

I cannot teach him.
A Jedi's strength flows from the Force.
The fear of loss is a path to the dark side.
Disturbing is this move by Chancellor Palpatine.
The capture of General Grievous will end this war.
A little more knowledge might light our way.
Sick have I become.

Now complete the exercises on the next page.

4) Tasks

a) Write these sentences from 'pure' Yodaspeak in regular English.

Pure Yodaspeak	Regular English
Take you to him I will.	
Your apprentice Skywalker will be.	
Truly wonderful the mind of a child is.	
Hiding in the Outer Rim Grievous is.	
Go I will. Good relations with the Wookies I have.	
Help them you could.	

b) Now write these sentences from 'alternative' Yodaspeak in 'pure' Yodaspeak.

Alternative Yodaspeak	Pure Yodaspeak
I cannot teach him.	
A Jedi's strength flows from the Force.	
Sick have I become.	
Disturbing is this move by Chancellor Palpatine.	



(1) Solutions and Markscheme

a)

Pure Yodaspeak	Regular English
Take you to him I will.	I WILL TAKE YOU TO HIM
Your apprentice Skywalker will be.	SKYWALKER WILL BE YOUR APPRENTICE
Truly wonderful the mind of a child is.	THE MIND OF A CHILD IS TRULY WONDERFUL
Hiding in the Outer Rim Grievous is.	GRIEVOUS IS HIDING IN THE OUTER RIM
Go I will. Good relations with the Wookies I have.	I WILL GO. I HAVE GOOD RELATIONS WITH THE WOOKIES.
Help them you could.	YOU COULD HELP THEM.

7 marks

b) Now write these sentences from 'alternative' Yodaspeak in 'pure' Yodaspeak.

Alternative Yodaspeak	Pure Yodaspeak
I cannot teach him.	TEACH HIM I CANNOT.
A Jedi's strength flows from the Force.	FROM THE FORCE A JEDI'S STRENGTH FLOWS.
Sick have I become.	SICK I HAVE BECOME.
Disturbing is this move by Chancellor Palpatine.	DISTURBING THIS MOVE BY CHANCELLOR PALPATINE IS.

4 marks

TOTAL MARKS = 11

(2) Commentary

Pupils are likely to be most successful in this problem if they are confident in their knowledge of subject, verb and object in a sentence, and a useful starting point is to get them to identify the verb(s) in each subject.

(3) Prompt questions for teachers

Listed are some questions you may wish to use to help pupils make inroads into a task, or extend their thinking on a task.

- What is strange about the way Yoda speaks?
- Can you find the subject and verb in each sentence?
- What does the position of the subject and verb tell us about how Yoda forms his sentences?
- What does he move, and to where?
- Can you use your grammatical knowledge to explain what Yoda does to his sentences? Can you explain the rule?