

# KEY STAGE 3 MUSIC PROJECTS

## PUPIL'S BOOK

Name \_\_\_\_\_

Form \_\_\_\_\_

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## Introduction

This unit allows you to examine **polyrhythms**. This word literally means 'many rhythms' and forms the basis of music around the world – polyrhythms are common in the music of such far-off places as Africa and Indonesia, and are used also in many forms of pop and classical music too.

### Activity 1

The first thing we are going to do is get a **polyrhythm** up and running. You might have already done something similar to this with your teacher, but now we are going to try a composition. First, we have to learn to use a special number notation.

As a class, clap the following rhythm. Your teacher will clap it first, so listen carefully.



This might be a difficult rhythm for some of you to read, so we can simplify it by giving each note a number like this:

1 . 3 . 5 6 7 . 9 10 11 12 . 14 15 .

Can you see that you do not clap where there is a dot? When you get to the end of it, go straight back to the beginning and repeat it again – but make sure that you do not lose a beat when you do.

Now you are on your way to producing your first polyrhythm. Get into a group of three others. One of you will start clapping the rhythm and the second will come in after one beat, the third a beat later and the fourth a beat later still.

You might find it wise not to listen too hard to your friends until you have got a smooth texture – don't worry if it falls apart: patience will help!

The result you will hear is a continuous stream of notes, although individual rhythms will be coming from different places, allowing you to hear each line separately.

### Activity 1

Fill in the following table an assessment of how you feel you did. There is a box for your grade, as well one from your teacher.

Activity 1: Assessment		My Grade	Teacher's Grade
How well I learned the rhythm from notation			
How well I handled the rhythm, by keeping the pulse etc.			
How well I worked in the group			
How well I performed the music			

As you can see, the table above asks you to make certain comments about your work. The first asks whether you learned to clap the rhythm from notation, or whether you had to get help from someone else.

The second statement asks whether you managed to keep the rhythm going – were you put off by the others in your group or could you keep the rhythm going at all times?

You will have needed to work carefully with others in your group, working responsibly and making suggestions to help each other. The third asks how well you managed that situation.

Finally, you will be asked about your abilities to perform – did you work hard at making the music appear interesting to listen to, did you show your audience that you were aware of the others and had good control of both the sound and the rhythm?

## Activity 2

Listen carefully to this music – it’s called *Clapping Music* and is by the American composer **Steve Reich**. We call this sort of music *minimal* because it uses a very small amount of material that is constantly changing. Write in this box your reactions to it and then fill in the table below with appropriate grades.

Steve Reich’s use of rhythm	<input type="checkbox"/>
Steve Reich’s use of texture	<input type="checkbox"/>
How interesting in the music sounded	<input type="checkbox"/>
The group’s performance	<input type="checkbox"/>

## Reaction Sheet



Steve Reich is one of many composers who use polyrhythms in their compositions; your teacher might be able to play you some others.

The rhythm of *Clapping Music* is this:



which might be written using number notation like this

1 2 3 . 5 6 . 8 . 10 11 12

This is clapped by two people at the same time, but then an interesting thing happens: Reich creates what is known as a **phase-shift**, where the rhythm of one player becomes detached from that of the other. Both players play the same part several times, but then the first player continues playing that rhythm whilst the first note for the second player is taken from the beginning and placed on the end. In number notation it would look like this:

Line 1: 1 2 3 . 5 6 . 8 . 10 11 .

Line 2: 1 2 . 4 5 . 7 . 9 10 . 12

This continues many times until both players end up with the same rhythm again. You might want to have a go at something similar with the following activity.

### Activity 3 – Clappers

With a partner, learn the following rhythm. To begin with, you might need to count aloud – but make sure you are both counting at the same time.



1 2 3 . 5 . 7 .

When you have it right, one of you should continue clapping the same rhythm whilst the other follows the pattern below:

1	2	3	.	5	.	7	.
1	2	.	4	.	6	.	8
1	.	3	.	5	.	7	8
.	2	.	4	.	6	7	8
1	.	3	.	5	6	7	.
.	2	.	4	5	6	.	8
1	.	3	4	5	.	7	.
.	2	3	4	.	6	.	8
1	2	3	.	5	.	7	.

Take it in turns to try the second part. When you have learned this, you might wish to try some of the following ideas:

1. Repeating each line several times
2. Transferring your rhythm to percussion instruments

When your performance is ready, you should perform it to the rest of your class. Once it is complete, assess your work as you did before by filling in the table below.

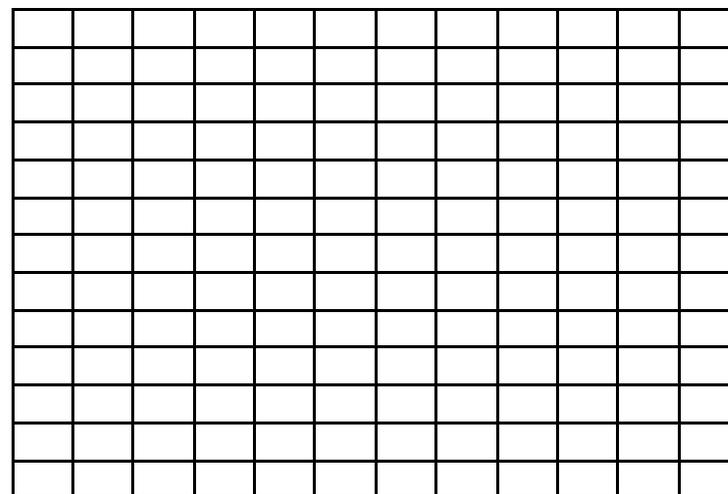
## Assessment

Activity 2: Assessment	My Grade	Teacher's Grade
How well I learned the rhythm from notation		
How well I handled the rhythm, by keeping the pulse etc.		
How well I worked with my partner		
How well I performed the music		

## Activity 4 – Composing a rhythm complex

Compose a rhythm that is similar to the one you have recently performed. You will have to come up with a good rhythm to begin with and like the earlier exercises, this will need to contain rests to make sure that the texture is right all the time. You can use the grid below for your composition. When you think you have found the right rhythm, find a partner and work with him or her on producing a performance for your friends. This time you might want to introduce some new elements to your performance that you could write on your score: you might want to make one line quiet (*piano*) and another loud (*forte*). Similarly, you might want to introduce a *crescendo* (getting louder) or a *diminuendo* (getting softer). Write your special performance instructions in the box below the grid.

My composition's title \_\_\_\_\_



Special performance instructions



## Activity 4 – Composition Assessment

Fill in the box below, giving yourself a grade for the work you have done. You might need some of the terms explaining:

**Texture** refers to the overall pattern that you have created – have you managed to achieve a constant stream of notes? Is this too thick or thin? **Structure** refers to whether you managed to write a composition in which a **phase shift** occurs. You are also assessed on the accuracy of your notation – do mistakes occur in it that will make performance difficult? Finally, you are graded on your performance instructions. How accurate are they, do they work?

You will notice that your performance is not assessed this time. This is because you have already performed a similar piece. However, to judge if it is a good composition, you will need to rehearse the work sensibly, making sure that your performance is accurate and includes all your performance suggestions.

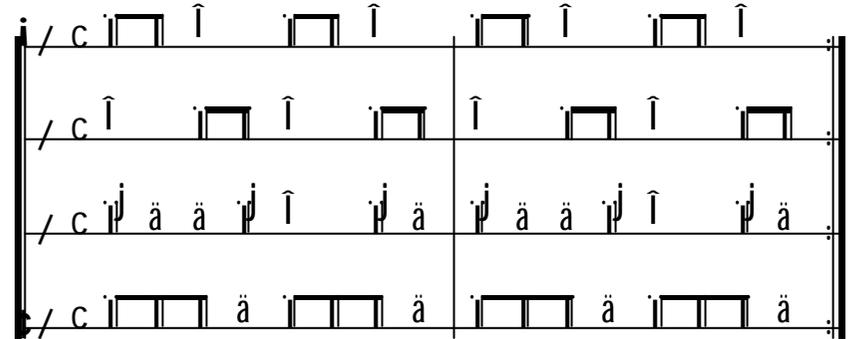
Activity 4: Composition Assessment		
	My Grade	Teacher's Grade
Texture		
Structure		
Accuracy of notation		
Special performance instructions		

## Activity 5 – African Drumming Patterns

This activity looks at some African drumming systems. Dancing, singing and drumming are important aspects of life all over the African continent and many children are brought up learning the proper skills to become a master drummer. Although we do not have enough time for you to be able to learn this skill completely, we shall still examine some complex rhythms and you will complete a composition exercise.

The first thing we have to do is try out some common African patterns. Although these are found right across continental Africa, for our purposes, we shall be examining those from Ghana.

Your teacher will play you a recording of these rhythms. First you will hear each of them singly, then together.



As you will see, each line has rests that stop the music from having a thick texture. Some of these lines are rather hard to read from staff notation, so you will also find below the same music written using numbers:

[1] 1 2 . . 5 6 . . 9 10 . . 13 14 . .

[2] . . 3 4 . . 7 8 . . 11 12 . . 15 16

[3] 1 . . 4 . . 7 . 9 . . 12 . . 15 .

[4] 1 2 3 . 5 6 7 . 9 10 11 . 13 14 15 .

Have you noticed that beats 9-16 are exactly the same as beats 1-8? When we repeat the same rhythm over and over, we give it a special term, **ostinato**. Try to use this word when you are doing your work.

Working on your own, learn each of these lines. When you have them perfected, work with a partner trying all the combinations together. When you have, you are ready to work with another pair to put the whole rhythm together.

You should try to use instruments for this project, although it is not always a good idea to play them too loudly to begin with. When you do a performance, however, try to do the following:

1. Vary the sounds you make on each repeat – if you are using a drum, you might want to try either hitting the skin in different places or using a different kind of beater.
2. Vary the dynamics – interest can be gained from a simple structure like this by going from **piano** to **forte** or placing an accent on some notes.

3. Vary the structure – rather than all starting at the same time, start with one instrument. On the first repeat, include a second and so on until the whole rhythm is performed. You might also wish to drop an instrument from your performance for a couple of repeats. This again changes the texture and keeps the listener's interest.
4. If you are using conga drums, bongos or a two-headed woodblock, assign some notes to one and some to the other. You can show these on your score by using different colours or writing in an H for high and a L for low.

## Activity 5 – African Drum Patterns: Performance Assessment

You should now be used to thinking in terms of your individual performance. As usual, you should fill in the box below to make sure that you keep a record of your work.

Activity 5: Assessment		My Grade	Teacher's Grade
How well I learned the rhythm from notation			
How well I handled the rhythm, by keeping the pulse etc.			
How well I worked with my group			
How well I followed the performance instructions			
How well I performed the music			



When you have completed your performance, fill in the space below with information about how you got on. Use appropriate language and make sure you discuss how you learned the piece, any problems you had and how you overcame them.



A West African speaking drum

## Activity 7 – Composition

It is time to put everything you have come across into practice. Your task is to compose a drumming system in four parts. When you have completed this, you will work with a group of three others to create an extended composition, attaching theirs to yours. Each person's system is to be played several times before you go onto the next. Try not to have any breaks between sections. Also, remember that you can include structures and performance suggestions – do your best to make your composition interesting. Below are several grids for you to work on.

Most of the systems we have examined so far have had quite clear rhythms; one way in which this has been achieved is by leaving at least one beat in the system totally free, as a rest. This gives the music a sense of direction and focus, stopping it from becoming muddy and thick-sounding.

When you have completed the performance, make a permanent record of your work by transcribing it from number to staff notation. Several of you might have already been required to do this.






## Composition Assessment

The table below looks at your final activity this term, examining how well you did in your composition, but also in rehearsing it and putting it on as a performance.

Activity 7: Composition Assessment		My Grade	Teacher's Grade
Texture			
Structure			
Accuracy of notation			
Special performance instructions			
How well I learned the rhythm from notation			
How well I handled the rhythm, by keeping the pulse etc.			
How well I worked with my group			
How well I rehearsed the music			
How well I followed the performance instructions			
How well I performed the music			
My effort this term			
My overall grade for the work completed			

You have completed your project on polyrhythms. Overleaf is a large box for you to write down your experiences. Make sure you say what went well and what went badly, and try to say what things you did to overcome any problems.

My Comments



My Teacher's Comments



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...the internet service for practical musicians.

# KEY STAGE 3 MUSIC PROJECTS

## TEACHER'S NOTES

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# Polyrhythms – Teacher’s notes

Time Required: Approximately one term

National Curriculum Programme of Study: 1: b, c 2: b 3: a, b 4: a, c

Equipment: Photocopyable workbooks  
Hand percussion  
MusicTeachers.co.uk mp3s or other suitable recordings  
Recordings as support material including *Steve Reich: Early Works* (Elektra Nonesuch 979 169-2).

## Introduction

The concept of polyrhythms at first might be difficult to grasp, and it is worth having ready some recordings for your students. Quite a lot of such music is available on the market. These may be used at any time as support material. A suggested list might be:

Mike Oldfield – *Tubular Bells*  
Stravinsky – *The Rite of Spring*  
Paul Simon – *Graceland* or *Rhythm of the Saints*  
A recording of Balinese or Jarvan gamelan

Similarly, you might be able to find suitable material on the World Wide Web on such sites as mp3.com.

You will need to download the accompanying mp3 files from the music-teachers.co.uk website. Don’t worry if you do not have an mp3 player since most real audio players can convert mp3s into .wav and format.

You can also introduce polyrhythms in a practical manner by echo clapping with your class:

1. Sit with the class in a circle; explain that you are going to teach the pupil on your right a four-beat rhythm, which no-one else is to clap:

your pupil should then teach the same rhythm to the person immediately to his/her right, whilst you both continue with the rhythm. It is perhaps best to start with four crotchets to begin with.

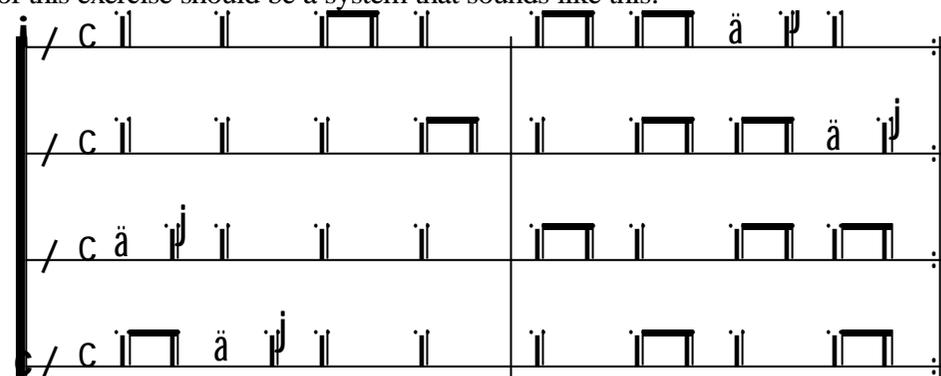
2. When about half of the group are clapping the rhythm, teach the pupil to your right another, perhaps quavers. S/he should then teach this as before.
3. Continue introducing new rhythms at ever-decreasing intervals so that the musical texture changes.

You have to encourage your pupils to make sure that they listen to the whole texture, not just their part.

## Activity 1

This first activity is quite a difficult task, and is worth spending some time on. The use of number notation is quite effective, but if you have children in your group who are capable of reading staff notation, make them do so.

Several children might have problems keeping this rhythm going. It is perhaps best to pair these with one who has a good rhythmic sense. The result of this exercise should be a system that sounds like this:



With each entry dovetailed, there should be few problems with developing the structure.

This should take some time to perfect; if you don’t have enough time, it can be taught as a class activity, with your pupils divided into four large groups.

The final result should be a continual stream of quavers – emphasise this, although you should also point out the following:

1. That although the result is a constant flow of notes, the sound is coming from different places (this might be easier explained if, on performance, the children stand some distance apart).
2. That the timbre of each pupil's clap allows the listener to distinguish individual lines.

You might also wish to extend the activity by giving your pupils percussion instruments and varying dynamics. You might even try to get them to produce something on a much grander scale, with two groups working together, alternating instruments etc.

## Activity 1: Assessment

It is perhaps worth assessing this activity since it might give you a picture of how well you feel individual pupils will work in the coming activities.

Pupils are asked to grade themselves in the work they are doing. You might wish to mark the pupils on their performance using the assessment table in Appendix 1. This is adapted from the Guildhall School of Music and Drama's examination procedure and allows you to focus on the individual skills your pupils use, and may be kept as a record of achievement.

## Activity 2: Steve Reich – *Clapping Music for 2 Performers*

This listening exercise is designed to introduce more complex polyrhythms to your pupils. Children are asked to fill in a reaction sheet and assess the music from their own perspective. Whether they liked the music or not is purely a matter of taste and should really be discouraged. Instead, stress the importance of the composer's craft – for example, why Reich wrote such a composition in such a way, how this relates to other forms of music the children might have come across, etc.

The following activities are designed to extend the idea of a *phase shift*, firstly by giving them a chance to learn and perform a polyrhythmic structure, and then by composing one.

## Activity 3: *Clappers*

*Clappers* is based on the Reich model, much simplified. For children with note reading capabilities, extend the activity by giving it to them as standard notation. Each child should try both parts, although for those with difficulties, the first part only might be sufficient. One player should keep the first line going whilst the other works through the remaining lines. Eventually they should both come together with the same rhythm. Both players might need to count aloud to begin with. Recording 1 contains a performance of this composition.

Extensions of this activity might include repeating each line several times, using tuned and untuned percussion instruments or even using melodic strands with the rhythm.

## Activity 3: Assessment

Children grade their work in a similar manner to Activity 1. You will need to discuss with them their performance, but this time, try to ensure that they begin using appropriate language such as *polyrhythm* and *phase-shift* to show their understanding.

## Activity 4: Composition

This activity allows your pupils to attempt a similar composition. Although the grid provided in their workbooks allows them to compose rhythms of up to twelve beats' length, some pupils might need to restrict this to eight instead. More able musicians might wish to extend the composition to sixteen beats or use staff notation.

Students will need to ensure that their rhythms are playable – the Reich example and *Clappers* both contain rests that allow for the gap to be 'plugged' by the other voice. If the rhythm is too thick, the texture will sound too

heavy and unmanageable. Similarly, too scant a rhythm creates problems of keeping together in performance.

## Activity 4: Assessment

Since your pupils have already performed a rhythm complex, performance assessment here is perhaps not too important. Instead, their attention needs to be turned to how well their compositions sound. Have they understood the task that is required of them, is the texture they create manageable, etc?

## Activity 5: Performance

Recording 2 contains a complete performance of these rhythms. The third line of this structure is quite difficult and you may need to assign it to more able pupils. You should try to introduce instruments at this point. Do not worry if you do not have enough for your class since pupils can learn the rhythms by clapping to begin with. Also, it is worth bearing in mind that many African musicians make music with whatever is to hand. So if you wish to fill an old cereal box with lentils, do since this is a perfectly good substitute for a rattle. Beware of Health and Safety laws, however.

## Activity 5: Assessment

You might need to help your pupils handling instruments, especially if they attempt to use two-toned percussion. Here, you should emphasise the need for a structure and make sure that each child in the group contributes something when deciding an appropriate format.

## Activity 6: An African Dance – *Sohu*

This activity is designed for a differentiated whole-class performance. Through the pupils' previously assessed activities, you should have a fairly good idea of how they handle performances. Therefore, it is suggested that this activity is completed without marking and allow the children to perform naturally, without any additional pressure. Also, given the size of the group, you will have difficulties with many aspects of individual assessment. Children are encouraged in their workbooks to fill in a self-evaluation sheet. Encourage the groups to include changes of texture and develop a

structure. If you have too many students, parts can be doubled, but in such instances, try to use instruments of differing timbre.

Recording 3 contains a complete performance of the drumming system.

## Activity 7: Composition

This final part to the project allows your student to write a drumming system that can be performed in a group of four. When the pupil has completed the composition, s/he should tack it onto his/her partner's so that the whole collection may be performed as a single work. In performance, children should repeat each system several times before moving onto the next. Try to make sure that they pay attention to making the structure interesting and, if they are unable or do not wish to progress through the pieces, that they compose a method of linking one to another.

Some better groups might benefit from a change of time. The first section might be twelve beats long, but the second could be nine, perhaps used only once before changing to another. Your pupils could try many other variables.

One tip that is worthwhile remembering is to always leave one beat silent in all of the systems – this gives a focus to the rhythm and a sense of direction. It does not matter where this rest occurs, but remember that if it appears on an off beat, problems might arise.

After assessment, children are required to fill in an evaluation page. There is also room for you to write your comments. Try to focus on all aspects of the course; since it has been quite long, your pupils might need reminding of what they did.

# Student Assessment Sheet – Polyrhythms

Name of Pupil:

Form:

Activity 1	
Learning of rhythm from notation	
Rhythmic handling	
Group work	
Performance skill	

Activity 2	
Learning of rhythm from notation	
Rhythmic handling	
Group work	
Performance skill	

Activity 4	
Texture	
Structure	
Accuracy of notation	
Performance instructions	

Activity 5	
Learning of rhythm from notation	
Rhythmic handling	
Group work	
Performance instructions	
Performance skill	

Activity 7	
Texture	
Structure	
Accuracy of notation	
Performance instructions	
Learning of rhythm from notation	
Rhythmic handling	
Group work	
Rehearsal skills	
Performance instructions	
Performance skill	
Overall effort	
Overall grade	

Attainment Target	Level
1a. Has performed with an increasing control of instrument-specific techniques	
c. Has practised and rehearsed with musical and group awareness	
2.a Has produced, developed and extended musical ideas and selected and combined resources	
3a. Has analysed and composed pieces of music	
3b. Has communicated ideas and views about music	
4a. Has discriminated in listening to recall and internalise sounds	
4c. Has used staff and number notation	

## Photocopyable Performance assessment table

Name

Activity

AWARENESS - expression, structural awareness, sense of shape, style, mood, character etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
QUALITY OF SOUND - consistency, clarity, focus, attack, dynamic range, projection etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
ACCURACY - observance of performance directions, notes, tempo, rhythm, etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
COMMUNICATION - sense of performance, intent, presentation etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
CONTROL - technical control, co-ordination, postures, sound production etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
Notes				

## Photocopyable Performance assessment table

Name

Activity

AWARENESS - expression, structural awareness, sense of shape, style, mood, character etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
QUALITY OF SOUND - consistency, clarity, focus, attack, dynamic range, projection etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
ACCURACY - observance of performance directions, notes, tempo, rhythm, etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
COMMUNICATION - sense of performance, intent, presentation etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
CONTROL - technical control, co-ordination, postures, sound production etc.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
poor				excellent
Notes				