Music Theory 2

Photocopiable worksheets and factsheets on Music Theory

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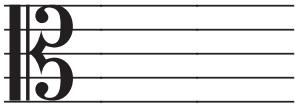
Name: _____ Music Theory 2 Worksheet 1

ALTO CLEF

A ***clef*** fixes the ***pitch*** of notes on the ***stave***. The ***alto clef*** is centred around the middle or 3rd line of the stave. This middle line tells the performer where the note ***middle C*** is found in this clef. Another name for the ***alto clef*** is the ***C clef***.



middle C

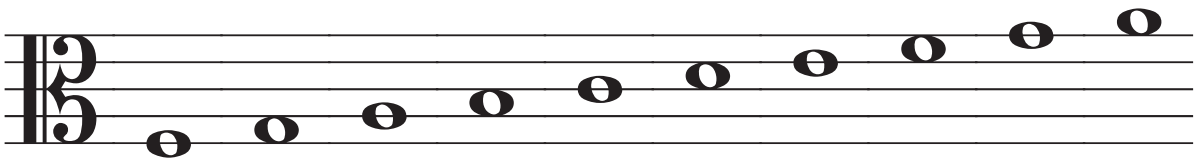
The main reason for using the alto clef is that it helps to avoid too many leger lines when writing music for instruments that frequently use the lower notes in treble clef and the higher notes in bass clef.

Originally the alto clef was used for the alto voice but is now commonly used for the ***viola***.

As you can see the range of the viola extends from the C below middle C right up to the C two octaves above middle C. This makes the alto clef convenient to use as the most usual notes played falls in the middle of this range.

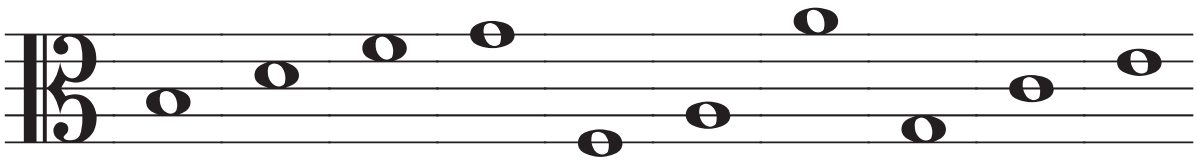
Viola range

Practise drawing the alto clef on the empty stave.



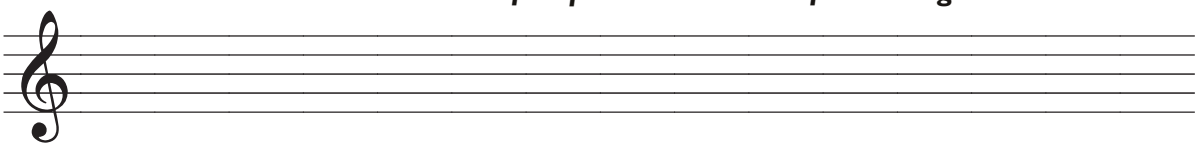
F G A B C D E F G A

Write down the names of the notes below.



___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Now rewrite these notes in treble clef at pitch. Watch out for the leger lines!



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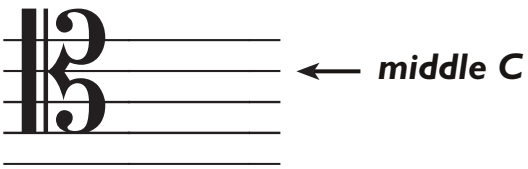
TENOR CLEF

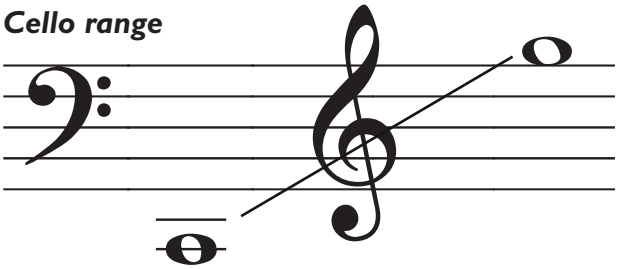
The ***tenor clef*** is centred around the 4th line of the stave. This 4th line tells the performer where the note ***middle C*** is found in this clef. Another name for the tenor clef is the ***C clef***.



As with alto clef, using the tenor clef helps to avoid having to use too many leger lines. This would happen when writing for instruments that have a range from the bass clef up to the lower end of the treble clef and so the tenor clef is used instead.

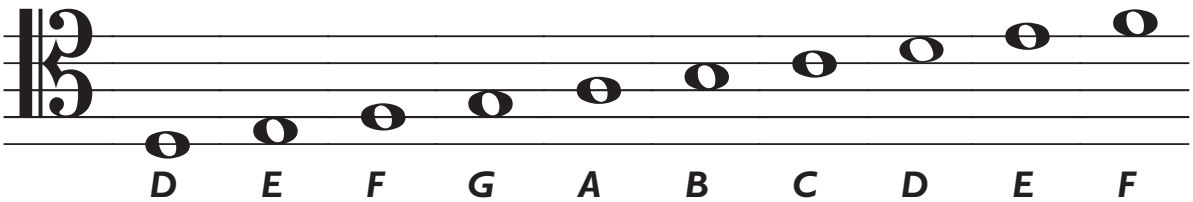
The most common instruments that use the tenor clef are the ***cello***, ***bassoon*** and ***trombone***.

Cello range

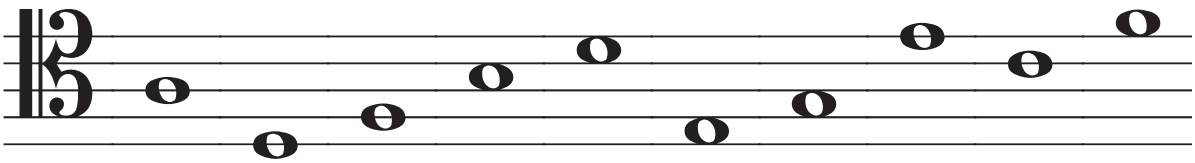


You can see from the diagram that the range of the cello extends from the C two octaves below middle C right up to top G in the treble stave. This makes the tenor clef convenient to use as the most usual notes played falls in the middle of this range.

Practise drawing the tenor clef on the empty stave.

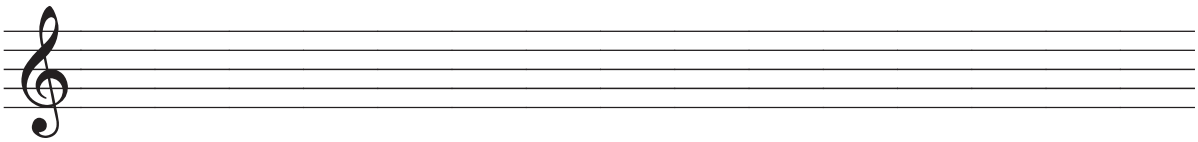


Write down the names of the notes below.



___ ___ ___ ___ ___ ___ ___ ___ ___ ___

Now rewrite these notes in treble clef at pitch. Watch out for the leger lines!



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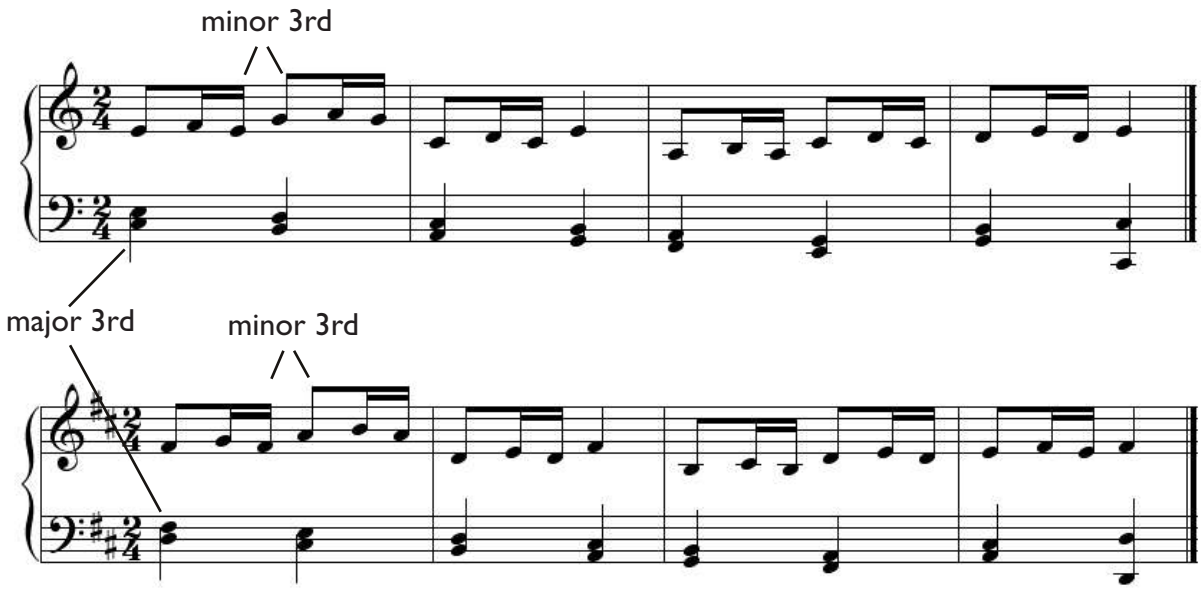
TRANSPOSITION

Transposition in music simply means changing the pitch of a piece of music without altering the relation of one note to another. If you look at the extracts below you will see that although the first one is in C major the ***intervals have stayed the same*** when it has been transposed up a tone into D major. The major thirds in the accompaniment are still major thirds in the transposed extract. The minor third in the melody line is still a minor third in the transposed extract.



If you need to transpose a piece of music the most important thing to remember is that you ***must keep all the intervals the same as the original***. It is particularly easy to forget to add a necessary accidental. If the key signature hadn't been transposed in the extract above it might have been easy to forget the F and C sharps.

On the empty stave below transpose the melody line of the C major extract down a tone. Try this with the key signature written in and then without using accidentals.
On a separate piece of manuscript paper try writing out both parts a tone lower.

The new key is: _____

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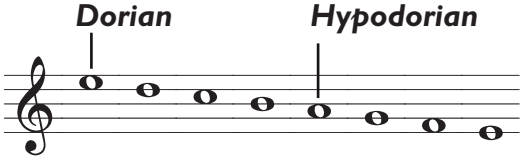
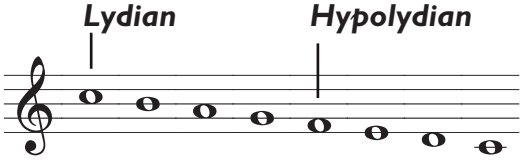
MODES

The origins of the major and minor scales we know today can be traced back to the ***Greeks***. They are called ***Ionian*** and ***Aeolian***. The Greeks also had several other different scales apart from those now comonly used in Western music. They named these scales after different tribes and the principal scales were ***Dorian***, ***Phrygian***, ***Lydian*** and ***Mixolydian***. These scales all had individual characteristics of whole tones and semitones. These tones and semitones were fixed in ***descending*** order and each had a related scale which started a fifth below the main scale. These scales were given the prefix ***hypo*** which means ***under***.

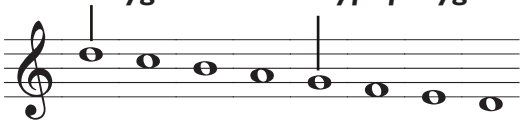
Dorian ***Hypodorian***



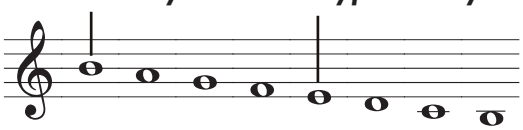
Lydian ***Hypolydian***



Phrygian ***Hypophrygian***

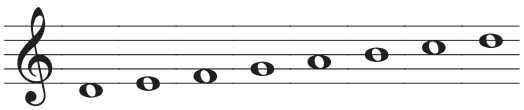


Mixolydian ***Hypomixolydian***

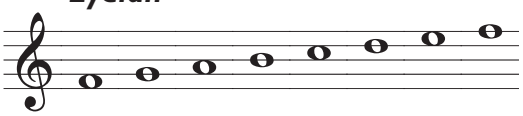


Early Christian musicians took these Greek scales and called them **modes**. The word ***mode*** actually means ***manner***. These musicians ran the scales in ***ascending*** order starting on ***D, E, F*** and ***G***. This changed the notes used dramatically. Compare the Greek scales above with the modes below.

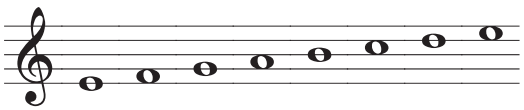
Dorian



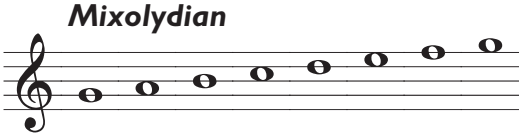
Lydian



Phrygian

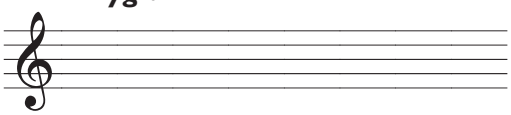


Mixolydian

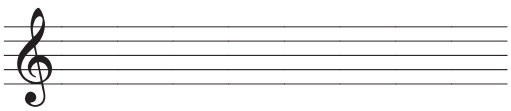


Write the correct modes below.

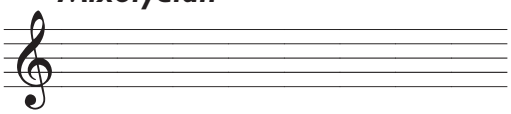
Phrygian



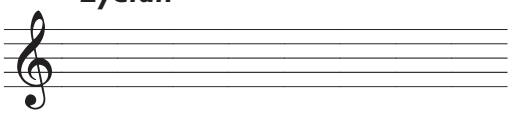
Dorian



Mixolydian



Lydian



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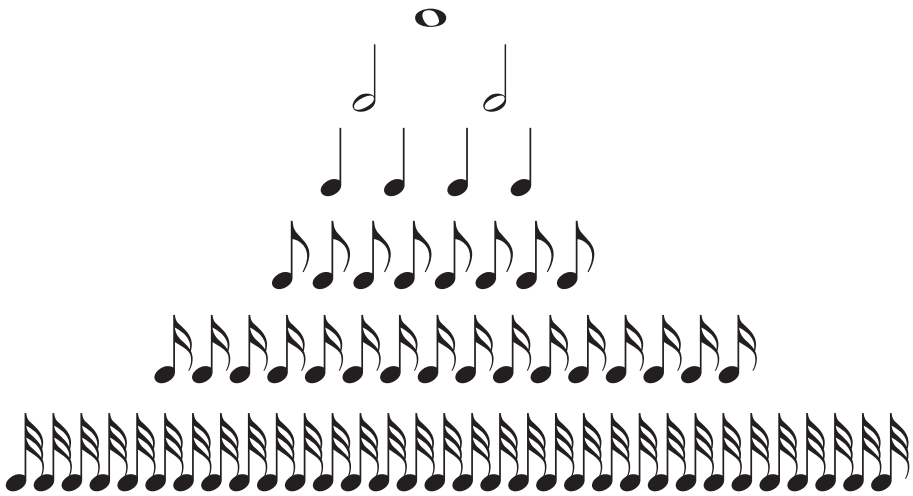
DEMISEMIQUAVERS

As you already know in music there are particular note shapes used to represent different time values. ***Demisemiquavers*** are very quick notes. If you look at the note pyramid below you can clearly see their value in relation to a semibreve.



1 semibreve

2 minims

4 crotchets

8 quavers

16 semiquavers

32 demisemiquavers

These very quick notes aren't so common in music but usually occur as a result of double dots which can reduce the beat to smaller divisions. An even quicker note called a ***hemidemisemiquaver*** exists and there are 64 hemidemisemiquavers to one semibreve!

A demisemiquaver rest looks like a semiquaver rest with an extra tail.

Answer these questions true or false.

One minim is worth 16 semiquavers ☐

Two quavers are equal to 8 demisemiquavers ☐

There are 32 semiquavers in one semibreve ☐

There are 24 demisemiquavers in a dotted minim ☐

One crotchet is equal to two quavers or eight demisemiquavers ☐

Now see if you can work out the answers to the questions below.

+ + = ☐ crotchets

+ + + = ☐ minims

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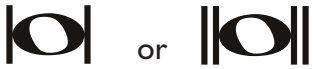
THE BREVE

A ***breve*** is worth ***twice*** as much as a ***semibreve***. This means that it is equal to eight crotchets. It is most commonly found in early music or some hymns which use the time signature of $\frac{4}{2}$.

Strangely, the word ***breve*** comes from the medieval period, where it actually meant a short note. Over the centuries this has changed to mean the opposite.

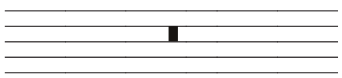
A breve looks similar to a semibreve but has a line either side of the note. Sometimes it is also drawn with two lines on each side.

The breve

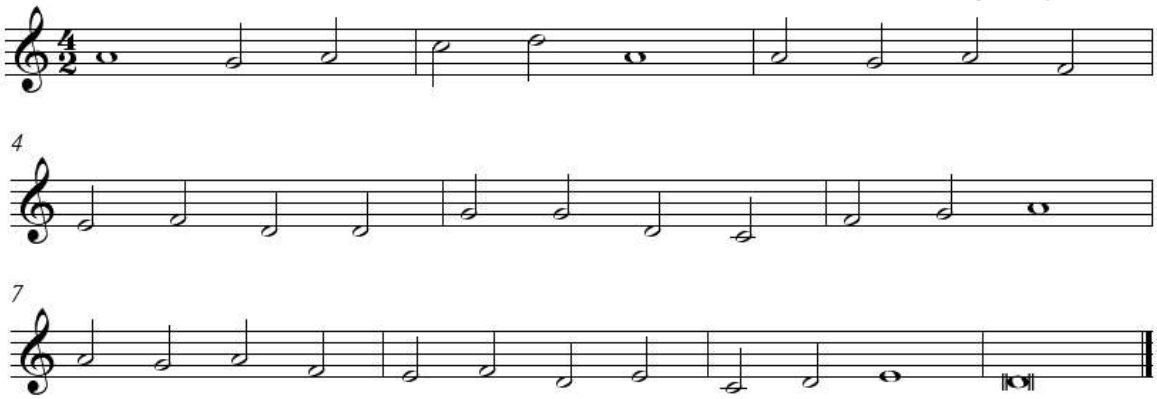


The breve rest is written between the third and fourth lines of the stave and is a small rectangle which sits on the third line. A breve rest is used to indicate a whole bars rest in the time signature of $\frac{4}{2}$. For every other time signature a whole bars rest is indicated by a semibreve rest.

The breve rest



A German Chorale melody using a breve.



Fill in the chart below.

breve	***semibreve***	***minim***	***crotchet***	***quaver***	***semi-quaver***	***demisemi-quaver***
breve rest	***semibreve rest***	***minim rest***	***crotchet rest***	***quaver rest***	***semi-quaver rest***	***demisemi-quaver rest***

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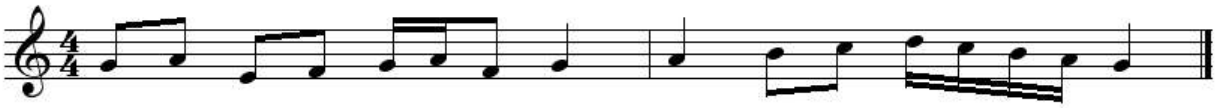
BEAMING

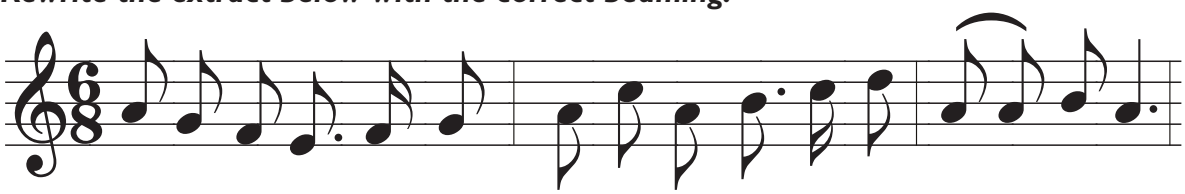
Beaming is simply the musical term for grouping notes together. The clearest way to beam notes together is to think of what will be the easiest to read when playing the music. The clearest division is usually by the main beat. In a simple time signature like $\frac{3}{4}$ this might mean grouping notes into crotchet beats. In a compound time signature such as $\frac{9}{8}$ this might mean grouping notes into dotted crotchets.

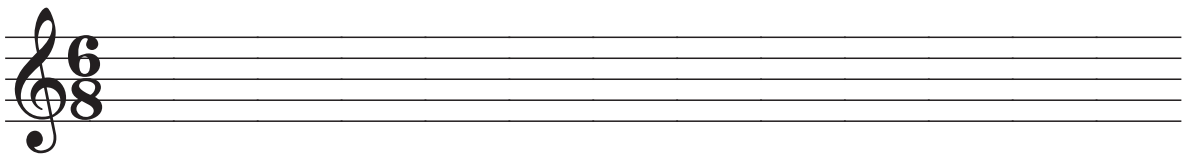
Compare the two short extracts below. In the first all the notes are written separately. Whilst you can read the music of the first extract it is not so easy to see where the beat is. In the second you can see that the groupings make it much easier to read and count.



When writing music remember that with notes below the middle line, the note tails are on the right pointing upwards, and that notes above the middle line have tails on the left pointing downwards. The middle line itself can have tails going either way. It is usually best to put the tail of the notes on the middle line going the same way as the majority of notes in that bar. Equally, if you have one note in a group which crosses over the middle line beam it with the majority of the other notes in its group. Avoid using tied notes unless you really need to. They are usually used when a note is sustained from one bar to the next.

Rewrite the extract below with the correct beaming.





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DOUBLE DOTS

A ***dot*** after a note means that it is held for the original value plus half as much again.

A semibreve = 4 crotchets

therefore a dotted semibreve = + = 6 crotchets

4 + 2

A ***double dot*** means that you add half the value plus half the value again.

Therefore a double dotted semibreve = + + = 7 crotchets

4 + 2 + 1

See if you can work out the value of these notes. Circle the correct answer.

A double dotted crotchet = 7 semiquavers 5 semiquavers 9 semiquavers

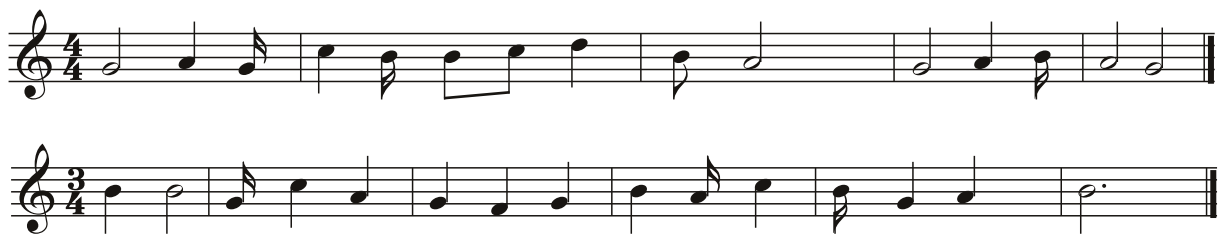
A double dotted minim = 4 quavers 7 quavers 8 quavers

Write down the answers in the spaces provided.

A double dotted quaver = _____ demisemiquavers

A double dotted semibreve = _____ quavers

Add in the double dots where needed to makes these bars complete.



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MUSICAL TERMS FACTSHEET

This quick reference page contains a selection of some of the most common musical terms and symbols along with their meanings.

TEMPO

largo	*slow and stately*
larghetto	*slightly quicker than largo*
lento	*very slow*
adagio	*slow*
andante	*walking speed*
andantino	*quick walking speed*
moderato	*moderate speed*
allegretto	*quite fast*
allegro	*fast and lively*
presto	*fast*
prestissimo	*very fast*

OTHER TERMS

rf or rfz (rinforzando)	*heavily accented*
fz (forzando)	*with force*
sf or sfz (loudly accented)	*loudly accented*
D.C. (da capo)	*go back to the beginning*
D.S. (dal segno)	*go back to the sign* 𝄋
ten. (tenuto)	*hold the note*

CHANGING TEMPO

accelerando	*get faster*
ritardando	*gradually slow down*
rallentando (rall.)	*gradually slow down*
allargando	*broader*
ritenuto (rit.)	*slow down*
piu mosso	*more movement*
meno mosso	*less movement*
a tempo	*return to the previous speed*
tempo primo	*return to the original speed*

DYNAMICS

molto pianissimo	***ppp***	*extremely quiet*
pianissimo	***pp***	*very quiet*
piano	***p***	*quiet*
mezzo piano	***mp***	*quite quiet*
mezzo forte	***mf***	*moderately loud*
forte	***f***	*loud*
fortissimo	***ff***	*very loud*
molto fortissimo	***fff***	*extremely loud*
crescendo	<	*gradually get louder*
diminuendo	>	*gradually get quieter*

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METRONOME MARKINGS & TEMPO INDICATIONS

The ***metronome*** was invented by a man named ***Maelzel*** who lived from 1772-1838. It was designed to ensure that strict time was kept when playing a piece of music. Early metronomes were wound up and then ticked like a clock at a steady beat set by moving a sliding bar up and down. When you see a metronome marking it is usually written like this: M.M. ♩ = 60. This means that there are 60 crotchet beats in one minute. This would be equal to one crotchet every second. The M.M. stands for ***Maelzel's Metronome***.

Today metronomes come in all shapes and sizes but the basic principal is the same. Using a metronome when practising can be a useful method of making sure that you keep accurate time. Equally, if you are composing, adding a metronome marking can help to ensure that the music is performed at the correct speed, as it is more precise than simply writing adagio, andante, allegro etc.

The beat indicated by a metronome does not have to be a crotchet. Sometimes you may wish to indicate the beat of minims or quavers. These would follow exactly the same format but the crotchet would be replaced by the note value you want to use. Below are two examples.

M.M. ♪ = 44 — 44 quavers in one minute

M.M. 𝅗𝅥 = 56 — 56 minims in one minute

The number of beats per minute roughly correspond to the different musical terms as shown in the table.

largo	♩ = 40 - 60
larghetto	♩ = 60 - 66
lento	♩ = 66 -70
adagio	♩ = 70 - 76
andante	♩ = 76 - 90
andantino	♩ = 90 - 108
moderato	♩ =108 - 116
allegretto	♩ = 116 - 125
allegro	♩ = 125 - 168
presto	♩ = 168 - 200
prestissimo	♩ = 200 - 208

Work out the musical term that corresponds to each tempo indication.

M.M. ♩ = 64 _____

M.M. ♩ = 120 _____

M.M. ♩ = 144 _____

M.M. ♩ = 86 _____

M.M. ♩ = 132 _____

M.M. ♩ = 100 _____

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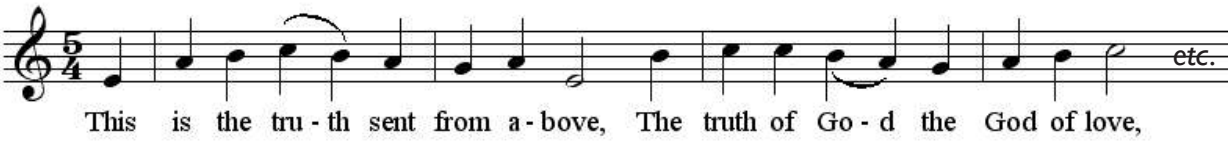
Name: _____ Music Theory 2 Worksheet 11

IRREGULAR TIME SIGNATURES

A ***time signature*** fixes the number of beats found in each bar. We are used to time signatures using ***duple***, ***triple*** or ***quadruple*** time. The time signature helps us to see where the strong and weak beats fall in the bar. In ***irregular time signatures*** the number of beats in a bar are usually in groups of ***five*** or ***seven*** (quintuple or septuple). It is perhaps easiest to think of them as a combination of duple and triple time. For example 3 + 2 = 5, 3 + 4 = 7, or 2 + 3 + 2 = 7. The notes are grouped to reflect these combinations. In theory you can choose any number of beats in the bar. However, in practise composers tend to use five, seven or occasionally eleven. More than this becomes very difficult to read.

Irregular time signatures are very common in eastern European and Asian music. Composers such as Stravinsky and Bartók frequently used irregular time signatures in their music. Bartók in particular was strongly influenced by Hungarian folk music and often used folk tunes and rhythms in his compositions.

The English carol ***This is the truth sent from above*** is written in $\frac{5}{4}$ time. Try singing it to yourself and see how the words and music naturally fall into a pattern of 2 + 3.



Occasionally you might see a dotted bar line dividing part of a bar in an irregular time signature. This is to clarify where the composer wishes the accents to fall.

Answer the questions below.

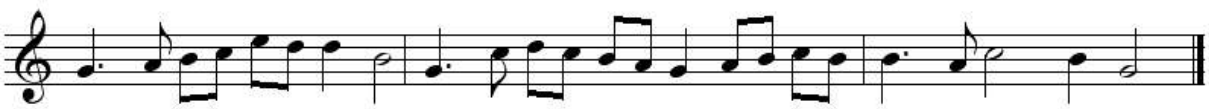
$\frac{5}{4}$ means ☐ crotchets in a bar

$\frac{7}{4}$ means ☐ crotchets in a bar

$\frac{5}{2}$ means ☐ minims in a bar

$\frac{7}{2}$ means ☐ minims in a bar

Now try to identify the time signature in this extract.



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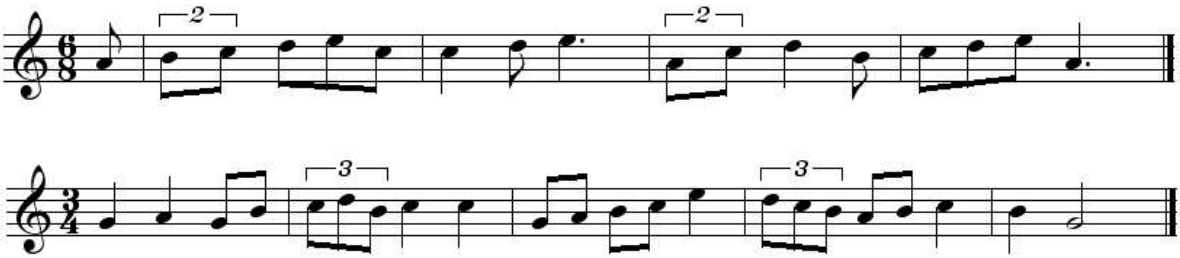
Name: _____ Music Theory 2 Worksheet 12

DUPLETS

A ***duplet***, like a triplet, is an irregular note group. A triplet is three notes played in the time it would usually take you to play two. It is found in music written in simple time where the beats can be divided by two. A duplet is the opposite, ***two notes played in the time it would usually take you to play three***. It is found in compound time signatures.

This is easiest to understand by looking at the two extracts below.

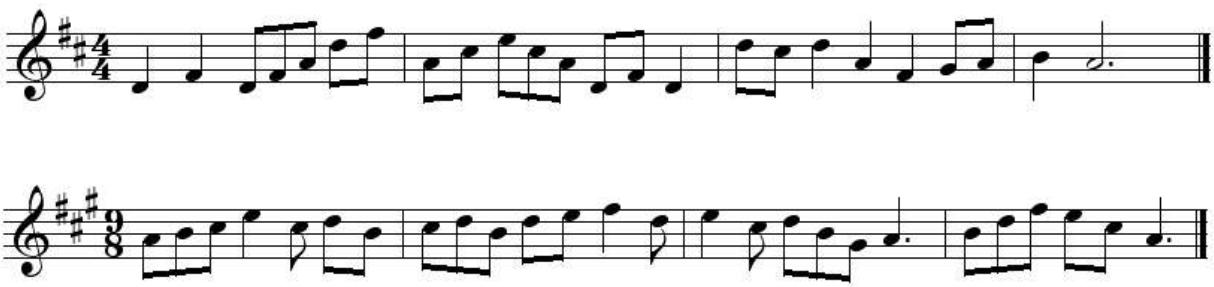


$\frac{6}{8}$ consists of two dotted crotchets. The duplet has two quavers played in the time it would normally take you to play three quavers

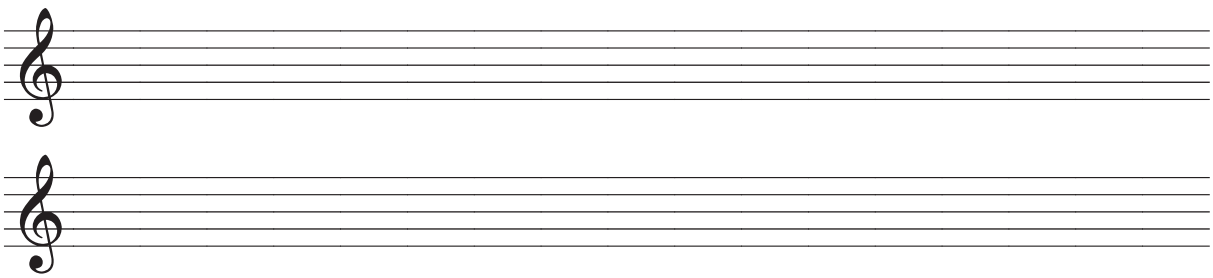
$\frac{3}{4}$ consists of three crotchet beats. The triplet has three quavers played in the time it would usually take you to play two.

If you are playing a triplet or duplet divide them equally in proportion to the main beat. Using a slur or a square bracket above the notes that are part of the duplet or triplet make it easier to read.

Study the extracts below and add in the duplet or triplet signs where needed to make the bars add up correctly.



Now try and compose two four bar phrases one in simple time using a triplet figure and one in compound time using a duplet figure.



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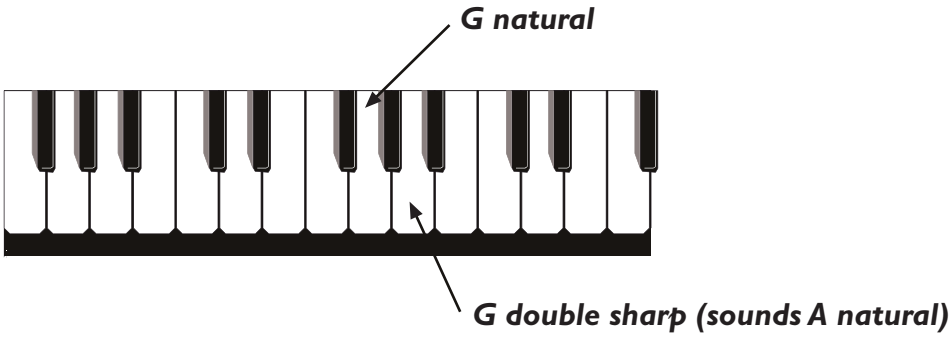
Name: _____ Music Theory 2 Worksheet 13

DOUBLE SHARPS

Adding a sharp ♯ to a note raises it one semitone.

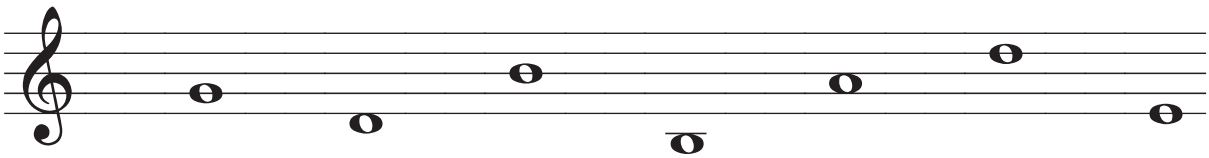
A ***double sharp*** raises a note ***two semitones*** which is equal to one whole tone. A double sharp looks rather like a cross 𝄪.

If you look at the piano keyboard below you can see that G 𝄪 is one whole tone higher than the note G and actually sounds the note A.

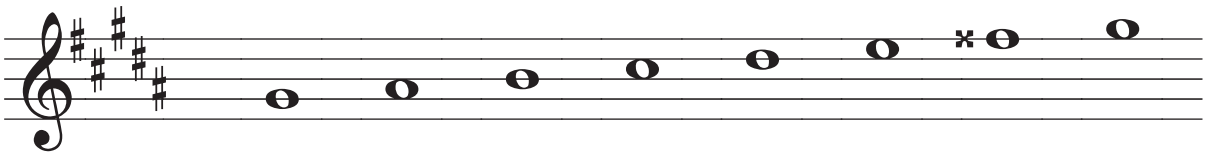


If you want to cancel a double sharp use a single sharp sign ♯. Although some composers use a natural sign followed by a single sharp like this ♮♯. Double sharps are usually only found in keys that already have several sharps.

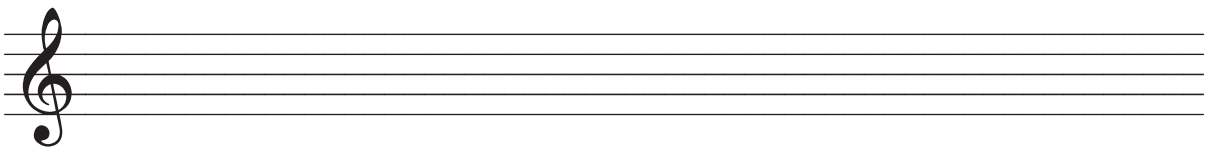
Try drawing in a double sharp before each of these notes. Make sure it is in the space or on the line that you want to apply it to!



In the scale of G sharp harmonic minor the leading note becomes F double sharp. This is because F sharp is already found in the key signature and so to raise this seventh note half a step higher requires the double sharp.



Rewrite this scale out using accidentals and not the key signature.



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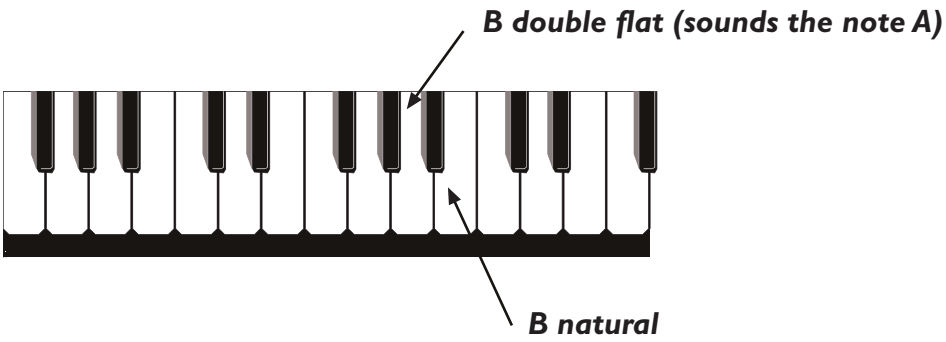
Name: _____ Music Theory 2 Worksheet 14

DOUBLE FLATS

Adding a flat ♭ to a note lowers it one semitone.

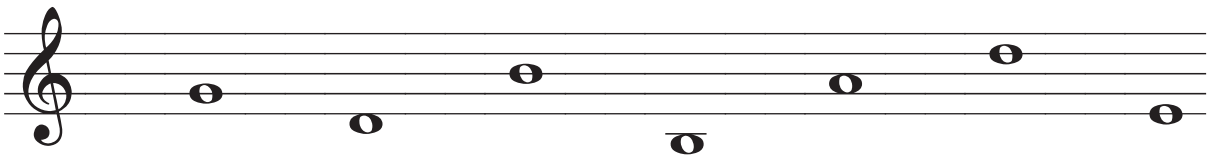
A ***double flat*** lowers a note ***two semitones*** which is equal to one whole tone. A double flat looks like two flats joined together 𝄫 .

If you look at the piano keyboard below you can see that B 𝄫 is one whole tone lower than the note B and actually sounds the note A.



If you want to cancel a double flat use a flat sign ♭. Some composers use a natural sign followed by a single flat like this ♮♭. Double flats are usually only found in keys that already have several flats.

Try drawing in a double flat before each of these notes. Make sure it is in the space or on the line that you want to apply it to!



Answer these questions.

B double flat sounds the note ☐

C double flat sounds the note ☐

F double flat sounds the note ☐

G double flat sounds the note ☐

D double flat sounds the note ☐

E double flat sounds the note ☐

A double flat sounds the note ☐

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Name: _____ Music Theory 2 Worksheet 15

AUGMENTED AND DIMINISHED INTERVALS

An ***augmented interval*** occurs when a perfect or major interval is made a semitone ***bigger***. A ***diminshed interval*** occurs when a perfect or minor interval is made a semitone ***smaller***. The chart below shows all the intervals available up to an octave starting on the note C.

Perfect Intervals				
Major Intervals				
Minor Intervals				
Augmented Intervals				
Diminished Intervals				

Try to recognise the intervals below. Use the keyboard to help you. It may help to work out the number of semitones in each interval and always include the notes you start and finish on!

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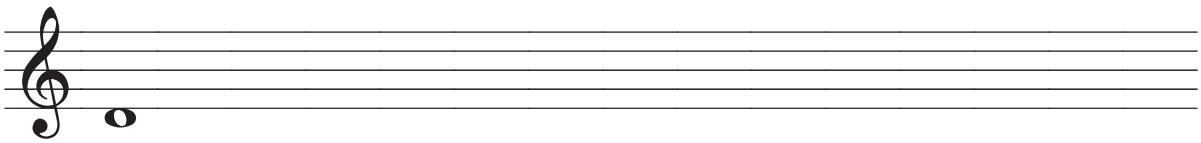
Name: _____ Music Theory 2 Worksheet 16

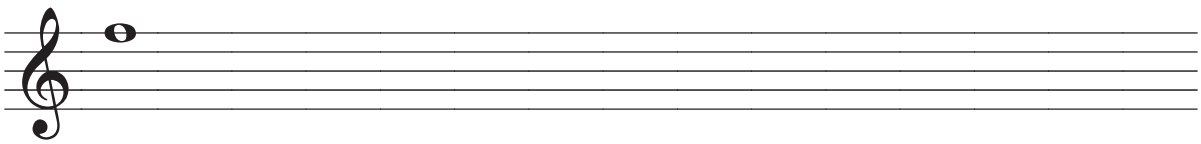
CHROMATIC SCALES

If you start on the note C and play ***all*** the notes from C up to the C an octave above you get a pattern of ***twelve semitones***, this is called a ***chromatic scale***. A chromatic scale can go up or down and start on any note. Usually when writing a chromatic scale the notes are sharpened on the way up and flattened on the way down. The word chromatic actually means ***coloured*** and the scale is often used to add colour in a piece or to demonstrate a performer's technique. It was particularly popular during the Romantic period.

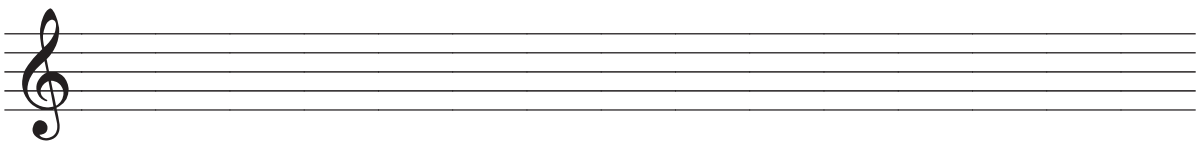
Write an ascending chromatic scale starting on D.



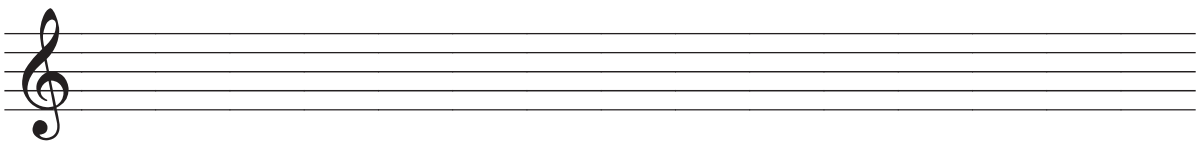
Write a descending chromatic scale starting on F.



Write an ascending chromatic scale starting on G.



Write a descending chromatic scale starting on E.



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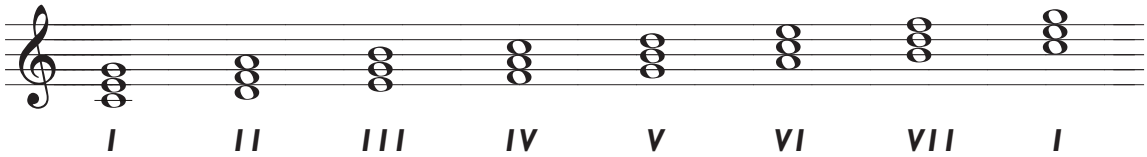
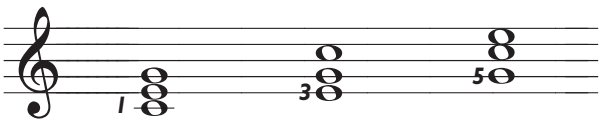
Name: _____ Music Theory 2 Worksheet 17

CHORD INVERSION

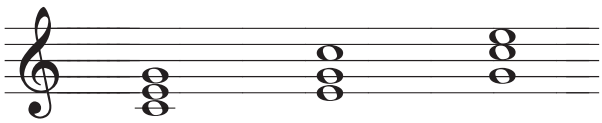
A ***chord*** is a group of three or more notes played together. Three notes played together form what is known as a ***triad***. There is a triad for every note in every scale. These triads are made up from the starting note plus the note a third above, plus the note a fifth above the starting note. Below you can see the triads formed in the key of C major.



When you play a piece of music the notes of the triad are not always arranged in the same order. This is called ***inversion***. If you look at chord ***I*** in C major there are three main positions for the notes. These three positions are called root position, first inversion and second inversion. If you are using Roman numerals these positions become ***a***, ***b*** and ***c***. The important note when working out the inversion is the bottom note as this tells you which inversion the chord is in. Check whether it starts on note 1, 3 or 5 of the chord.



root position on C (1) ***first inversion on E (3)*** ***second inversion on G (5)***

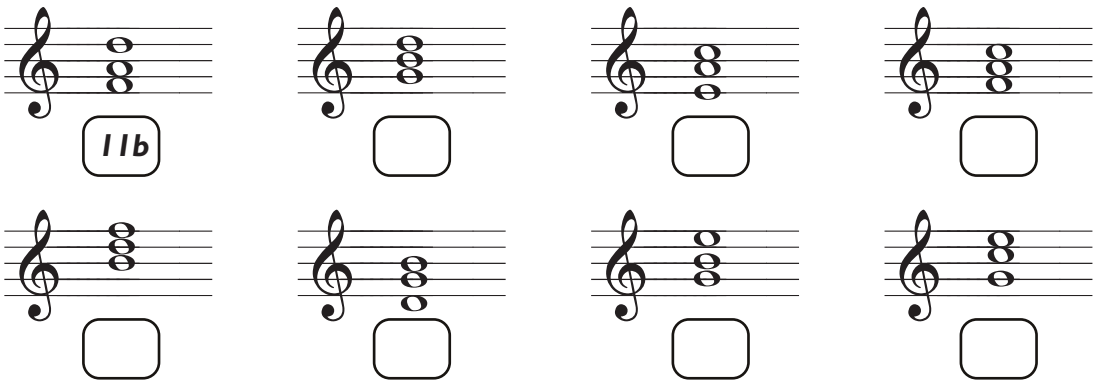


Chord Ia ***Ib*** ***Ic***

in C major

Sometimes when writing a chord in root position the ***a*** is dropped as everyone knows it is a root position chord. In the chord above it would be equally correct just to write ***I*** rather than ***Ia***.

Try to work out these chord positions. Write them down in Roman numerals. The first one is done for you. They are all in the key of C major.



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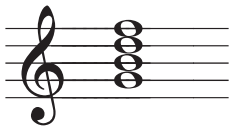
Name: _____ Music Theory 2 Worksheet 18

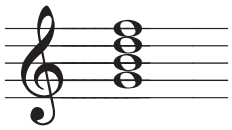
SEVENTH CHORDS - DOMINANT SEVENTH

Many common chords are simply made up from triads which use the root note plus the third note, plus the fifth note. To make chords a little more interesting or unusual sometimes composers add in the seventh note. The most common seventh chord is the ***dominant seventh***. This sounds horribly complicated but is really quite straightforward. The fifth note of the scale is called the dominant. If you are in C major the dominant would sound the note G. The dominant seventh in C major is a chord built on this G. The dominant seventh starts off the same as any triad using the starting note plus the third note, plus the fifth note but then adds on the seventh note. This means you end up with the notes G, B, D and F.



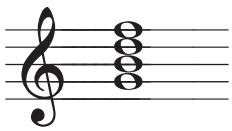
dominant seventh chord in C major

Just as we use Roman numerals for ordinary triads you can do the same for dominant sevenths. This chord in C major would be written like this:

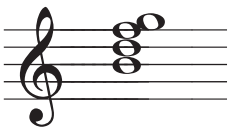


V^7

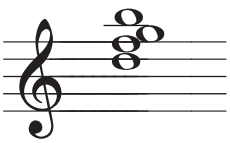
In ordinary triads if we change the position of the chord indicate it by saying root position, first inversion or second inversion. If we are using Roman numerals we might say ***a***, ***b*** or ***c***. In a chord like a dominant seventh which has four different notes we simply add in third inversion and in Roman numerals the letter ***d***.



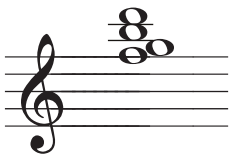
V^7a
root position



V^7b
first inversion

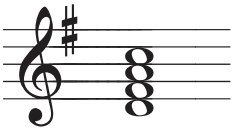


V^7c
second inversion

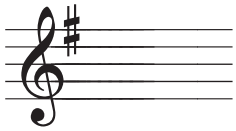


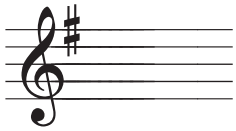
V^7d
third inversion

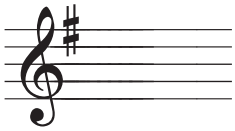
Write the four positions for the dominant seventh chord in G major and D major. The first one has been done for you.

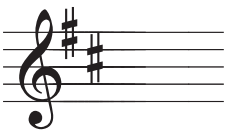


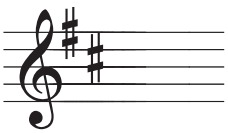
V^7a

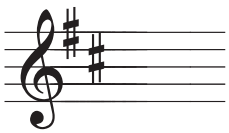


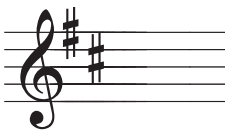












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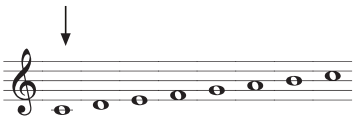
MODULATION

If music always stayed in the key it started in it would be rather boring to listen to. Most pieces move to a new key at some point even though it will usually work its way back to the original key by the end of the piece. This is called ***modulation***. The word ***modulation*** comes from the Latin verb ***to adjust***.

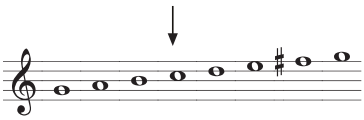
The easiest way to change key is by using a ***pivot chord***. A pivot chord is one that is found in both the old key and the new key. The C major tonic chord based on the note C could also be seen as the dominant chord in F major, or the subdominant chord in G major. If you wanted to move to the key of G from C major you could treat the C major chord as the subdominant in the new key. Use this chord to then move to the dominant in the new key (a D major chord). From there you can move easily to the tonic chord of G.

See how the note C relates to the different keys in the scales below.

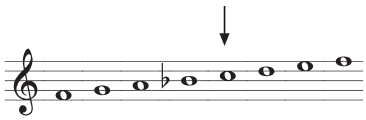
Tonic in C



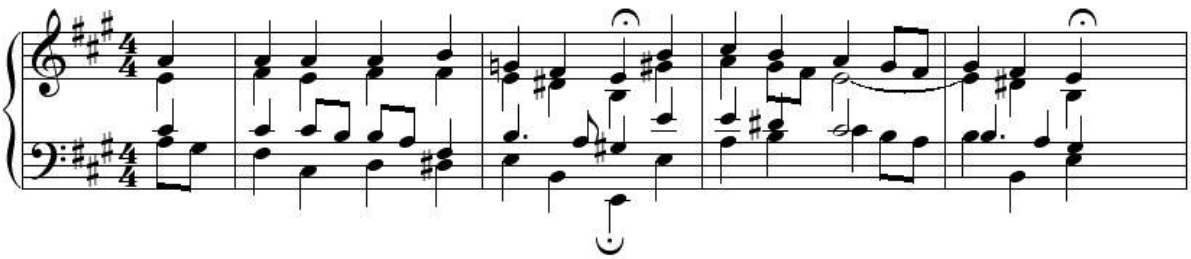
Subdominant in G



Dominant in F

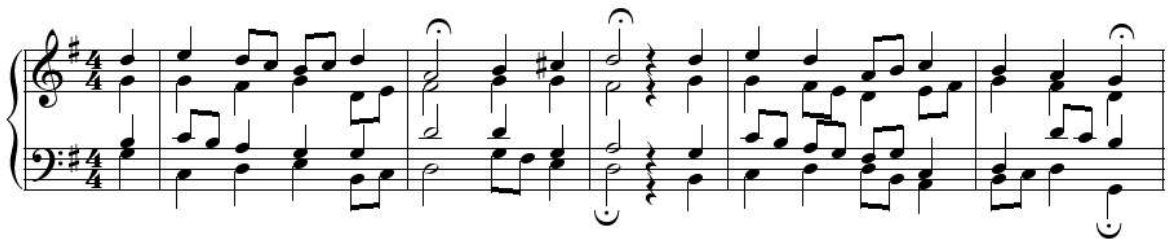


Study the extract below and see how Bach changes the key from ***A major*** to ***E Major*** by using the ***dominant chord*** in A major (E major) as the ***tonic chord*** in the new key. By adding in the D sharps which are found in the new key, Bach fixes E major as the new tonic key. Introducing flats or sharps that are found in the new key are a great clue to modulation. Write them down in order to help you work out the new key.



Work out what key this piece modulates to before returning to the original key.

Key: Key: Key:



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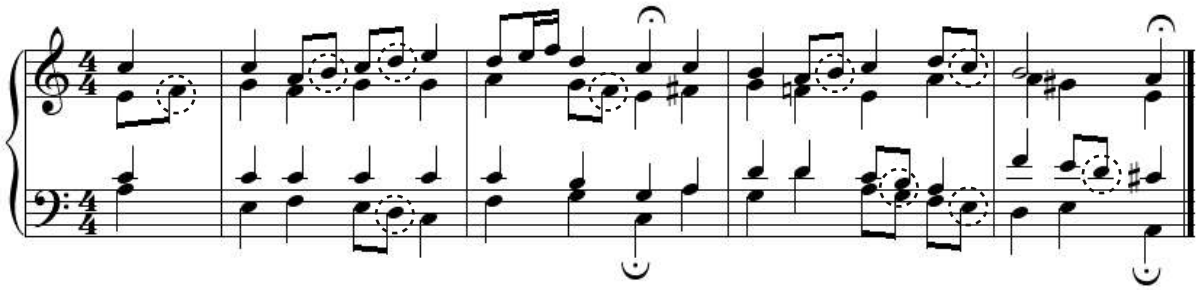
Name: _____ Music Theory 2 Worksheet 20

PASSING AND AUXILIARY NOTES

A ***passing note*** as the name suggests doesn't form a part of a chord it just passes between notes which are found in the harmony chords, linking them together. Passing notes are usually found on the weak beats of the bar and move by step. The passing note always falls between two notes moving in the same direction and can occur in any voice part.

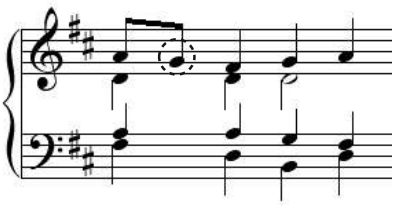
= passing note

Bach

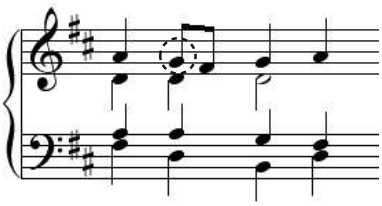


An ***accented passing note*** falls on the strong beat of the bar but ***unaccented passing notes*** which fall on the weak beat of the bar are more commonly used.

unaccented passing note



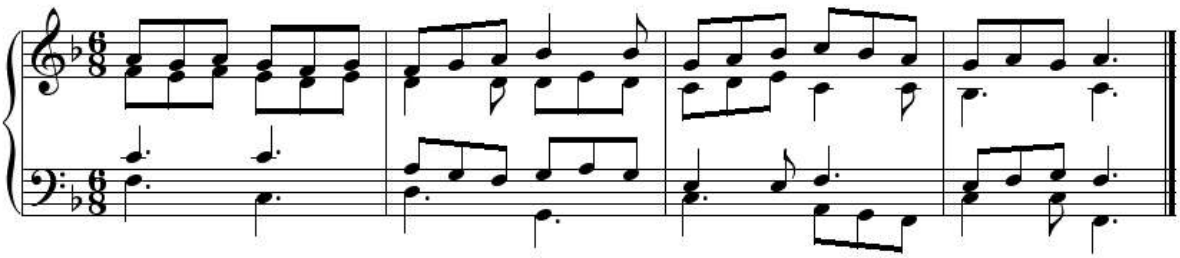
accented passing note



An ***auxiliary note*** is written between two notes of the same name. An upper auxiliary note moves one step higher than the original note and then returns to it and a lower auxiliary note moves one step lower than the original note and then returns to it. An auxiliary note can either move a tone or a semitone.

upper auxiliary notes ***lower auxiliary notes***

Find the passing and auxiliary notes in the extract below. Write P for the passing notes and A for the auxiliary notes.



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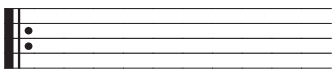
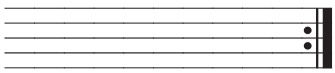
SIGNS FOR REPETITION

Often in music you will find various ***signs for repeating*** sections of a piece. This means that rather than writing out every repeat and adding many pages to the score you simply follow the signs. There are various signs in music to show that the music needs to be repeated. These may be used to show a repeat of a whole piece, a section or even particular musical notes in a bar. These vary quite widely and some are easier to work out than others!

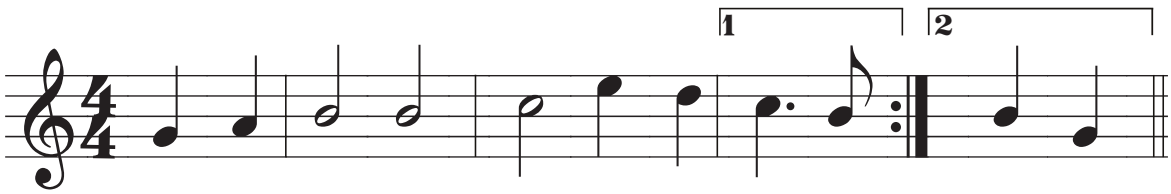
If you want to repeat one section exactly then drawing a double bar line with two dots either side of the middle line is the easiest way. Place one where you are starting the repeat and the other in the bar where you want the repeat to stop. Usually this is at the beginning and end of the bar but it can be put anywhere in the bar. You will still need to add in the barline if it is midway through the bar to make the bar add up correctly. If you are repeating back to the beginning of a piece then you can leave out the first set of dots.



repeat between these two points



If the music changes the second time through you will need to draw in a first and second time bar, so that the performer knows where the music goes to. This is shown in the example below.



A first and second time bar can extend over one or more bars and you simply extend the line to show how many bars.

Sometimes in music you see the words ***Da Capo*** or ***D.C.*** for short. This means ***from the beginning***. The end of the music is then shown by the word ***Fine*** and/or a pause mark 𝄐.

Dal Segno or ***D. S.*** means ***from the sign***. You return to the point in the music marked with the sign 𝄋 and then play to the word ***Fine*** or the pause mark 𝄐. If there is a coda you may see the phrase ***D.S. al coda*** which means you repeat back to either the beginning or the sign 𝄋 until you see the different sign 𝄌 which means that you then play the coda to finish the piece.

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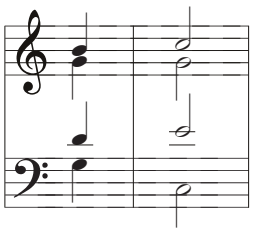
PERFECT AND IMPERFECT CADENCES

The most important chords in any scale are the chords built on the tonic (I), subdominant (IV) and the dominant (V) notes. These chords are called primary triads. The ends of phrases frequently use these chords in various combinations and these are called ***cadences***.

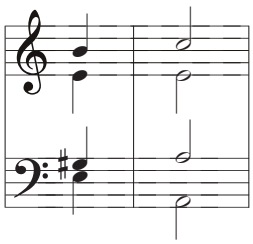
A ***perfect cadence*** or ***full close*** uses the combination of the dominant chord (V) to the tonic chord (I). A perfect cadence is the musical equivalent of a full stop. When writing out chords you often need to double one of the notes to make a four part chord. This is based on the four voices soprano, alto, tenor and bass. To make the fourth note you need to double one of the notes, usually the root or fifth. It is best not to double the third note of the chord as this can sound weak.

C major



V ***I***

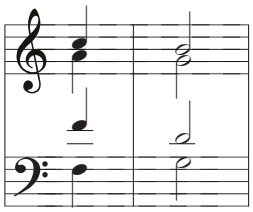
A minor



V ***I***

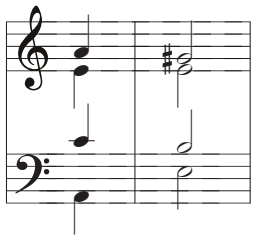
An ***imperfect cadence*** or ***half close*** is the chord progression from any chord to the dominant chord (V). The most common chords that precede it are chords II, IV, VI or I.

C major



IV ***V***

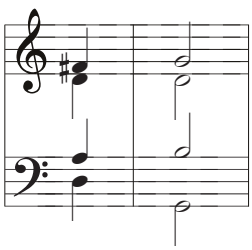
A minor



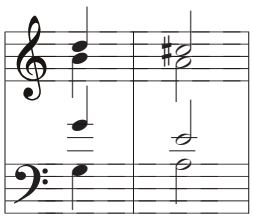
I ***V***

Try to identify the cadences below and write perfect or imperfect in each box.

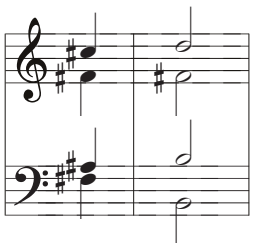
G major



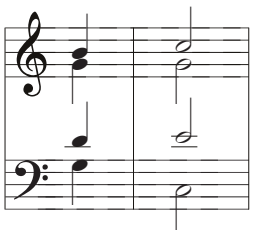
D major



B Minor



C Major



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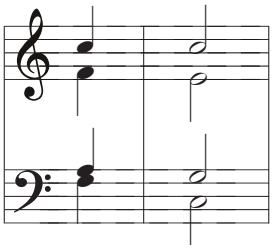
PLAGAL AND INTERRUPTED CADENCES

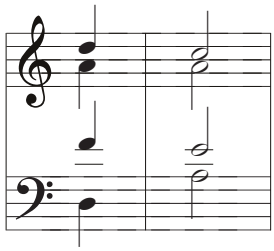
A ***plagal cadence*** is the move from the subdominant chord (IV) to the tonic chord (I). Sometimes people call the plagal cadence the ***Amen*** cadence because it is commonly used in church music. This makes it quite easy to recognise.

C major



IV ***I***

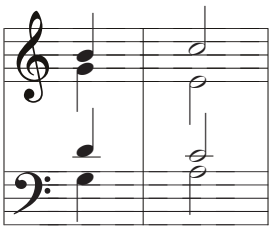
A minor



IV ***I***

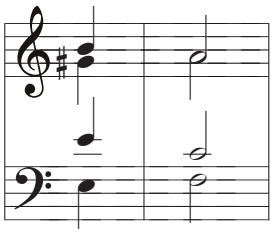
An ***interrupted cadence*** is the move from the dominant (V) to the submediant (VI). Again this chord is quite easy to recognise as this move has a surprise feel to it. It is the most obviously unfinished of any cadence.

C major



V ***VI***

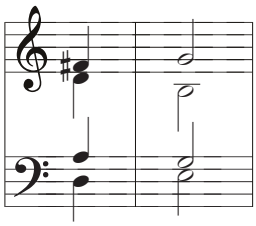
A minor



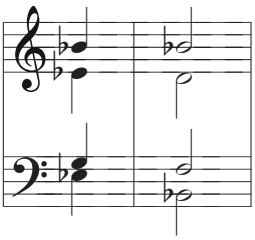
V ***VI***

Try to identify the cadences below and write plagal or interrupted in each box.

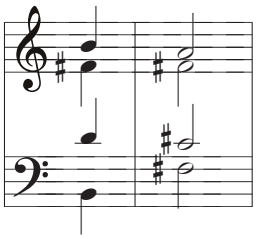
G major



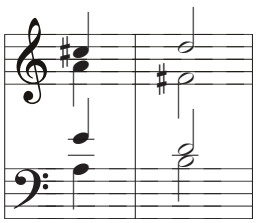
B flat major



F sharp Minor



D Major



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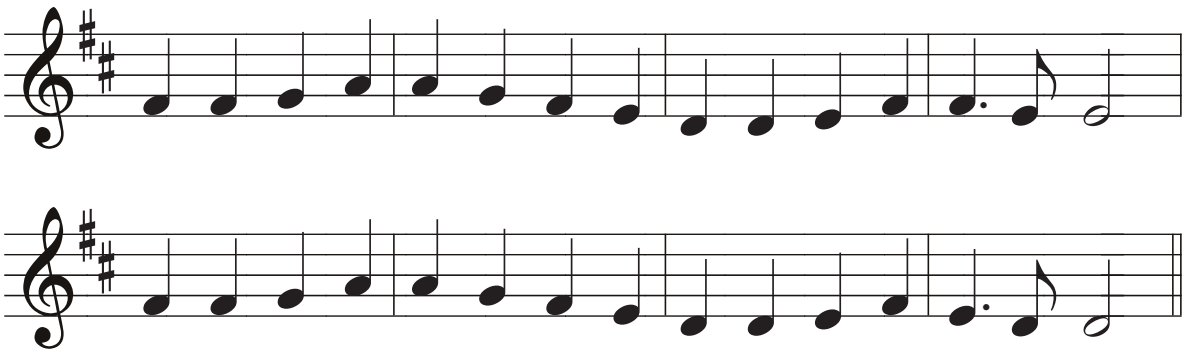
PHRASING

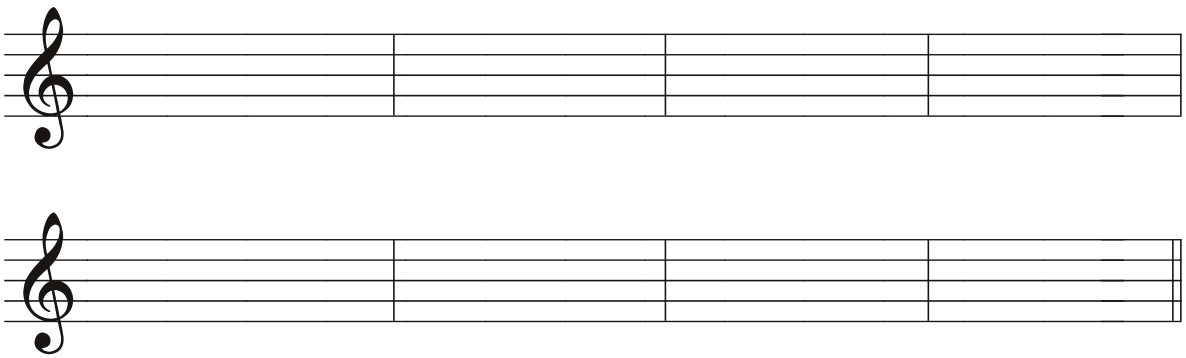
Phrasing is a vital element in any piece of music. Without phrasing the music can become one long rambling sentence with no punctuation! When composing you should try to think about the structure of your musical line whether rhythmic or melodic. As a performer too it is important to decide how you wish to phrase a piece as this will affect the way the music sounds to an audience.

The end of a phrase is usually created by a cadence. Cadences act as a natural form of musical punctuation. When you are composing always consider the instruments that you are writing for so don't write a vocal line with no thought to where the singer can take a breath! In some modern compositions you may want a deliberately unbalanced melodic line. However, generally speaking it is best to try to balance your musical phrases. Often musical sentences are composed in eight bar sections consisting of two groups of four.

Look at the music example below from Beethoven's 9th Symphony. Draw in where you think the phrase marks should be. These marks should be a curved line above the notes in each phrase.



Notice how the melody and rhythm are almost identical. But by simply moving the last three notes down a tone Beethoven has created a perfect cadence which makes the second phrase sound complete. Now write your own eight bar melody below. Try to make it balance into two four bar phrases.



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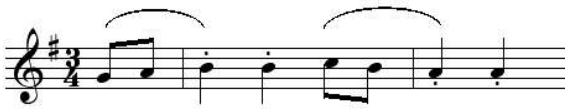
ARTICULATION

There are several signs for showing how you wish notes to be grouped or phrased. These are called ***articulation marks***.

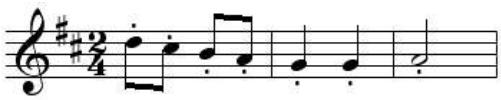
One of the most common articulation marks is the ***slur*** which looks likes a short phrase mark. The main difference between a slur and a phrase mark is that the phrase mark covers the whole phrase and a slur is usually used between two or three notes. A slur shows that the notes need to be played smoothly as a group. Don't confuse it with a tie!

Slur



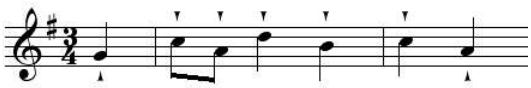
A ***staccato*** sign is indicated by a dot either above or below a note. The word staccato means ***detached*** and indicates that the note must be shortened to create this effect. Obviously in a slower piece the note will not be as short as in a quicker one as there is more time to play the notes!

Staccato



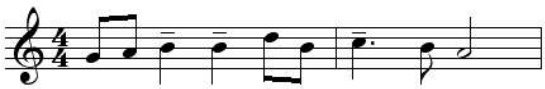
If you want the note to be played very short, detached and accented then you would draw a wedge shaped dash above the note. This is called ***staccatissimo***.

Staccatissimo



The opposite of staccato is ***tenuto***. The word tenuto comes from the verb ***to hold***. This is sometimes written as ***ten.*** and is indicated by a short line. If something is marked tenuto then it needs to held for their full value and sometimes even a little longer.

Tenuto



Identify the articulation marks in the extract below.

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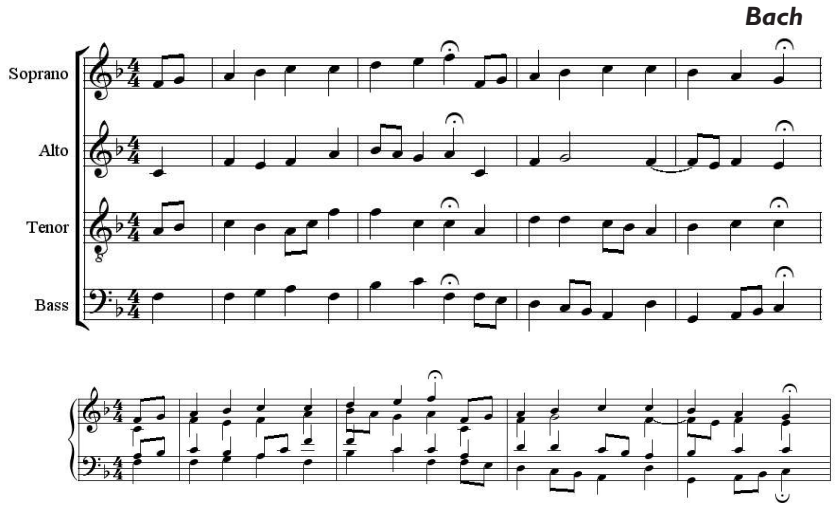
SHORT SCORE

Often when writing for soprano, alto, tenor and bass voices instead of using a separate stave for each part two staves are used. This is called ***short score***. The ***soprano*** and ***alto*** lines are written in ***treble clef*** and the ***tenor*** and ***bass*** in ***bass clef***. Using short score saves a lot of space on the page but does tend to mean that you need rather more leger lines!

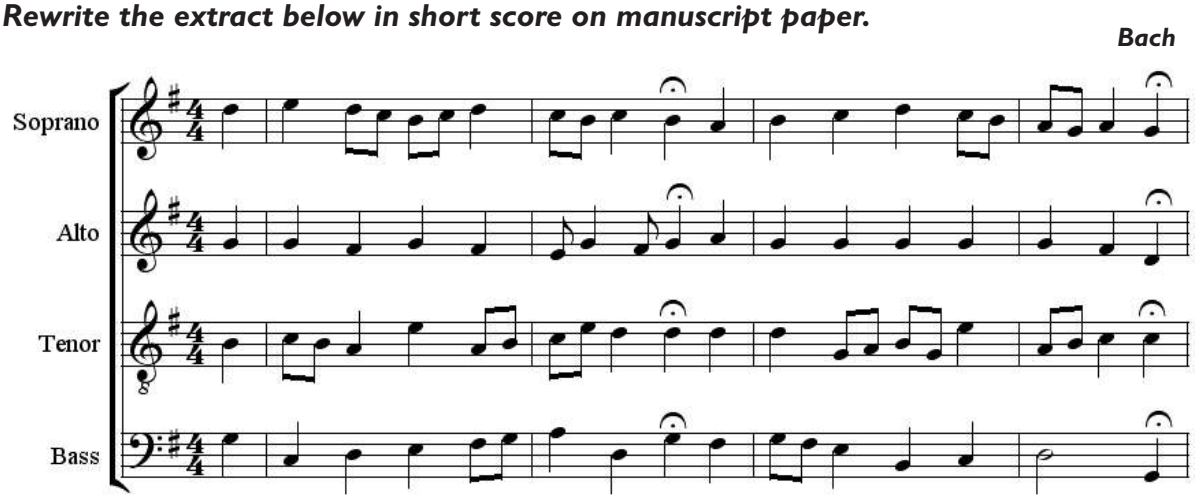
When writing in short score the main thing to remember is that the traditional approach to which way the tails of the notes go no longer applies. ***The soprano part is written with the tails pointing upwards and the alto with tails down. This is the same in the tenor and bass parts. The tenor part will have tails up and the bass part tails down.***

It is also important to realise and remember that if you write an accidental in a bar for one voice part it does not apply to any of the other parts. You will need to write them in for each part. Obviously if there is a key signature these accidentals would apply to all. Be careful when writing the tenor part as it will need to be written an octave higher than in open score.



Compare these same bars in open score and short score.

Rewrite the extract below in short score on manuscript paper.



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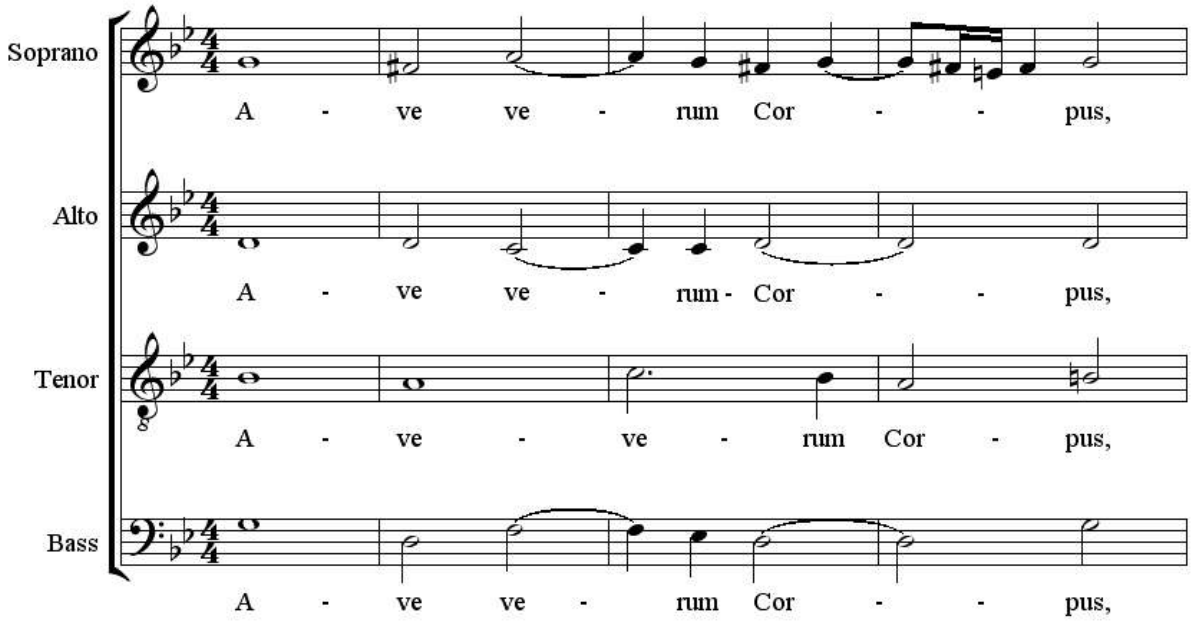
OPEN SCORE

In an ***open score*** each vocal line has an individual stave. The soprano and alto parts are written in the treble clef and the bass part is written in the bass clef. The awkward part is the tenor line. The tenor part is written in treble clef but an octave higher than it is actually sung. The sign to indicate this is a treble clef with a number eight attached to the bottom.

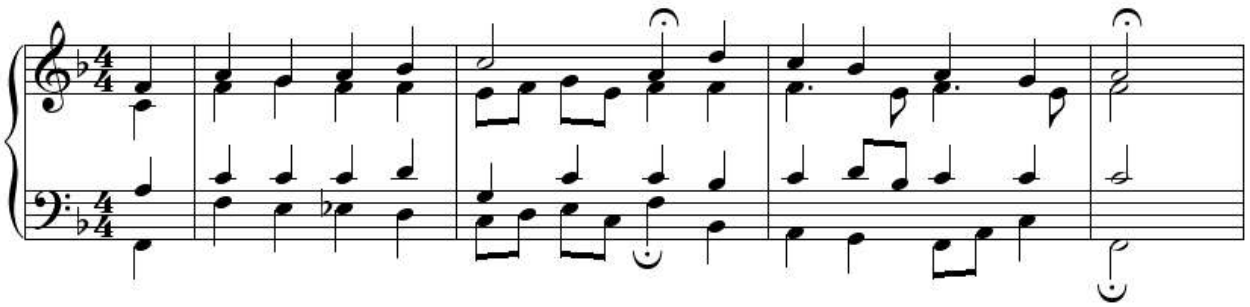
The usual rules for the way that the tails are positioned up or down apply unlike in open score where the direction of the tail is dependent on the voice part. If you are writing parts out in open score group them together with a bracket and a line joining the staves together. This makes it clear where each line of music ends and the next begins. Usually the soprano, alto, tenor and bass parts are indicated by an ***S***, ***A***, ***T***, ***B*** or ***Soprano***, ***Alto***, ***Tenor*** and ***Bass*** at the beginning of the first stave.

Always try to line the parts up vertically in beats as far as possible so that the score is clear for both vocalist and conductor/accompanist.

Byrd



On a sheet of manuscript paper write this music out in open score.



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Name: _____ Music Theory 2 Worksheet 28

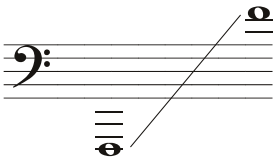
WRITING FOR BRASS

When writing for any instrument it is important to bear in mind the range of notes that can be played and that when writing at the very top or bottom of the range these notes can be quite difficult to produce. This might be fine for a professional musician but no good for a relative beginner!

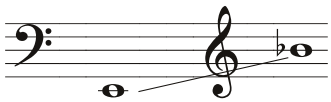
A complication in writing for Brass instruments is that the horn and trumpet are transposing instruments. This means that the note written is not the same pitch that the instrument sounds. Music for the ***F French horn*** is written in both treble and bass clef and is written a perfect fifth higher than it sounds.

The ***trumpet*** is usually pitched in either ***C***, ***B*** flat or ***A***. If you are writing for a ***C trumpet*** you don't need to transpose the notes. If writing for a ***B flat trumpet***, which is the most common trumpet, then the notes are written a major second higher than they sound. If the trumpet sounds a B flat when playing the written note C the distance between what is written and what is heard is a major second so this is the interval of transposition.

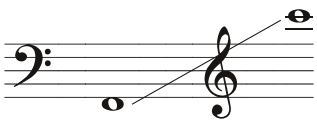
If writing for an ***A Trumpet*** you would write the music a minor third higher than it sounds because when the music says a C the instrument sounds the A a minor third below. If you don't remember the transposition you will have major problems when the instrument comes to play with another instrument!



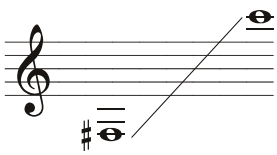
Tuba pitch
sounds as written



Trombone pitch
sounds as written



Horn in F pitch
sounds a perfect fifth lower



B flat Trumpet pitch
sounds a major second lower

The tone on brass instruments can be altered by using a ***mute***. The usual musical direction for indicating this is ***con sord.*** and ***senza cord.*** when you no longer want the mute to be used.

Horn players sometimes insert their hand into the bell of the instrument to alter the sound and this is called ***stopping***. It is indicated by a small + over the notes and then a ○ to cancel it.

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Name: _____ Music Theory 2 Worksheet 29

WRITING FOR STRINGS (Part 1)

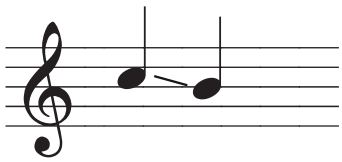
As with any instrument the first consideration when writing for ***strings*** is to consider the pitch range of the instrument. It is also important to remember that in string writing a phrasing slur often shows the number of notes to be played in one bow rather than indicating the musical phrase shape.

To indicate the ***direction of bowing*** use one of these two signs. ***downbow*** ⊓ ***upbow*** V

When string players play a note without pressing their fingers on the fingerboard it is called an ***open string***. Once the player presses down on the fingerboard this shortens the length of the string and it is said to be ***stopped***.

A different sound colour can be produced by playing a note on a different string. If you wanted to specify the string to be used this would be done by the phrase ***sul A***, ***sul D*** etc.

If two notes are played on the same string the performer would usually use two different fingers. If you wanted them to slide between the notes using the same finger you can draw a line between the two notes. This is called ***portamento***.



If you want the string player to pluck the string rather than bow it use the word ***pizzicato*** or ***pizz.*** To return to playing with the bow the word ***arco*** is used.

If a player plays alternating bow strokes on single notes this is called a ***bowed tremolo***. This is shown by three lines above or below the note for semibreves, three lines through the tail of the note if it is a minim or crotchet, two lines through the tail of the note for quavers and one line through the tail of the note for semiquavers.

etc.

A ***double stop*** on a stringed instrument is when more than one note is palyed at the same time. Stringed instruments can only physically sustain two strings at once but you can play a three or four part chord by bowing quickly across the strings.

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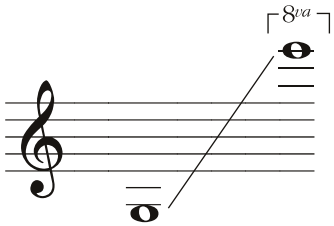
WRITING FOR STRINGS (Part 2)

By lightly playing the string at set points along the string a series of ***natural harmonics*** can be produced. The set points where these faint secondary sounds vibrate in addition to the main note are called ***nodes***. If these are played on an open string it is called a ***natural harmonic***. If you firmly press down the string, this is called stopping, and then play at one of the set points it is called an ***artificial harmonic***. These are indicated by the signs below. Harmonics are not loud clear notes but they produce more of a colour to the note.

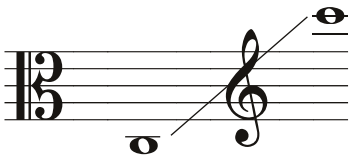
natural harmonic

artificial harmonic

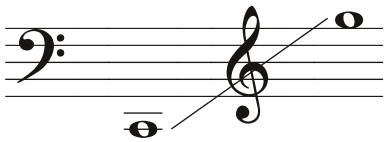
As with any instrument the first consideration when writing for strings is to consider the pitch range of the instrument.



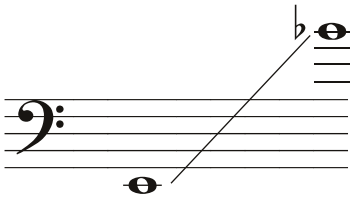
Violin pitch



Viola pitch
usually written in alto clef



Cello pitch



Double bass pitch
the double bass sounds an octave lower than written

Col legno (Italian meaning ***with wood***). Use the wood of the bow to play.

Sul ponticello (Italian meaning ***on the bridge***). Bow as near to the bridge as possible. This makes a scratchy, creepy effect.

Sul tasto (Italian meaning ***on the fingerboard***). Bow over the fingerboard. This creates a very mellow sound.

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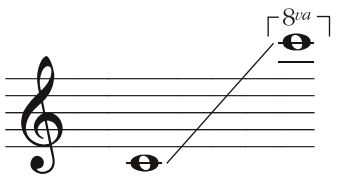
WRITING FOR WOODWIND

The ***cor anglais***, ***clarinet*** and ***saxophone*** are ***transposing instruments***. The ***cor anglais*** sounds a ***fifth lower than it is written*** which is relatively straightforward. However, there are several different pitches of ***clarinet*** available. The ***C clarinet*** is commonly used to introduce young people to the instrument and does not transpose. The ***B flat clarinet*** like the B flat trumpet sounds a ***major second lower than written*** and the ***A clarinet*** sounds a ***minor third lower than written***.

The ***saxophone*** comes in four sizes. The ***B flat soprano*** sounds a ***major second lower than written,*** the ***E flat alto*** sounds a ***major sixth lower than written,*** the ***B flat tenor*** sounds a ***an octave plus a tone lower than written*** and the ***E flat baritone*** sounds a ***full octave plus a major sixth lower than written.***

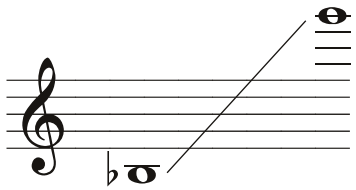
If you are writing for the ***piccolo*** remember that it sounds an ***octave higher than written***. This helps to avoid too many leger lines.



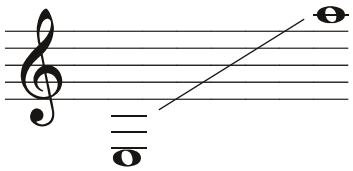
Flute pitch

The range for the piccolo is nearly the same as the flute but sounds one octave higher. The lowest note on the piccolo is a D rather than a C as on the flute.

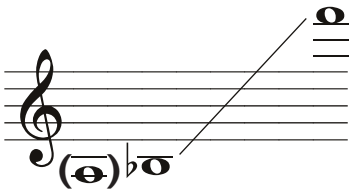
The actual written range of the saxophone is the same for all four sizes although the actual note produced varies depending on the instrument size.



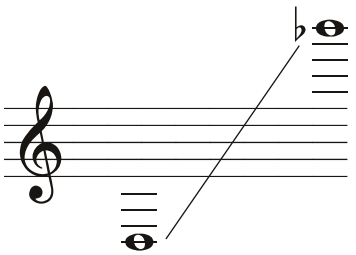
Oboe pitch



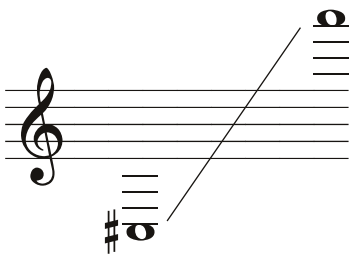
Cor anglais pitch
as it sounds



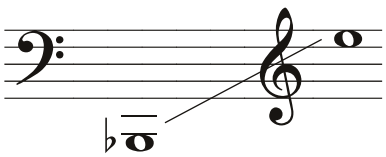
Saxophone pitch
as written



Clarinet in B flat pitch
as it sounds



Clarinet in A pitch
as it sounds



Bassoon pitch

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WRITING FOR PERCUSSION

The ***percussion section*** of the orchestra is one of the most varied with a vast range of instruments to choose from. Percussion instruments fall into two categories ***tuned*** and ***untuned***. Tuned percussion instruments are capable of producing a pitched note whilst untuned percussion instruments produce an effect rather than an identifiable pitch.

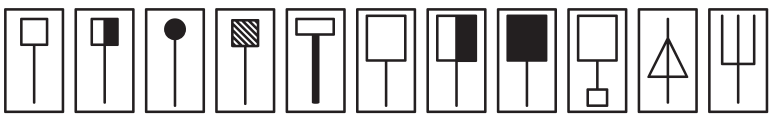
The main percussion instrument found in the orchestra is the ***timpani*** or ***kettle drums***. These are usually played in groups of two or three and each drum has a range of around a fifth. The tuning for timpani is usually stated at the beginning of a piece of music and you can use a key signature if you wish. If you need the drums to change pitch during a piece then the Italian phrase ***muta***, meaning ***for change***, is written followed by the note it is changing from and the new note required (e.g. ***muta A in B*** ♭).

Timpani parts are written in bass clef. If you want to show a drum roll then it is written rather like an extended trill above the note you want it to affect.

or occasionally

The ***vibraphone*** sounds at the pitch it is written, whilst the ***xylophone*** sounds an octave higher and the ***glockenspiel*** two octaves higher than written. All are written in treble clef. The ***tubular bells*** are also written in treble clef.

Untuned percussion parts are usually written on a single line although you can use a five line stave if using several instruments and give each one a particular line. When writing for snare drum if you don't wish the player to use the snare the marking is ***without snares***, ***scordato*** or ***senza corda***. If writing cymbal there are two main technical terms to remember. ***Laisser vibrer*** is the first which means that the cymbal should be left to vibrate until the sound has died away and ***sec*** is the second which means that the sound should be cut off. Both terms are French.



There are also many visual signs that are used to indicate change of beater or effect as above. Obviously using a different beater will affect the sound the instrument produces and percussion instruments are quite flexible in this way.

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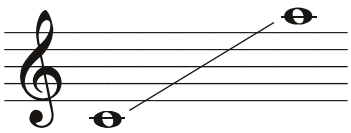
WRITING FOR VOICE

When writing for voice it is important to consider both the range of the voice you are composing for and also the basic practicality of letting the vocalist breathe!

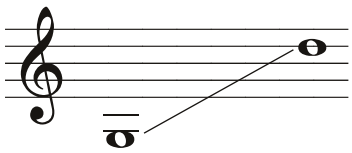
When providing guidelines for the range of the various voice parts you should bear in mind that these are a little more approximate than with some other instruments. People come in all shapes and sizes and so of course some can sing higher or lower than others. This is particularly true of professional singers who may have a much greater range than the average person. As with any instrument, if you constantly write a voice part at the very top or bottom of the range it can be very difficult to sing accurately, so pitch the music carefully.

The range of the human voice has several parts to it which are called ***registers***. The ***chest voice*** producing a different tone to the ***head voice***. These terms refer to the different position of the notes within a singers range and the different way the sound is produced. The ***head voice*** tends to be lighter than the ***chest voice***. In most singers there is a point where the two cross over from the lower notes to the higher. This is referred to as a ***break*** and ideally the singer should be able to cross between the two without an obvious change of tone. This break can be more noticeable in male singers with untrained voices.

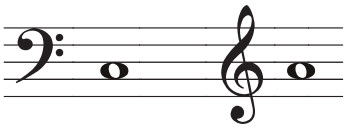
Soprano range



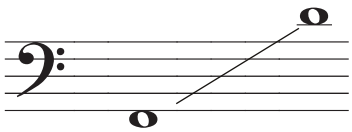
Alto range



Tenor range



Bass range



There are four other voice types to consider when writing vocal music as shown below.

Treble - the term used to describe children's voices, particularly boys before their voice breaks around puberty. This is roughly equivalent to the soprano voice range.
Baritone - which falls roughly between the ranges of the bass and tenor parts.
Mezzo-soprano - which falls roughly between the ranges of the alto and soprano parts.
Counter tenor - a male alto. The term alto refers only to female singers.

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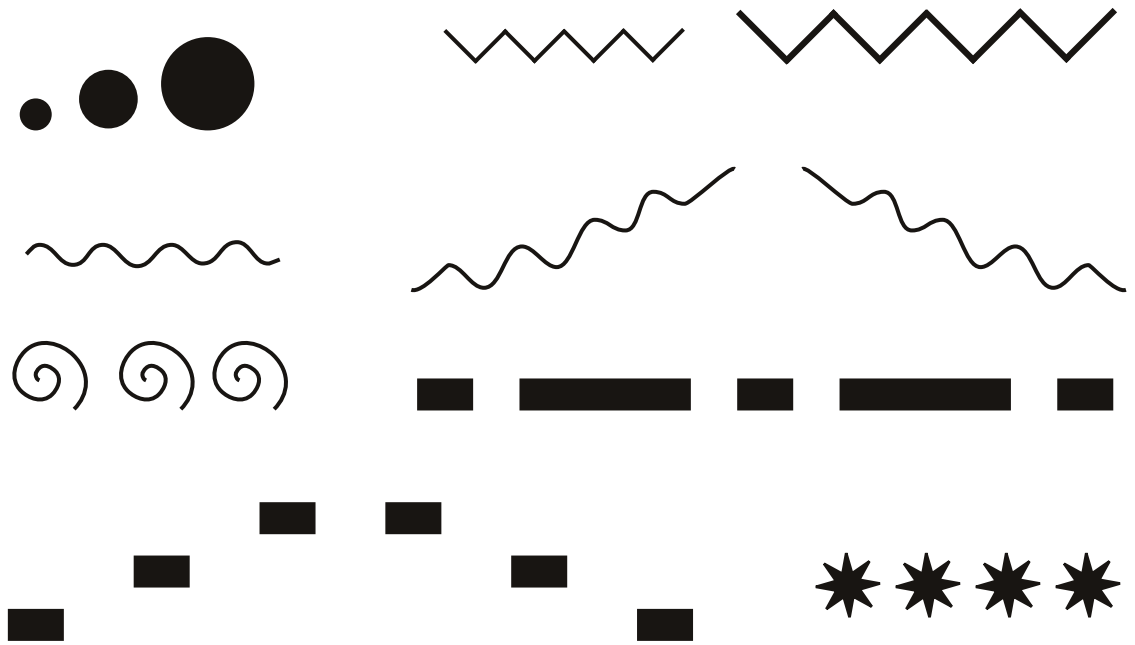
GRAPHIC NOTATION

Traditionally music has been written down using a stave, clef and a clearly defined system of symbols to represent the pitch and value of notes. Since the 1950's some musicians have tried to find new ways to write music down. This is commonly called ***graphic notation***. In graphic notation symbols are used to indicate the musical line instead of rigidly defined notes. This allows for great flexibility and is often easier for people to read and relate to. It can be particularly useful when writing for young people who are not so familiar with musical terminology.

Look at the symbols below and consider the following questions.

1. ***What instrument does each suggest to you?***
2. ***Does each one suggest a particular rhythmic pattern?***
3. ***Which notes do you think would be louder?***
4. ***Which symbols might indicate a change in pitch?***



Graphic scores can be very colourful but you should be careful when composing graphic notation to be as clear as possible and ensure that you still think about the overall balance and structure of the piece. Always consider whether someone else can understand what you intend them to do. You may want to include a list of the instruments you want the performers to use. Of course, one of the interesting things about graphic notation is that it is more open to individual interpretation and this may be the reason that you choose to use it.

Experiment with different signs and symbols to notate a piece of music.
You could choose a theme such as a journey, the seasons, or just pick a particular mood to explore.

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