PULSE

5 MINUTES READING #1

"Rhythm is sound in motion. It is related to the pulse, the heartbeat, the way we breathe. It rises and falls. It takes us into ourselves; it takes us out of ourselves."
- Edward Hirsch

Questions to think about:

1. *Think about your own pulse-rate. What situations may cause your pulse-rate to speed up? What situations may cause your pulse-rate to slow down?*
2. *Clocks and metronomes are good at creating or measuring a regular pulse, but what about us? Can we keep to a regular musical pulse without mechanical help? Most of us are able to clap in time with a song or piece of music, but how well can we manage on our own?*

Have you ever been driven crazy by someone hammering just outside your room – someone fixing some shelves or workmen digging up the road? Did you put your headphones or earphones on and sigh with relief as some of your music replaced the unwanted noise? Why was one set of sounds so much more pleasant than the other? An important part of the answer lies in the effect of what musicians call **pulse.**

Many annoying sounds, like hammering or roadworks are not regular. There may be a bang when you're not expecting it, then silence, then more sudden noises. Music is different. Once it has started you can sense when the next sound is going to happen. And with most types of music you can move or tap your foot in time to a clear and regular pulse.

A natural pulse

It is not surprising that we find a regular pulse satisfying. Even before we are born, we become aware of the beating of our mother's heart so it is something that is natural to all of us from a very early age.

The heart circulates blood around our bodies with a regular pumping action. The speed with which these pumping movements follow each other is called our **pulse-rate**. For example, the natural pulse-rate for a newborn baby is around 155 pumping actions, or **beats** per minute. By the time we grow up, this pulse-rate has slowed to about 72 beats per minute.

Man-made pulses

A musical pulse can be generated and measured by a **metronome** *(shown left)*, a device with an adjustable ticking pulse and a scale showing the number of beats per minute.

Beats

The underlying pulse of a piece of music consists of a series of **beats**, just as the human pulse consists of a number of heartbeats. These beats follow each other regularly and can be heard, or simply sensed, as the brain 'ticks off' the passing of time.

Pulse is the very heartbeat of music. But it is not usually enough to interest us for very long on its own and listening to just a regular pulse over and over again would quickly become very boring!

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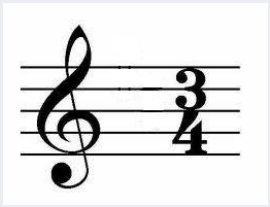
PULSE PATTERNS

5 MINUTES READING #2

"It is the silence between sounds that create Rhythm."
- Nelly Mazloum



Questions to think about:

1. *Can you think of two pieces of music that have different pulse patterns? The music can be pop, jazz or classical. Try and think about the name of the song or piece, the composer or performer(s) and what pulse pattern it uses.*
2. *Can you think of any poems or sections or parts from raps which have a regular pulse pattern? Which pulse pattern best matches these – 2, 3 or 4?*
3. *Can you think of any other examples of music or "work songs" where a regular pulse is important?*

Click-tracks

When making a pop song, it may be necessary for the musicians to keep to exactly the same pulse for a long time – perhaps spread out over several different recording sessions. To help them, they may use a **click-track**, a series of steady electronic beeps or clicks, fed to them through headphones. This ensures that everything will fit together – even though the click-track itself is not usually included in the final recording.

Patterns

If we listened to a regular pulse, at any speed or beats per minute, on its own like the sound of a click-track over and over again, it would become boring and even irritating. We need the sounds to make a pattern – something with an element of interest which a regular pulse on its own does not possess. One way to create a pulse pattern is to make some beats stand out more than others.

Labelling pulse patterns

In written or printed music, the pulse pattern can be shown by a number at the start. In the example, *(shown on the upper left)*, the number **3** at the top means a pulse pattern of one accented beat followed by two weaker beats.

The importance of pulse

Pulse is important – a central element in almost all music from the simplest song to the most complicated piece for orchestra. We may not always be aware of it, but without it, we would find it very hard to make any sense of music at all. Just as music contains pulse patterns, so does much poetry and verse and when some poetry is read aloud, you can hear a pattern of accents within the words – a regular pulse. Rapping is another style of music where pulse is important. Here, the performer speaks or recites the words to a very rhythmical accompaniment although here, much more freedom is allowed in the way in which the words fit with the accents.

Work songs

Pulse is not only useful to musicians. Many types of physical work can benefit from our ability to sense and keep to a regular pulse, and music has often been used to help workers 'pull together'. The slaves of Africa often sang songs with a regular pulse when working in the fields to help them work together.

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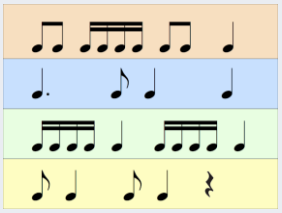
RHYTHM

5 MINUTES READING #3

"Music and rhythm find their way into the secret places of the soul."
- Plato



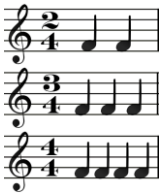
Questions to think about:

1. *Can you think of some songs or pieces of music that you know that have a regular 2-beat pulse, a 3-beat pulse and a 4-beat pulse?*
2. *What types or genres of music do you think use polyrhythms?*
3. *Music can be divided up into bars. Can you think of any other ways we divide things up into smaller units?*

The word **rhythm** is used to describe the various ways in which a composer groups together musical sounds, mainly with regard to **duration** (the lengths of different sounds, long or short, in relation to each other) and also *stress* or **accent**. An accent gives particular emphasis to a certain musical beat which is performed more noticeably than unaccented beats. Accents are an **articulation** marking and the musical symbol for an accent is >.

Usually, going along in the background (either heard, or merely felt) there will be a pattern of regular **beats** – the steady 'pulse' or 'heart-beat' of the music, against which the ear measure rhythm. By 'beating time' (also known as **conducting**) as we listen to music – even 'tapping out feet to the beat' – we are making the number of beats to a bar.

Some beats carry a stronger accent than others. And so we sense that the beats are grouped into equal units – called **bars** – forming a repeating pattern made up of either twos, threes or fours. This gives us the **time** or **metre** of the music. The first beat of a bar usually carries the strongest accent.



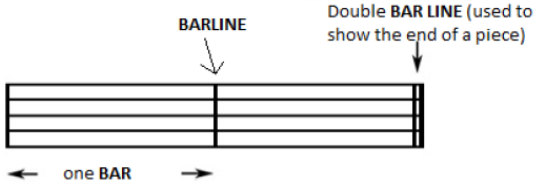
Duple Metre	2 beats to a bar	| ONE two | ONE two | ONE two
Triple Metre	3 beats to a bar	| ONE two three | ONE two three
Quadruple Metre	4 beats to a bar	| ONE two Three four | One two Three four

Notice that in quadruple time or metre (four beats to a bar) there are two accented beats – a strong accent on the first beat of the bar, a lesser accent on the third beat.

The repeating beat-pattern of any metre serves as a steady framework. Against this framework, **rhythm** – with its own accents and varied note lengths – may flow freely.

Another exciting rhythmic effect is called **polyrhythm** in which two or more different rhythms or metres are heard going along at the same time. Sometimes, the different rhythms strongly conflict against each other.

Music is divided, or measured into **bars** by means of **bar-lines**. The end of a piece, or section within a piece, is indicated by a **double bar line**.



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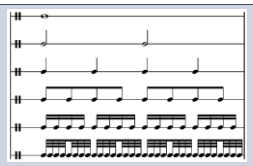
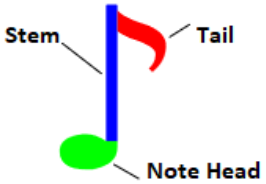


NOTE VALUES

5 MINUTES READING #4



Questions to think about:

1. *We know that a semiquaver is a short note, but how short? Does it last for 0.09 of a second? A semiquaver has a **RELATIVE** duration shown in the table opposite, but how can we tell the **ACTUAL** duration?*
2. *If the table opposite was continued, the next note would be called a hemidemisemiquaver - a rather long name for such a short note! How do you think a hemidemisemiquaver would be drawn? How many hemidemisemiquavers would equal a crotchet? How many would equal a quaver?*
3. *If two quavers can be "joined together" (called 'beaming'), how do you think two semiquavers would look when grouped together? What about two demisemiquavers?*
4. *There is a note which is longer than a semibreve called a breve shown with this symbol.*

How many musical beats would a breve be worth?

Over the course of several centuries, musicians found that they needed more than one sign to represent the **DURATION** or length of a note and gradually these note symbols became the accepted ones. The most common notes are shown in the table below. The particular design and shape of the note indicates its **DURATION** – the length of time it lasts in relation to other notes.

Note Name	Note Symbol	Note Value
Semibreve		**4 beats**
Minim		**2 beats**
Crotchet		**1 beat**
Quaver		**½ of a beat**
Pair of Quavers		**2 x ½ beats = 1**
Semiquaver		**¼ of a beat**
Demisemiquaver		**$^{1}/_{8}$ of a beat**

A note has three parts (shown in the image to the above left – **NOTE HEAD, STEM** and **TAIL**). There are 3 things you must notice:

1. Is the note head open or closed (white or black)?
2. Does it have a 'stem'?
3. Does it have a 'tail' and if so, how many?

As you can see from the table above, longer notes are white. The longest whole note (the semibreve worth four beats) is the simplest – only a white oval. The minim (worth two beats) adds a **STEM** to a semibreve. The crotchet (worth one beat) also has a **STEM** but is a closed note head using black. Shorter notes, like the quaver (worth half a beat) also has a **STEM** but adds a **TAIL**, a semiquaver has two **TAILS**, a demisemiquaver has three **TAILS**. The more tails a note has, the shorter the note value. Shorter notes are often grouped or **BEAMED** together, usually lasting for one or two beats. This makes them easier to read and makes more sense when playing the music.

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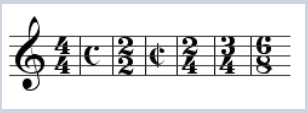


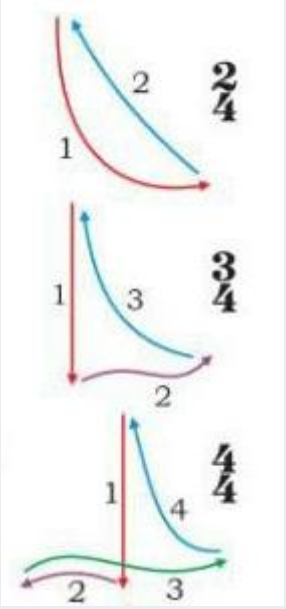
TIME SIGNATURES

5 MINUTES READING #5

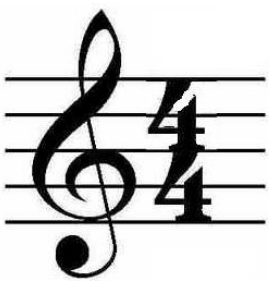
"Music should be a central part of every analysis."
- Carl Jung

Questions to think about:

1. *Conductors who lead orchestras and other ensembles often "beat time" to show what time signature the piece of music is. Why do you think this is important?*
2. *Try "beating time" as a conductor would to the following time signatures.*



A **TIME SIGNATURE** consists of two figures written one about the other at the beginning of a piece of music. This 'signifies' the *time* (the number of beats to each bar) which the composer is using. If each beat is a plain, simple note the music is said to be in **SIMPLE TIME**. In simple time, each beat is divisible into halves.

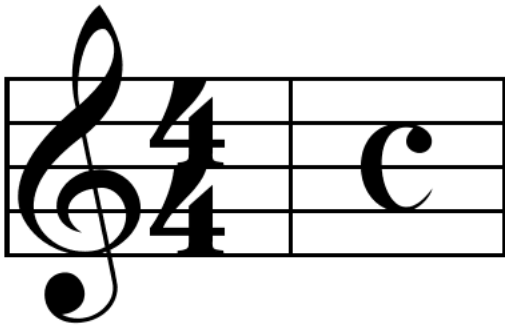


In a **SIMPLE TIME SIGNATURE**, the top figure always indicated the number of beats to each bar. The bottom figure represents a fraction of a semibreve and indicates what *kind* or *type* of note is taken for the beat. A simple time signature of 3/2 = three halves of a semibreve = three minims per bar; 4/4 = four quarters of a semibreve = four crotchets per bar.

Symbols for the bottom number are:

4 = crotchet beats 8 = quaver beats 2 = minim beats.

Common time



Composers sometimes write 𝐜 instead of 4/4 (often called 'common time') and 𝔠 instead of 2/2. 𝐜 is not, in fact, a capital standing for 'common'. In medieval times, triple time was shown by an O – a circle symbolizing perfection; 2/4 or 4/4 was shown by a C – a broken or imperfect circle.

Type Of Beat	Duple Time	Triple Time	Quadruple Time
Crotchet Beat	2/4 ♩ ♩	3/4 ♩ ♩ ♩	4/4 ♩ ♩ ♩ ♩
Minim Beat	2/2 𝅗𝅥 𝅗𝅥	3/2 𝅗𝅥 𝅗𝅥 𝅗𝅥	4/2 𝅗𝅥 𝅗𝅥 𝅗𝅥 𝅗𝅥
Quaver Beat	2/8 ♪ ♪	3/8 ♪ ♪ ♪	4/8 ♪ ♪ ♪ ♪

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STOMP

5 MINUTES READING #6

"Percussion is the most adaptable family of instruments. The biggest challenge is to project percussion in a lyrical way."
- Evelyn Glennie

Questions to think about:

1. *What 5 art forms do STOMP! combine in their performance?*
2. *Where did STOMP! Originate?*
3. *What is a "busker?"*
4. *What is an OSTINATO?*
5. *How do STOMP! use rhythms in their music?*
6. *Do you think we should study STOMP! in music lessons in school? Why?/Why not?*

What does the word "stomp" make you think of?

Music, Dance, Theatre, Choreography or Performance Art? All of the above! Or is it none of the above. Well, both are sort of right...In a way. Confused? read on... STOMP is a movement, of bodies, objects, sounds - even abstract ideas. But what makes it so appealing is that the cast uses everyday objects, but in non-traditional ways.

There's no speech, no dialogue, not even a plot. So why go see STOMP? Well, have you ever composed a symphony using only matchbooks as instruments? Or created a dance routine based around sweeping? You may have done this a little, but get a group of rhythmically gifted, extremely coordinated bodies with definitive personalities, and you have the makings for STOMP. STOMP started stomping on the streets of Brighton, England. Luke Cresswell and Steve McNicholas the creators of STOMP were a group of street performers commonly known as "buskers" trying to grab people's attention. And attention is what they received. Busking is an old custom in the UK, dating back to booth theatres erected at village fairs in the Middle Ages. Luke and Steve updated this historical custom and created a modern symbiotic marriage between movement and music.

You're mistaken if you look for a hidden message in STOMP. There are no political connotations, no pretentious techniques, and no dialogue to misconstrue. Instead, you're bombarded by noises that you usually try to block out. STOMP takes the everyday sounds of pipes and brooms, lighters and garbage pail lids, and creates the extraordinary.

So how do you describe STOMP? If you ask one of the creators, Luke Cresswell, he would simply say, "at the end of the day, STOMP is what it is."

STOMP! use rhythms in their music, but in a very clever way – they start off with one rhythm and repeat it over and over (called an OSTINATO meaning a repeated musical pattern). They then OVERLAP this with another ostinato, then another, then another increasing the musical TEXTURE. Sometimes they stop all the ostinatos and play the same rhythm together to form a musical CONTRAST.

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