The Beat Goes On

Going to a Thunder game is one of the most sensorially exciting events! From the smell of popcorn and hotdogs, to the brightly colored and flashing lights, to the buzzing energy and excitement you can feel from all your fellow fans packing the stands, it’s a full body experience. The mood for the game isn’t completely set without music though!

Here’s what you’ll need:

- Pen and paper
- An internet-enabled device
- Sticky notes
- Headphones or earbuds (optional)

Think about some of your favorite music—what makes you like it so much? Is it the melody, the lyrics, the beat? How does it make you feel? Do you like music that makes you happy and want to dance, or do you like music that makes you feel thoughtful and introspective? Jot down a few thoughts or words that come to your mind when you think about your favorite music and what draws you to it.

Did you know that listening to music can actually change your body? When the sound waves and vibrations of music reach your eardrum, the pulses trigger nerve impulses to your brain. These impulses can change your heart rate, blood pressure or even make you feel less stressed. The way music interacts with your brain (and therefore your entire body) is pretty remarkable!

If you’ve ever been to a sports game you might have noticed that there was likely a lot of music played throughout the entire event. With an adult’s permission, search on the internet for “popular songs played at NBA games.” You should find several different lists that will all look pretty similar.

Scroll through the list and see if you know any of the songs commonly used. If you have permission, you could even go to a music streaming site and listen to some of the songs. What are some of the characteristics that the songs share?

There are obviously lots of different elements to what makes music great—meaningful lyrics, catchy hooks and so forth. The main element we’re going to focus on for the remainder of this activity is the beat. In music, the beat is the basic unit of time of the song. It is what makes you tap your foot, clap your hands or even get up and dance!

You’re going to use a metronome to play around with some different beats. A metronome is a device musicians use that will keep a specific beat with a ticking sound. Since most people don’t have an actual metronome, you’re going to use one on the internet. Either on your computer or tablet, Google “metronome” to find a digital one you can use. You’ll see it has a plus and minus side on either end and that’s how you’ll control the rhythm of the beat.

Grab some earbuds if you’d like or just turn up the speakers on your device and play around with different beats per minute (BPM) on the metronome. It’s obviously just ticking so it might not elicit the same sort of feelings as your favorite song, but try to pay attention to how different BPM make you feel. Close your eyes and try to identify where you feel the beats in your body. What difference do you notice between 60 BPM and 120 BPM? Can you find the BPM...
that makes you feel most relaxed? What about the setting that makes you feel happy or excited? Write down the response to these questions so you can reference them later in this activity.

You’ve experimented with beats just by themselves, but it can sometimes be hard to identify the beat of a song when it’s got the melody and lyrics mixed over it as well.

Beats are just the time unit used to measure music. They’re what you experimented with on the metronome, and you can even recreate that yourself just by clapping in a consistent manner. The songs you like are more than just a steady, unvaried beat though.

This is where rhythm comes in. **Rhythm** is a sequence of beats that includes stressed and unstressed beats. These terms might be familiar to you from grammar class. Language—just like music—also has stressed syllables. If a word has the first syllable stressed (like *usually*), it sounds pretty funny if you say it with the third syllable stressed (*usuALly*). Music is exactly the same way!

Time to experiment with stressed beats in a rhythm! Take a look at the following sets of beats:

One **TWO** Three Four

One **TWO** Three Four

Try clapping your hands for the three unstressed beats and stomping your foot for the one stressed beat. That means you should clap your hands once, stomp once, then clap your hands two more times. Can you get the feeling of that rhythm?

Why don’t you try it with two stressed beats? Give this rhythm a try, clapping for unstressed and stomping for stressed.

**ONE** Two **THREE** Four

**ONE** Two **THREE** Four

Try experimenting with different rhythms. Just like in your math class when you identify patterns, you may notice that the rhythmic sequences you’re creating have patterns to them. If you try to design a beat based on an existing pattern (as opposed to finding the pattern in a beat) does it sound different?

You don’t have to stick to just four beats, either! Beats often are counted one through eight in a music sequence. Can you create a rhythm that includes eight beats of a stressed and unstressed pattern? Try stressing two or more beats in a row and see how complex of a rhythm pattern you can make! You can also add in extra sounds for differently stressed beats, like slapping the desk with your palm or snapping your fingers. Write your rhythms down in your notebook to help you remember them.

Think back to the comparison between language and music. You know how funny or confusing words sound if you stress the wrong syllable? Is it possible to do this in music? Can you create rhythm that feels like the equivalent of saying a word incorrectly? How would you pick which beats to stress to make it sound weird instead of pleasant or energetic?

The term for this off-beat sequencing is called **syncopation**, which is simply a disturbance or interruption of the regular flow of rhythm. If you enjoy listening to popular music, you’re likely familiar with syncopation even if you didn’t realize it. Syncopation is used frequently in the form of **backbeat**, which is an accentuation of the unstressed beat.

Try creating syncopated beats with your friend. You can start simply by having one of you clap and stomp:

**ONE** Two **THREE** Four
While the other one will clap and stomp:

One **TWO** Three **FOUR**

If you can get in unison with your friend while doing this, then you will have created a simple form of syncopation. Try experimenting further with this concept.

The last thing you’re going to work with is the **tempo**. Tempo is the speed at which a song is played, and it can actually have a lot of effect on the emotional impact. Think back to some of the songs you thought about at the beginning of *Warm Up* that made you feel certain emotions. How do slow songs make you feel? What about fast songs? Have you ever heard a slow version of a song that’s normally played fast or vice versa? What does changing the tempo do to a song that you’re already familiar with at a certain speed? Does it change the way the song makes you feel?

With all of this knowledge about tempo, beat and the feeling of music in mind, it’s time for you to come up with your own rhythm that is going to be the stadium anthem of a generation! Okay, while it may not achieve that goal, you are going to decide what beat and tempo you want the rhythm for your new song to be.

When you’re deciding this, think about what you want the fans at the game to feel from your sequence. Do you want them hyped up? Do you want them cheering? Maybe you want them to be dancing during half time?

When you’ve composed your rousing rhythm, ask your friend to be your audience. Perform your composition for them using clapping, stomping, snapping, etc. to highlight stressed beats versus unstressed ones.

When you’ve finished, ask them how the rhythm made them feel. Did it excite them? Did they notice any physical feelings in their stomach or in their breathing? Maybe they felt compelled to tap their foot along with you!

Think back to *Warm Up* when you read about how sound waves can physically affect the body. Did your friend’s answers to the questions line up with this data? Don’t forget—the sound waves physically affect you, too, as you clap or stomp or snap. Could you feel the vibrations as you performed any of these physical movements performing your original rhythm?

Now, have your friend perform their rhythm for you and answer how it made you feel and what you thought about their rhythm pattern. Were there any similarities between the pattern they developed and the one that you did?

After everyone in the class has had a chance to pair up and experiment, gather back as a class to compile some data and see if any trends appear. Make several line plots on the white board with ratings of 0-5 written beneath them. Then, come up with a list of possible emotions that the rhythms you and your classmates created could make someone feel. Some of these could be **excited, tense, relaxed, nervous, happy, sad** and so forth. Assign an emotion to each line rating that you made.

By placing sticky notes on the line plots students will rate how strongly they felt each of the emotions. Zero means they did not feel it at all, and five means they felt it very strongly.

---

**ANALYZE THE REPLAY**

*What happened?*

After all the students have put up their answers look at the line plots. What trends (if any) have appeared? Were there some emotions felt more often than others? How did the majority of your classmates perform their rhythms? Was there a consistency between performance style and emotional response?
Of course, there’s a lot more to a song than just a beat. Try taking the rhythm that you came up with and see if you can add a melody or even some lyrics over it. What would you want to say in your song to really excite a crowd? Obviously most songs played at a Thunder game were not written specifically to be used in a sports arena, but their lyrics often still work in that different context. You could try writing lyrics to go with your rhythm that are very Thunder and basketball specific, or you could try to make them more universally exciting and amplifying.

Pro Tip: If you have access to a program like Garage Band or similar apps, you can make your music creation sound as complex and multilayered as your imagination allows!

Another activity you could try involves working together with your entire class or group of friends. Try to come up with the perfect playlist for a Thunder game. Think about what emotions you want to bring out in the crowd (and the players) throughout the course of the game. What sort of songs will you start with for when the fans are arriving? How could you encourage the players and fans if things aren’t going the way they want? What song has a beat pattern that would help keep spirits high if the Thunder is winning? Sometimes all you have time to play is 15-30 seconds of a song during a time out, so you and your group will have to be strategic with what parts of songs you’ll play.

In this activity, students explored an introductory examination of the psychology of music on emotions, focusing primarily on how beat and tempo can affect a person’s mood and feelings. The topic of the psychology of music is dense and well-studied, and you are probably already aware of at least the effects of music on you physically and your own emotions. Think about the music you might choose for a workout playlist. You probably strategically pick songs to pump you up at the beginning of your workout, high energy songs to encourage you during the most difficult point of your exercise and then calmer songs to help you cool down at the end. Research has found that music has all sorts of benefits to people as they work out, from distracting them from pain or fatigue to elevating their mood to potentially even promoting metabolic efficiency.

Students in this activity focused less on the effect music has on athletes, though, and more on the effect it can have on the crowd. After all, professional athletes are experts at tuning out the more fun and raucous aspects of attending a live game. This is why you don’t hear all of the music played throughout a game when you’re watching it on TV. The music is chosen to hype up and excite the audience in person to cheer for their team. This in turn creates an energy in the arena that does impact the athletes and can even help encourage them.

When it comes to using music in this way to influence a crowd, the two most important aspects of the songs chosen are the tempo (which students explored in Game Time) and something psychologists call rhythm response. This is the amount of effect the song has on you to get moving, whether that’s tapping your foot, clapping along or even dancing. If you’ve been to any sports game, you know the music that achieves this goal most often are fast songs with strong beats.

Students also briefly explored the concept of beats per minute in songs when they experimented with the online metronome. Calculating BPM in a song can get complicated (especially for the casual music listener) which is why the activity progressed with simple beats and rhythms. However, there has been some research that suggests people have a subconscious preference for rhythms of 120 BPM or 2 beats per second. An analysis of over 74,000 popular songs released in the thirty-year time span of 1960-1990 found that 120 BPM was the most prevalent beat.

---

**Pro Tip:** If you have access to a program like Garage Band or similar apps, you can make your music creation sound as complex and multilayered as your imagination allows!

Another activity you could try involves working together with your entire class or group of friends. Try to come up with the perfect playlist for a Thunder game. Think about what emotions you want to bring out in the crowd (and the players) throughout the course of the game. What sort of songs will you start with for when the fans are arriving? How could you encourage the players and fans if things aren’t going the way they want? What song has a beat pattern that would help keep spirits high if the Thunder is winning? Sometimes all you have time to play is 15-30 seconds of a song during a time out, so you and your group will have to be strategic with what parts of songs you’ll play.

In this activity, students explored an introductory examination of the psychology of music on emotions, focusing primarily on how beat and tempo can affect a person’s mood and feelings. The topic of the psychology of music is dense and well-studied, and you are probably already aware of at least the effects of music on you physically and your own emotions. Think about the music you might choose for a workout playlist. You probably strategically pick songs to pump you up at the beginning of your workout, high energy songs to encourage you during the most difficult point of your exercise and then calmer songs to help you cool down at the end. Research has found that music has all sorts of benefits to people as they work out, from distracting them from pain or fatigue to elevating their mood to potentially even promoting metabolic efficiency.

Students in this activity focused less on the effect music has on athletes, though, and more on the effect it can have on the crowd. After all, professional athletes are experts at tuning out the more fun and raucous aspects of attending a live game. This is why you don’t hear all of the music played throughout a game when you’re watching it on TV. The music is chosen to hype up and excite the audience in person to cheer for their team. This in turn creates an energy in the arena that does impact the athletes and can even help encourage them.

When it comes to using music in this way to influence a crowd, the two most important aspects of the songs chosen are the tempo (which students explored in Game Time) and something psychologists call rhythm response. This is the amount of effect the song has on you to get moving, whether that’s tapping your foot, clapping along or even dancing. If you’ve been to any sports game, you know the music that achieves this goal most often are fast songs with strong beats.

Students also briefly explored the concept of beats per minute in songs when they experimented with the online metronome. Calculating BPM in a song can get complicated (especially for the casual music listener) which is why the activity progressed with simple beats and rhythms. However, there has been some research that suggests people have a subconscious preference for rhythms of 120 BPM or 2 beats per second. An analysis of over 74,000 popular songs released in the thirty-year time span of 1960-1990 found that 120 BPM was the most prevalent beat.
When discussing tempo students were asked if they had ever heard a slow cover of a fast song or vice versa. If time and interest allows, there are apps available for download where you can take popular songs and change the tempo and see how it changes the overall feel of the song. One of these is called Audipo, but there are several others available in your preferred app store.

<table>
<thead>
<tr>
<th>Standard</th>
<th>4&lt;sup&gt;th&lt;/sup&gt; Grade</th>
<th>5&lt;sup&gt;th&lt;/sup&gt; Grade</th>
<th>6&lt;sup&gt;th&lt;/sup&gt; Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.PS4.3: Waves and their applications in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>technologies for information transfer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.PS4.2: Waves and their applications in</td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>technologies for information transfer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math</td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>4.D.1.1 Data and Probability</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.M.CR.1.1: Generate musical ideas</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.M.CR.1.1: Generate musical ideas</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>6.M.CR.1.1: Generate musical ideas</td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>4.M.CR.1.2: Generate musical ideas</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>5.M.CR.1.2: Generate musical ideas</td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>4.M.CR.1.5: Generate musical ideas</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.M.CR.1.5: Generate musical ideas</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>6.M.CR.1.5: Generate musical ideas</td>
<td></td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>4.M.RE.1.1: Respond to music</td>
<td>●</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.M.RE.1.1: Respond to music</td>
<td></td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>6.M.RE.1.1: Respond to music</td>
<td></td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>