



## A Sonic Pi Workshop For Kids

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1a

# Buffer 0

Use Buffer 0 in Sonic Pi

1b

play 60  
sleep 1

Play and wait

|    |     |     |     |     |    |
|----|-----|-----|-----|-----|----|
| 80 | 60  | 62  | 64  | 65  | 20 |
|    | 67  | 69  | 71  | 72  |    |
|    | :c4 | :d4 | :c5 | :d5 |    |

2a

play :c4  
play :e4  
play :g4  
sleep 1

Play a chord (triad)

|          |          |          |
|----------|----------|----------|
| c5 e5 g5 | f4 a4 c5 | g4 a4 d5 |
|----------|----------|----------|

2b

# BUFFER 1

Use Buffer 1

---

3a

---

---

3b

play\_chord [:c4, :e4, :g4]  
sleep 1

Multiple tones at the same time are called chords. This way is easier than before. It's a C-chord.

---

c5 e5 g5      f4 a4 c5      g4 a4 d5

4a

play\_chord chord(:e4, :major)  
sleep 1

Major , Minor – Do you notice the difference?

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:a4      :b4      :major7      :minor

3 Chords with a second distance (use e, a and b minor)

4b

# BUFFER 2

Use Buffer 2

---

5a

---

---

5b

# play\_pattern (scale :c4, :major)

Play a a pattern (multiple tones in a sequence) – here we a play a scale

:major :major\_pentatonic :minor\_pentatonic :minor

6a

## use\_bpm 120

# play\_pattern (scale :e4, :minor)

Use a different speed. b p m = beats per minute

50 240 400 100 600  
:major :major\_pentatonic :minor\_pentatonic :minor

6b

use\_bpm 600

2mal

2.times do

play\_pattern (scale :e4, :minor)

end

2 times. We call this a loop.

---

3.times

5.times

7a

live\_loop :tonleiter do

use\_bpm 120

play\_pattern (scale :e4, :minor)

end

We call this an endless/infinite loop

---

**Change to 480.** Press Run and listen to when it changes.  
Immediately?

7b

use\_synth :saw

How about a different sound for our synthesizer?

---

:dsaw

:mod\_dsaw

:prophet

:piano

:blade

:tb303

:pluck

:dtri

8a

---

play\_pattern (scale :e4, :minor)

play\_pattern (scale :e4, :minor).reverse

And now we play the scale backwards

---

8b



# BUFFER 3

9a

```
live_loop :geblubber do
  use_bpm 240
  play_pattern (scale :e4, :minor).choose
  sleep 1
end
```

**Choose** selects one tone randomly out of a set of tones. One a time only.

- play* only plays one note (compare to *play\_pattern* that plays many)
- choose* selects a random one out of a set of notes

9b

# BUFFER 4

Use Buffer 4

---

10a

---

```
live_loop :schlagzeug do  
  sample :bd_haus  
  sleep 1  
  
end
```

An endless loop that can be changed during playing

---

Add another sample *sn\_zome* with *sleep 1*

Make the drums faster (120)

```
:drum_bass_hard      :drum_snare_hard      :drum_tom_hi_hard  
11a
```

---

# BUFFER 5

Use Buffer 5

---

12a

---

---

12b

```
live_loop :melodie do
  sample :guit_em9
  sleep 2
end
```

An electric guitar sample

Tryout and then copy the drums (buffer 4) and the melody together in to buffer 5

13a

- Now put everything together in buffer 6
- First Buffer 5, then buffer 3 and then 2
- Run again after each copying and listen
- The copy buffer 1 and add a live\_loop.
- Something isn't quite right yet. What is it?

Use Size- and Size +. To change the size of the text

```
use_bpm          use_synth :hollow          ,amp: 5
use_synth: hoover
```

13b

## More ideas

- Work on the drums
- Play around with melodies
- Effects
- What about variables and conditions?
- Samples „loop\_“ with sample\_duration()

Experiment with your mentor

14a

```
a = 30
if a < 100
  a = a + 1
  play a
else
  a = 30
end
```

Variables and conditions

Add around a live\_loop and listen. What happens here?

14b

```
live_loop :withReverb do
  with_fx :reverb, room: 0.9 do
    play_pattern (scale :e4, :minor)
  end
end
```

That's how you can apply effects

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- **fx** stands for „effects“. Each effect has its parameters: here the size of the room of the reverb.
- Try other effects (see fx in help section)
- Use play and choose and a speed of 300

15a

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# Cheat sheet

play 60

sleep 1

play :c4 ← a scale = c,d,e,f,g,a,b,c

play\_chord [:c4, :e4, :g4]

play\_chord chord(:e4, :major) → major, minor...

play\_pattern (scale :e4, :minor) → .reverse

play (scale :e4, :minor).choose

use\_bpm 600

use\_synth :hollow → saw, hoover, piano

```
live_loop :myEndlessLoop do
  ...
end
```

```
2.times do
  ...
end
```

sample :bd\_haus → :guit\_em9 ...

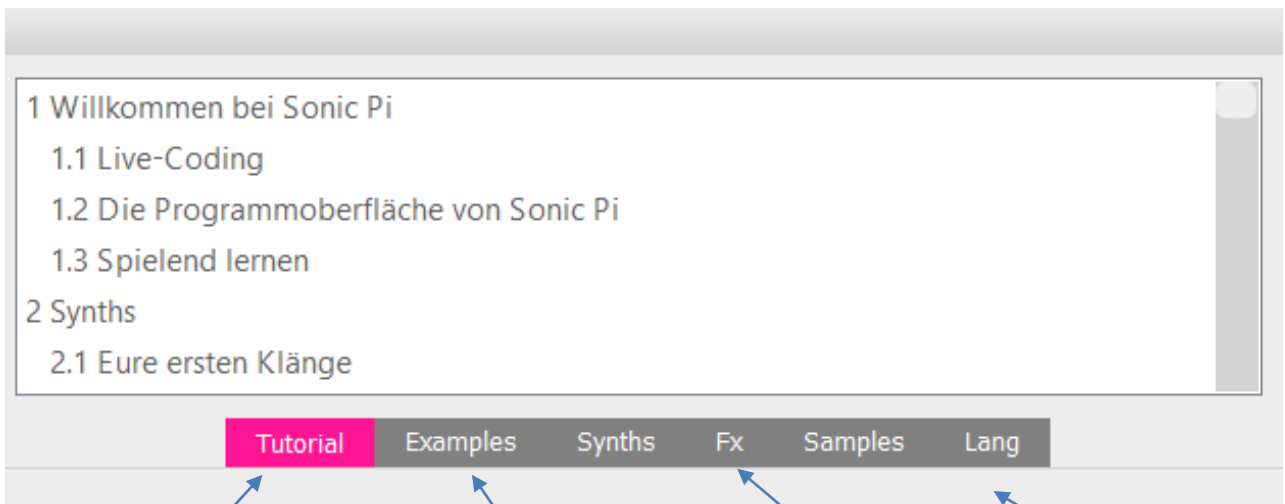
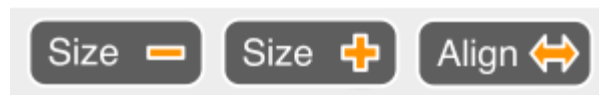
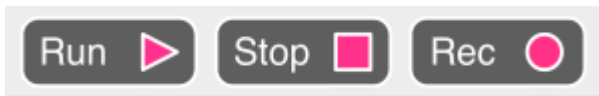


# Cheat sheet

## Keyboard shortcuts

|        |                              |       |          |
|--------|------------------------------|-------|----------|
| ALT-R  | Run                          | ALT-A | Mark all |
| ALT-S  | Stop                         | ALT-C | Copy     |
| STRG-I | Help for the current command | ALT-V | Insert   |

## Buttons



Manual for at home

Cool examples

Effects

All commands

# Cheat sheet

## use\_synth

[Tutorial](#)
[Examples](#)
[Synths](#)
[Fx](#)
[Samples](#)
[Lang](#)

|           |          |           |             |               |           |
|-----------|----------|-----------|-------------|---------------|-----------|
| beep      | blade    | bnoise    | cnoise      | dark_ambience |           |
| dpulse    | dsaw     | dull_bell | fm          | gnoise        | growl     |
| hollow    | hoover   |           |             |               |           |
| mod_beep  | mod_dsaw | mod_fm    | chiplead    | chipbass      | chipnoise |
| mod_pulse | mod_saw  |           | mod_sine    | mod_tri       | pule      |
| noise     | piano    | pnoise    | pretty_bell | prophet       | dtri      |
| saw       | sine     | square    | subpulse    | tb303         | tri       |
|           |          |           |             |               | pluck     |
|           |          |           |             |               | zawa      |

## samples

[Tutorial](#)
[Examples](#)
[Synths](#)
[Fx](#)
[Samples](#)
[Lang](#)

:elec\_triangle  
 :elec\_snare  
 :elec\_lo\_snare  
 :elec\_hi\_snare  
 :elec\_mid\_snare  
 :elec\_cymbal  
 :elec\_soft\_kick  
 :elec\_filt\_snare  
 :elec\_fuzz\_tom  
 :elec\_chime  
 :elec\_bong  
 :elec\_twang  
 :elec\_wood  
 :elec\_pop  
 :elec\_beep  
 :elec\_blip  
 :elec\_blip2  
 :elec\_ping  
 :elec\_bell  
 :elec\_flip  
 :elec\_tick  
 :elec\_hollow\_kick  
 :elec\_twip  
 :elec\_plip  
 :elec\_blup

:misc\_burp  
 :perc\_bell  
 :perc\_snap  
 :perc\_snap2

:guit\_harmonics  
 :guit\_e\_fifths  
 :guit\_e\_slide  
 :guit\_em9

:bd\_ada  
 :bd\_pure  
 :bd\_808  
 :bd\_zum  
 :bd\_gas  
 :bd\_sone  
 :bd\_haus  
 :bd\_zome  
 :bd\_boom  
 :bd\_klub  
 :bd\_fat  
 :bd\_tek

:bass\_hit\_c  
 :bass\_hard\_c  
 :bass\_thick\_c  
 :bass\_drop\_c  
 :bass\_woodsyc  
 :bass\_voxy\_c  
 :bass\_voxy\_hit\_c  
 :bass\_dnb\_f

:ambi\_soft\_buzz  
 :ambi\_swoosh  
 :ambi\_drone  
 :ambi\_glass\_hum  
 :ambi\_glass\_rub  
 :ambi\_haunted\_hum  
 :ambi\_piano  
 :ambi\_lunar\_land  
 :ambi\_dark\_woosh  
 :ambi\_choir

:ambi\_soft\_buzz  
 :ambi\_swoosh  
 :ambi\_drone  
 :ambi\_glass\_hum  
 :ambi\_glass\_rub  
 :ambi\_haunted\_hum  
 :ambi\_piano  
 :ambi\_lunar\_land  
 :ambi\_dark\_woosh  
 :ambi\_choir

:drum\_heavy\_kick  
 :drum\_tom\_mid\_soft  
 :drum\_tom\_mid\_hard  
 :drum\_tom\_lo\_soft  
 :drum\_tom\_lo\_hard  
 :drum\_tom\_hi\_soft  
 :drum\_tom\_hi\_hard  
 :drum\_splash\_soft  
 :drum\_splash\_hard  
 :drum\_snare\_soft  
 :drum\_snare\_hard  
 :drum\_cymbal\_soft  
 :drum\_cymbal\_hard  
 :drum\_cymbal\_open  
 :drum\_cymbal\_closed  
 :drum\_cymbal\_pedal  
 :drum\_bass\_soft  
 :drum\_bass\_hard  
 :sn\_dub  
 :sn\_dolf  
 :sn\_zome

:loop\_industrial  
 :loop\_compus  
 :loop\_amen  
 :loop\_amen\_full  
 :loop\_garzul  
 :loop\_mika  
 :loop\_breakbeat

:drum\_cowbell  
 :drum\_roll  
 :misc\_cros  
 :misc\_cineboom  
 :perc\_swash  
 :perc\_till  
 :loop\_safari  
 :loop\_tabla