Music Blocks Lesson Plan
Animated Polyrhythms

Age:

7-12 years

Lesson duration:

60 minutes

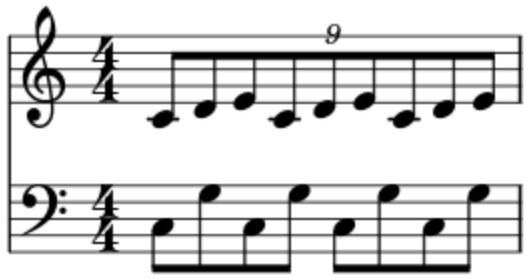
- Introduction: drum circle (15m)
- Part 1: Creating beats and rhythms (15m)
- Break (5m)
- Part 2: Animation with Avatars (15m)
- Performance/Critique (10m)

Number of students:

Up to 10.

Rationale:

Students will learn about the concept of using avatars for sound-sync animation. They will also explore polyrhythmic music. (A polyrhythm is the simultaneous use of two or more rhythms that are not readily perceived as deriving from one another, e.g., triplets and duplets.



Objectives:

Students will understand what is meant by a polyrhythm. They'll also learn how to visualize rhythms.

LESSON

Introduction:

Begin by asking students to sit in a circle and explain that in today's lesson they are going to learn about polyrhythms.

Start off by having each student define a drum beat based on doublets or triplets.

How are they different?

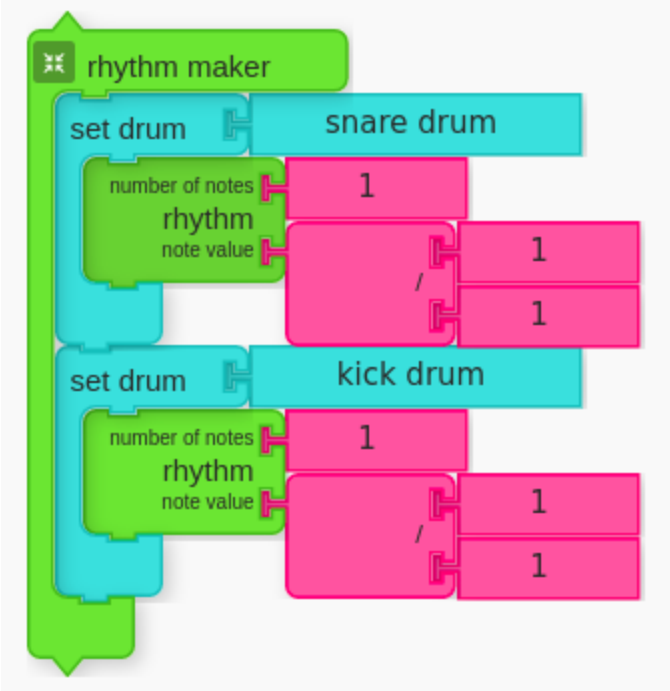
Have them play their rhythms together. Do they hear the interactions? When do the beats align? When do they separate?

Remind them that in Music Blocks, they can use the Rhythm Maker to program drums. Using a divisor of 2, they can create duplets and a divisor or 3 for triplets.

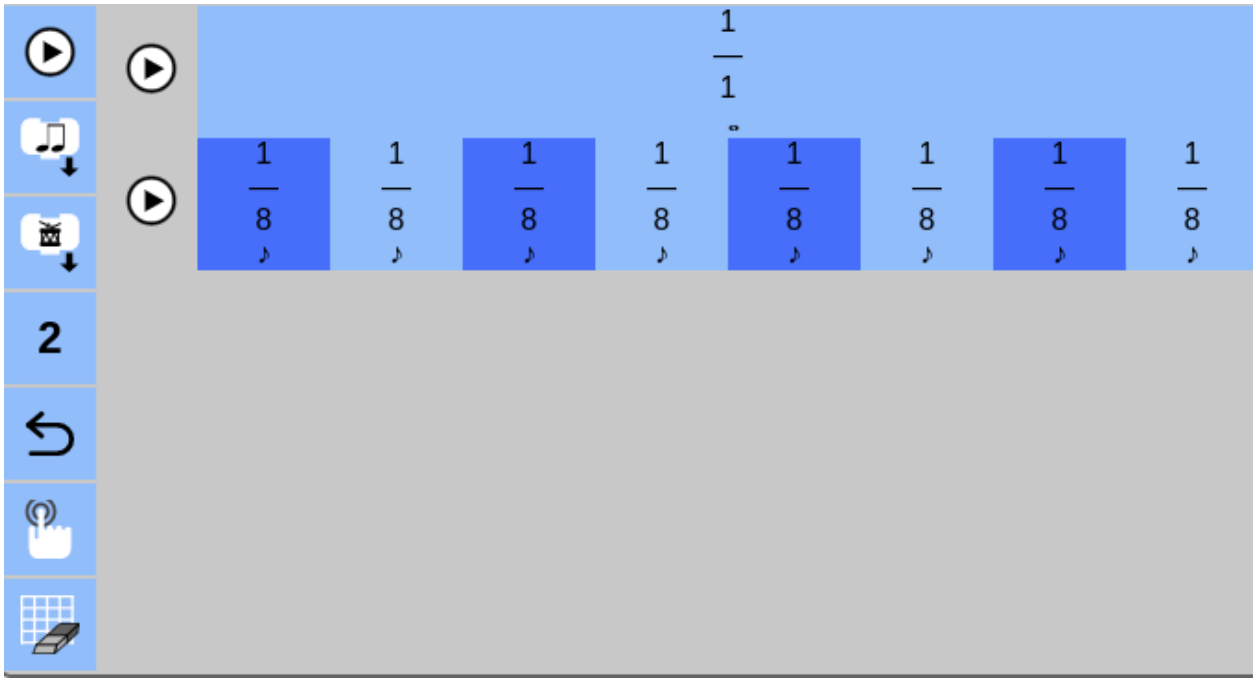
Part 1:

A. Drum machines.

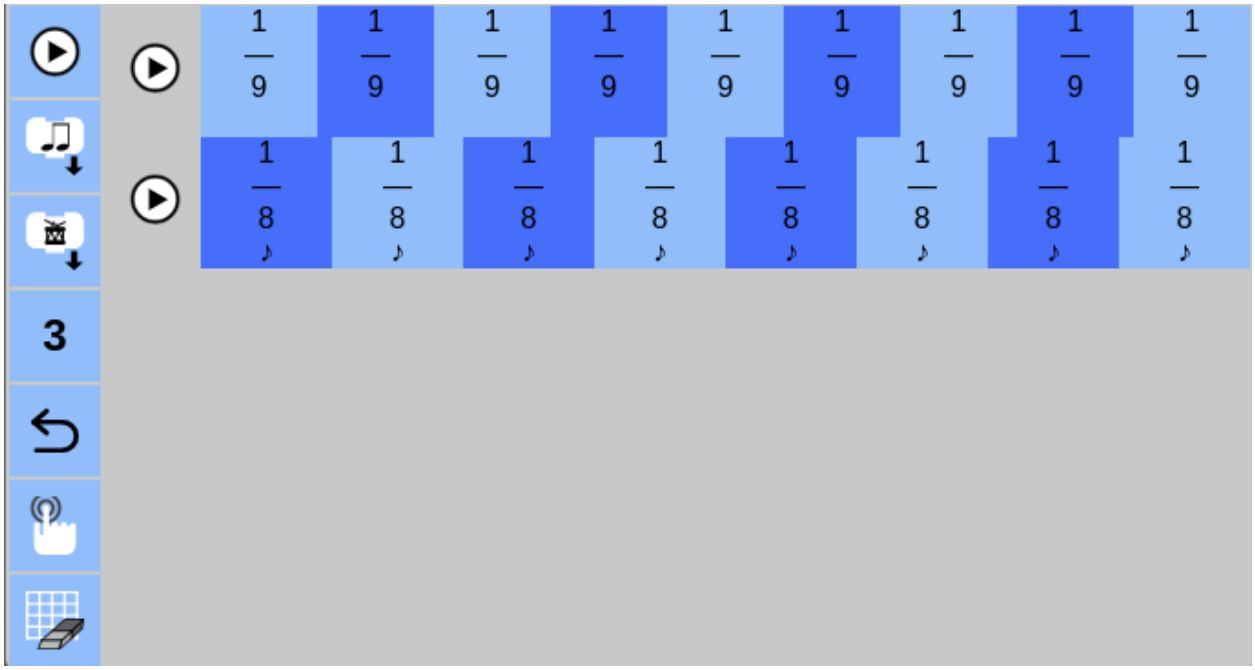
1. Open the Rhythm Ruler widget with two drum blocks.



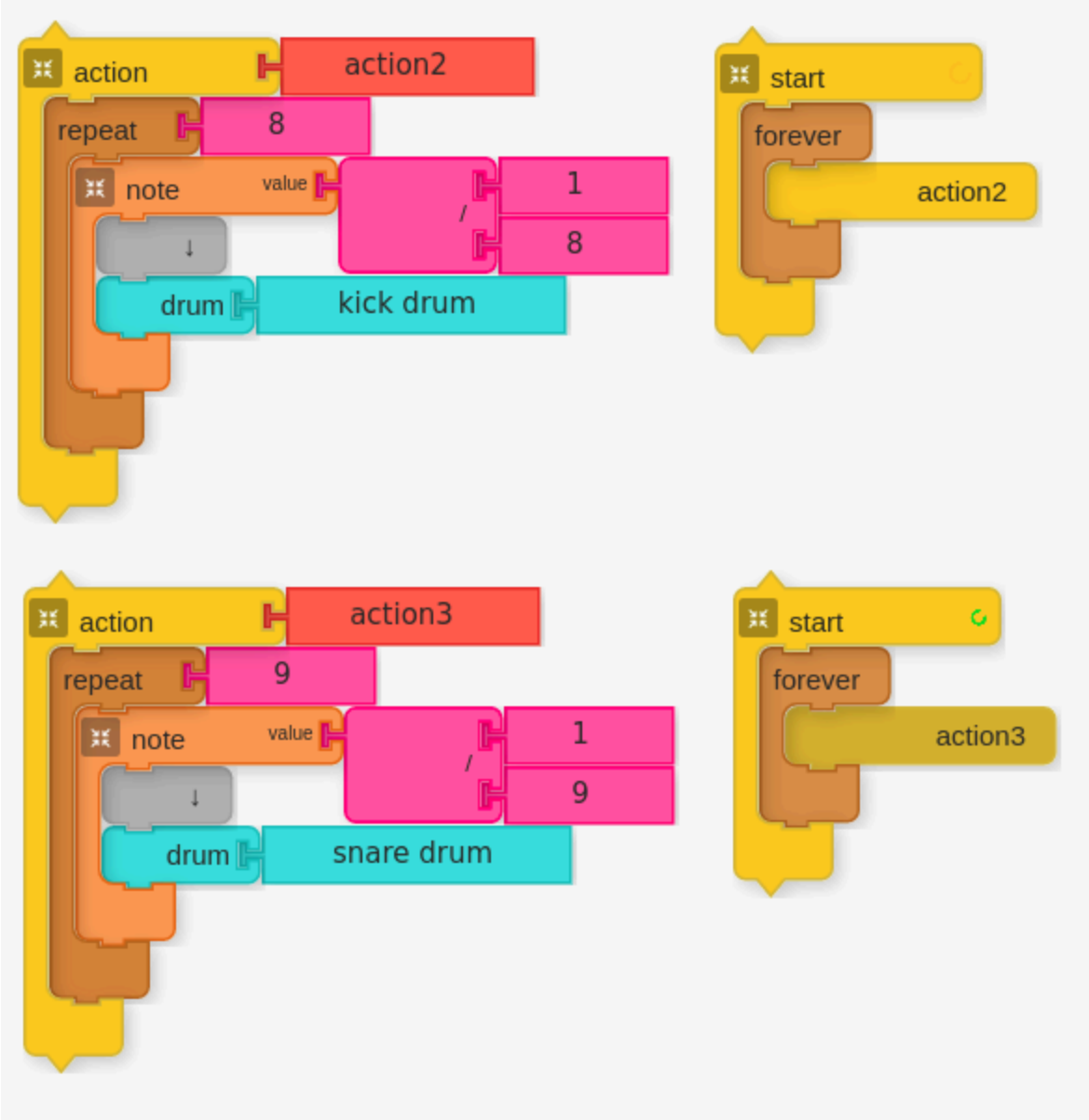
2. With one ruler, divide by 2.



3. With the other ruler, divide by 3.

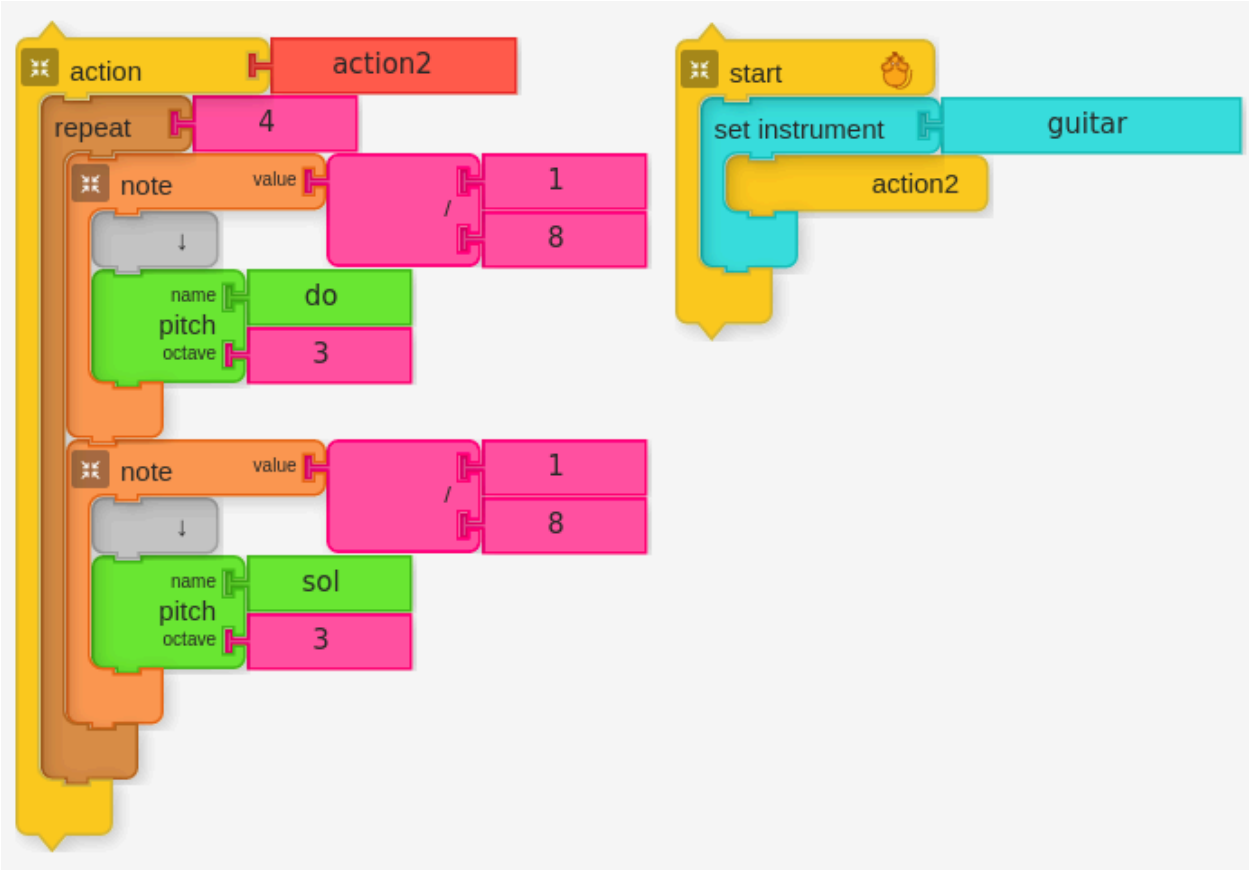


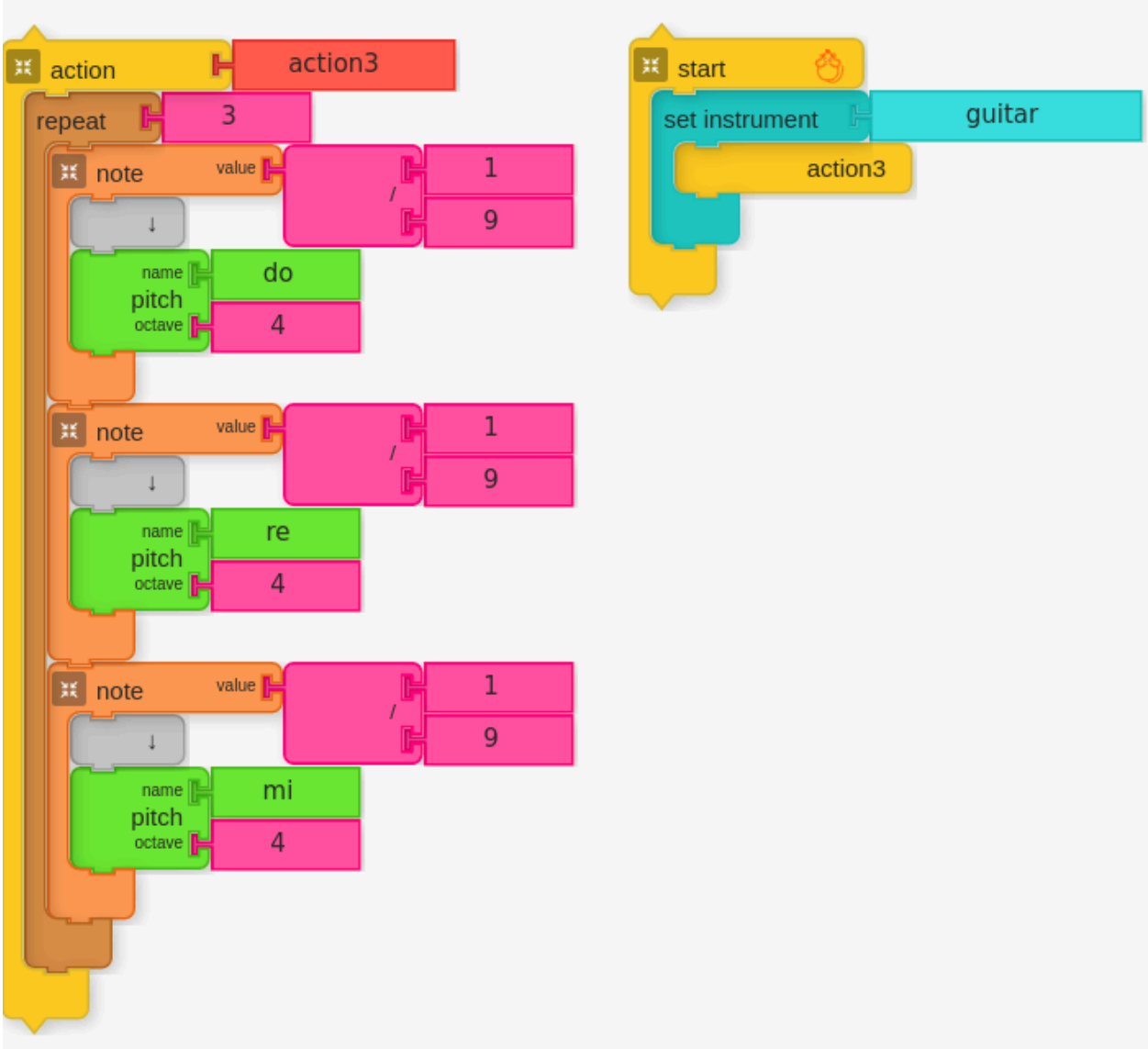
4. Save out drum machines.



B. Polyrhythms with notes.

1. You can use pitches instead of notes.


action
action2
repeat
4
note
value
1
/
8
↓
name
do
pitch
octave
3
note
value
1
/
8
↓
name
sol
pitch
octave
3
start
set instrument
guitar
action2

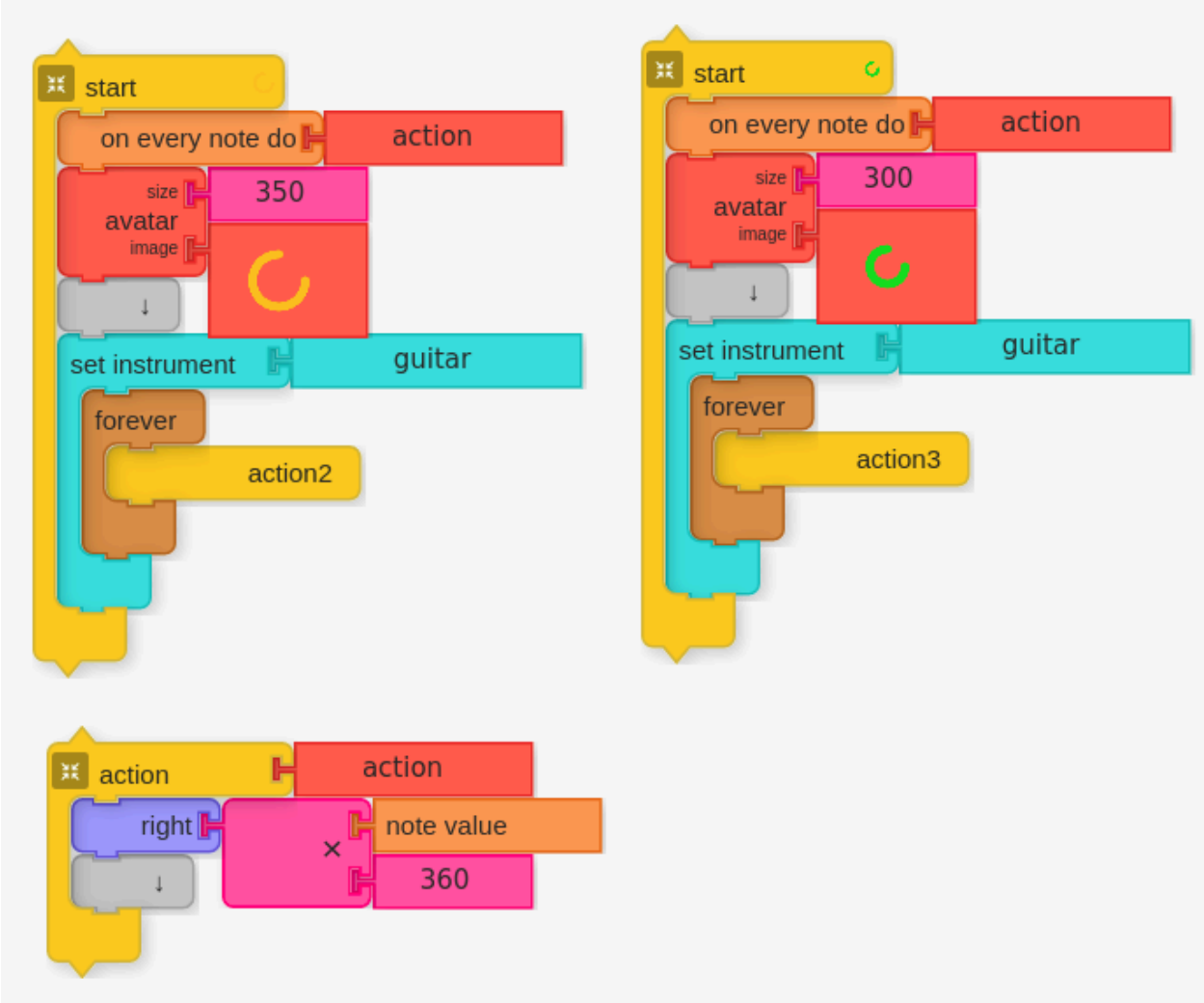


Break

Part 2

Animation

1. You can add an image for each voice by using an Avatar block.
2. Use the On-every-note-do block to specify an action for each note.



The note value calculation is to ensure that the avatar rotates a complete circle over a whole note; half of a circle over a half note; a quarter circle over a quarter note; etc.

Performance/Critique:

1. Have each student perform their composition.
2. Engage in a discussion about polyrhythms. Are there other ways to use them?

Key events:

- Introduction of key concept: polyrhythms
- The students create their own sound-sync animations.

Materials:

- Music Blocks software
- Optional: percussion instruments

Assessment:

- Observe participation.
- Do the compositions include creative use of polyrhythms?
- Do their animations indicate the phase shifts in the rhythms.

MAP
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