Warm Up – Scientific Investigation
What do all these instruments have in common?

Look at the table below. Match each instrument to its size and means of playing. Double bass has been completed for you.
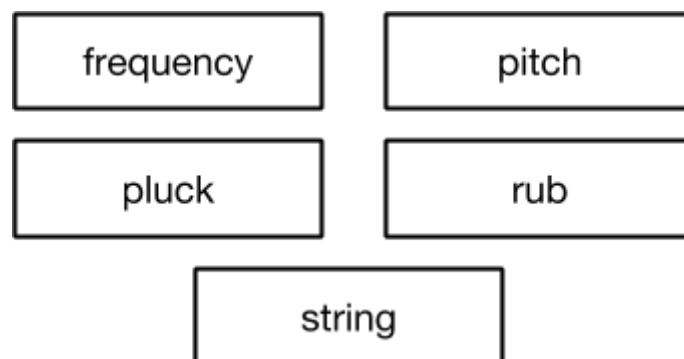
Instrument	Size	How played
guitar	small	bow
violin	medium	Bow and fingers
cello	large	fingers
double bass	large	bow

Mini-lesson
How stringed instruments work.

Keyword Review

Using the word bank below, fill in the blanks with the appropriate keyword. You may need to change the root word (eg. 'pluck' - *'plucking'*)

frequency	pitch
pluck	rub
string	

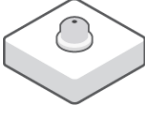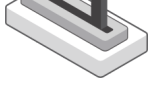**1.** On a guitar, the _____ are made to sound by _____ or strumming them with the fingers

2. The left hand is used to change the length of the string and therefore the

_____

3. A shorter string produces a sound with higher _____

4. On a violin, a bow is used to _____ the strings

Challenge 1
Make a guitar

Plan your system

1. **What blocks do you need?**

1x	The Buzzer makes a sound when activated
1x	The Button activates the Buzzer
1x	The Slider alters the pitch of the Buzzer

2. Sketch your plan: Think about the SAM system you want to create and use the space below to draw it out.
- Which are your inputs and outputs? (*Remember inputs on the left connected to your output on the right*)
- How will they be connected together?
- What settings do you need to edit?

We can use transitional phrases to talk about the order events or actions that take place. Practice by using transitional phrases in order to present your system.

Time & Sequence	Compare (+)	Contrast (-)	Cause and Effect
first/second/third	also	but	because
next	equally	however	so
after	likewise	otherwise	therefore
then	in addition	on one hand… ...on the other hand	as a result
finally/overall/to sum up	similarly	opposite	due to