



# I. Choosing your bottles

## material list

eight glass bottles

metal tablespoon    measuring cup (oz and ml)

ruler    marker pen thin towel

food coloring (optional)

**Step 1:** Choose your eight bottles from table 2 (page 5). Make sure that you choose bottles that can play all eight pitches, i.e., C, D, E, F, G, A, B $\flat$ , & C as shown in table 1 (below).

Here are three examples:

- 1) Two 25oz Perrier + six 11oz Perrier. This instrument is the most uniform looking and the bottles have reclosable caps.
- 2) Four IBC + four Coke. This instrument is the best tasting from a kid's perspective, however the bottles don't have reclosable caps.
- 3) Two 13.7oz Starbucks + five 9.5oz Starbucks + one Kikkoman. This instrument is the sturdiest (thick glass), and all of the bottles are clear—allowing you to use food coloring in your water.

**table 1: exact water measurements for each bottle**

	C (1)	D (2)	E (3)	F (4)	G (5)	A (6)	B $\flat$ (7)	C (8)
Perrier 25 fl oz (750ml)	21 oz (632ml)	16.9 oz (500ml)	13 oz (384ml)	9.9 oz (294ml)	-	-	-	-
Perrier 11 fl oz (330ml)	-	-	10.7 oz (318ml)	9.9 oz (294ml)	8.6 oz (255ml)	6.5 oz (192ml)	4.7 oz (140ml)	0 oz (0ml) empty
Starbucks Frappuccino 13.7 fl oz (405ml)	8.8 oz (260ml)	6.7 oz (200ml)	5.3 oz (158ml)	3.8 oz (115ml)	-	-	-	-
Starbucks Frappuccino 9.5 fl oz (281ml)	-	-	9.2 oz (274ml)	7.7 oz (228ml)	5.7 oz (170ml)	3.8 oz (114ml)	2.6 oz (78ml)	-
Kikkoman Soy Sauce 5 fl oz (148ml)	-	-	-	5.4 oz (160ml)	3.3 oz (100ml)	2.6 oz (78ml)	2 oz (60ml)	1.3 oz (40ml)
IBC Root Beer 12 fl oz (354ml)	8.7 oz (258)	6.5 oz (194)	5.1 oz (153ml)	4.4 oz (130ml)	3.1 oz (92ml)	-	-	-
Coke Classic 8 fl oz (237ml)	-	-	-	-	5 oz (150ml)	2.8 oz (83ml)	2.3 oz (68ml)	0.7 oz (20ml)

### Optional

Our music will use B $\flat$  (B flat), not B $\natural$  (B natural). However, I have listed B $\natural$  separately for those of you who want your instrument to play the Major 7th in the scale.

	B $\natural$ (Major 7)
Perrier 11 fl oz (330ml)	2.6 oz (78ml)
Kikkoman Soy Sauce 5 fl oz (148ml)	1.7 oz (49ml)
Coke Classic 8 fl oz (237ml)	1.3 oz (38ml)



## II. Making your xylophone

**Step 2:** Soak your bottles in warm soapy water for 30 minutes. After soaking, remove all labels—the labels dampen the sound.

**Step 3:** Run the bottles and caps through a dishwasher cycle to disinfect them.



**Step 4:** Using a measuring cup, fill each bottle with the amounts of water shown in table 1 (page 2) using U.S. fluid ounces or milliliters. The measurements in milliliters are more precise.



**Step 5:** Dry the outside of the bottle and carefully draw a line at the water level with a permanent marker. This will allow you to refill your bottles quickly and easily in the future.



**Step 6:** Number your bottles 1-8 so that your low C is 1 and your high C is 8—refer to table 1 (page 2).



### Optional Steps

**Step 7:** drop a pinch of pool choline in each bottle to keep water from growing mold.

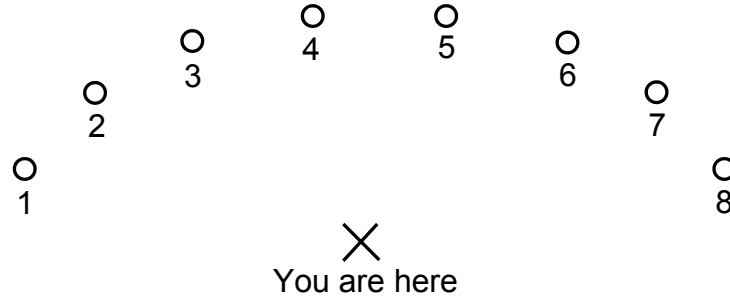
**Step 8:** put a drop or two of food coloring in each bottle to decorate your instrument.

**Step 9:** reclose bottles with caps.

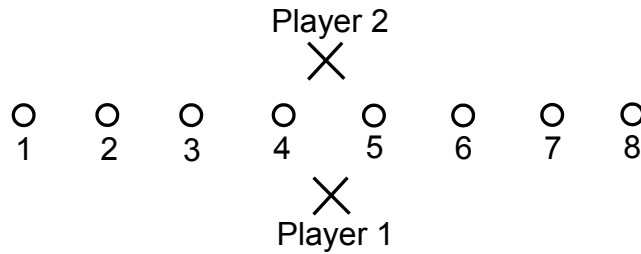


### III. How to play your xylophone

**Step 10:** Place bottles on a thin towel to keep them from moving around. For one player, arrange them in a semicircle so that 1 is on your left and 8 is on your right.



**Step 11:** For two players, arrange them in a straight line.



**Step 12:** With a metal tablespoon, gently tap the side of the bottle as listed in table 2 (page 5). Never strike hard as the bottles might break. Try different spoons—thick spoons produce a fuller sound, thinner spoons make a softer sound.



#### Optional Steps

**Step 13:** You can play with one hand or two hands—whichever is more comfortable. When playing with two hands, use two spoons of the same type.

**Step 14:** To transport your xylophone, insert each bottle in a men's gym sock and carefully place in a small suitcase—make sure the caps are on tight!

## table 2: what you need to know about your bottles

		Where to strike the bottle for the best sound and consistent pitch	Other considerations
Perrier 25 fl oz (750ml)		Strike the bottle 3.5" (9cm) from the bottom. Avoid striking the seam lines that go up and down the sides.	Reclosable cap
Perrier 11 fl oz (330ml)		For C(8) only - strike 1.5" (4cm) from the top. For all other bottles, strike 2.5" (6cm) from the bottom. Avoid striking the seam lines that go up and down the sides.	Reclosable cap
Starbucks Frappuccino 13.7 fl oz (405ml)		Strike the bottle 3" (7cm) from the bottom. Strike the flat sides—avoid the corners.	Reclosable cap and clear
Starbucks Frappuccino 9.5 fl oz (281ml)		Strike the bottle 2" (5cm) from the bottom. Strike the flat sides—avoid the corners.	Reclosable cap and clear
Kikkoman Soy Sauce 5 fl oz (148ml) straight cylindrical bottle		Strike the bottle 2" (5cm) from the bottom. Avoid striking the seam lines that go up and down the sides.	Reclosable cap and clear
IBC Root Beer 12 fl oz (354ml)		Strike the bottle 2" (5cm) from the bottom—between "Since 1919" and "12 FL OZ (354mL)."	Not reclosable
Coke Classic 8 fl oz (237ml)		Strike the bottle 1.5" (4cm) from the bottom—where the bottle narrows.	Not reclosable