

Seismic Shake-Up

Make it shake!

Pull down the trigger and let it go to create an earthquake. Watch what happens!

Test the distance.

Try taller and shorter buildings. Which are more sturdy?

Call to action

Grab your phone and record your quake! Watch it in slow motion to catch every wobble and wave.

Result / Discovery Moment:

What did you discover?

Earthquake waves travel like ripples on a lake. Waves at the epicenter cause the most damage.



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Seismic Shake-Up



ASTC IF/THEN

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Seismic Shake-Up

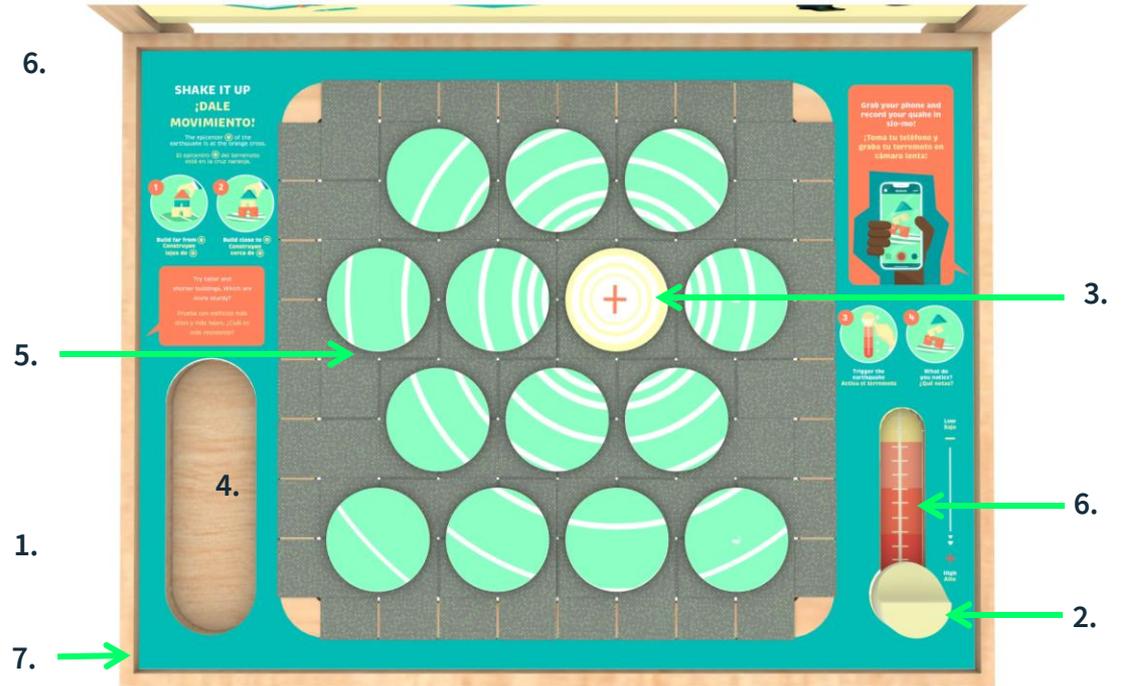
ASTC IF/THEN



Seismic Shake-Up

Typical building blocks, included.

- 1 - Building blocks
- 2 - Release Trigger pull down switch
- 3 - Earthquake Epicentre
- 4 - Building Block Housing
- 5 - Elasticated Ground panel
- 6 - Signage Panel
- 7 - Box Kit Casing



Seismic Shake-Up

SWITCH

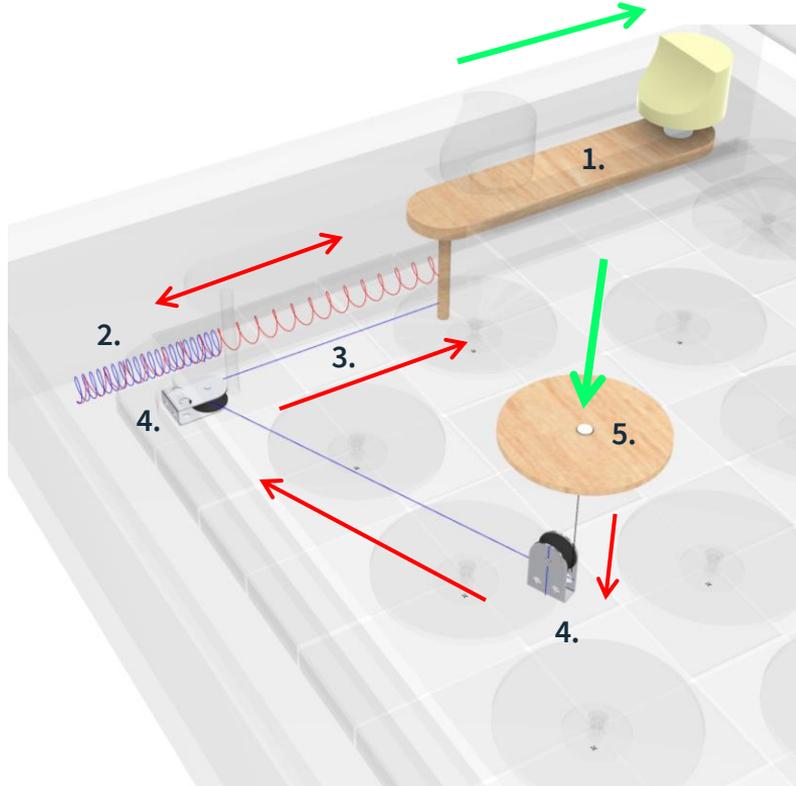
Pull the trigger switch down and release to trigger a quake! The distance that you push it up determines how strong the quake is.

OPERATION OF SWITCH

The trigger assembly (1), embedded into the top panel, is attached to an expansion spring (2). This allows the trigger to return to its original position when released.

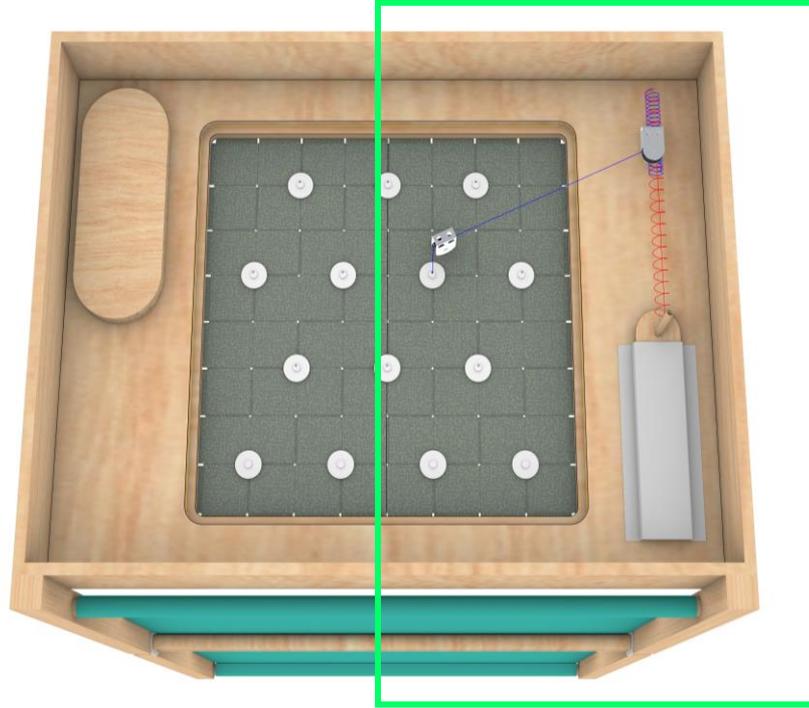
A steel braided cable (3) is attached to the trigger, and routed via 2 pulleys (4) to an attachment point (epicentre) on the flexible build surface (5).

Pulling the trigger up will draw the surface down, and releasing causes it to spring back rapidly, simulating the quake.



Seismic Shake-Up

View from below (base removed), showing the trigger mechanism.





| Key | |
|-----|--|
| 1 | 1/2" (12mm) Birch plywood, routed & laminated where indicated, sanded and sealed with multiple coats of polyurethane varnish. |
| 2 | Back-to-back 2-panel Polywill fabric (for sublimation printing or similar). Cut, overlapped & hemmed appropriately. Stitched to loop over dowels as indicated. |
| 3 | Hardwood timber sanded and sealed with multiple coats of polyurethane varnish. 3.1 1.26" x 1.26" square 3.2 +/- 0.79" dowel |
| 4 | 302 stainless steel hardware fixings (or similar spec). 4.1 180° fold-down hardware 4.2 Fixings 4.3 Knock-down fittings as per sample |
| 5 | 2" green elasticated webbing woven surface, stapled to underside of board. |
| 6 | Printed vinyl applied to timber or PVC structure as indicated. |
| 7 | Timber toy building blocks sourced ready-made from a reputable supplier for easy replenishment. |
| 8 | Switch configuration with timber pull-down handle and release system composed of pulleys, springs, and steel cable as indicated. |
| 9 | 1/8" coated 316 stainless steel braided cable (or similar), crimped to connect trigger switch through circuit to activation point. |
| 10 | Expansion spring |
| 11 | Pulley |
| 12 | 1/8" Plexiglass or similar with counter-bore for knock-down fittings, with nylon spacer below. |

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Seismic Shake-Up

TABLE TOP SIZE WHEN ASSEMBLED

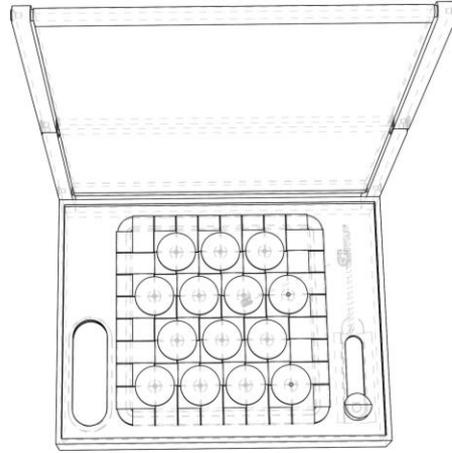
Width - 30 inches
Depth - 23.66 inches
Height - 51.5 inches

POSTER SIZE

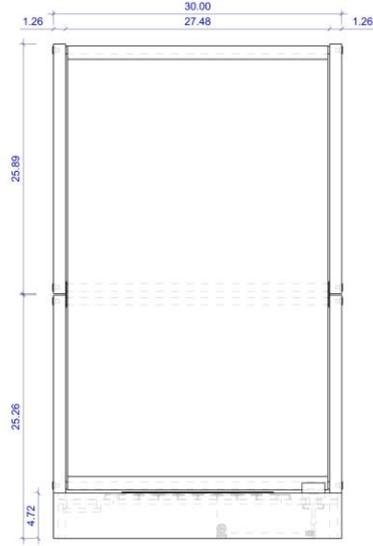
Width - 27.8 inches
Height - 46.5 inches

PACKED SIZE * box contents, within external packaging

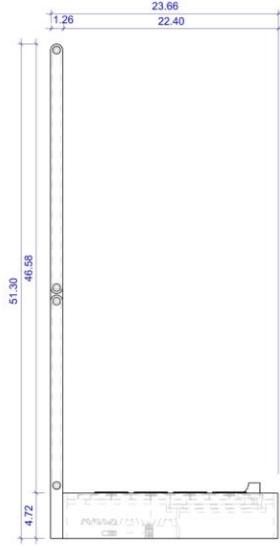
Width - 30 inches
Depth - 23.66 inches
Height - 4.72 inches



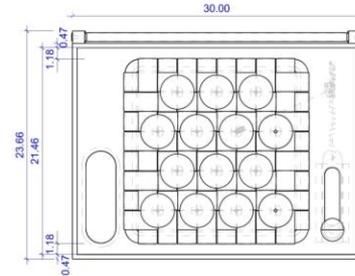
3D VIEW



FRONT



SIDE



TOP

ASTC IF/THEN

Discover Radical Resonance

Resonance in action

Swing one ball. Watch what happens!
Tap the different materials.

Test the volume.

Now tap the lightly and harder.

Result / Discovery Moment:

What did you discover?

Resonance happens when extra energy is added and these vibrations get stronger.



Discover Radical Resonance

ELEMENTS

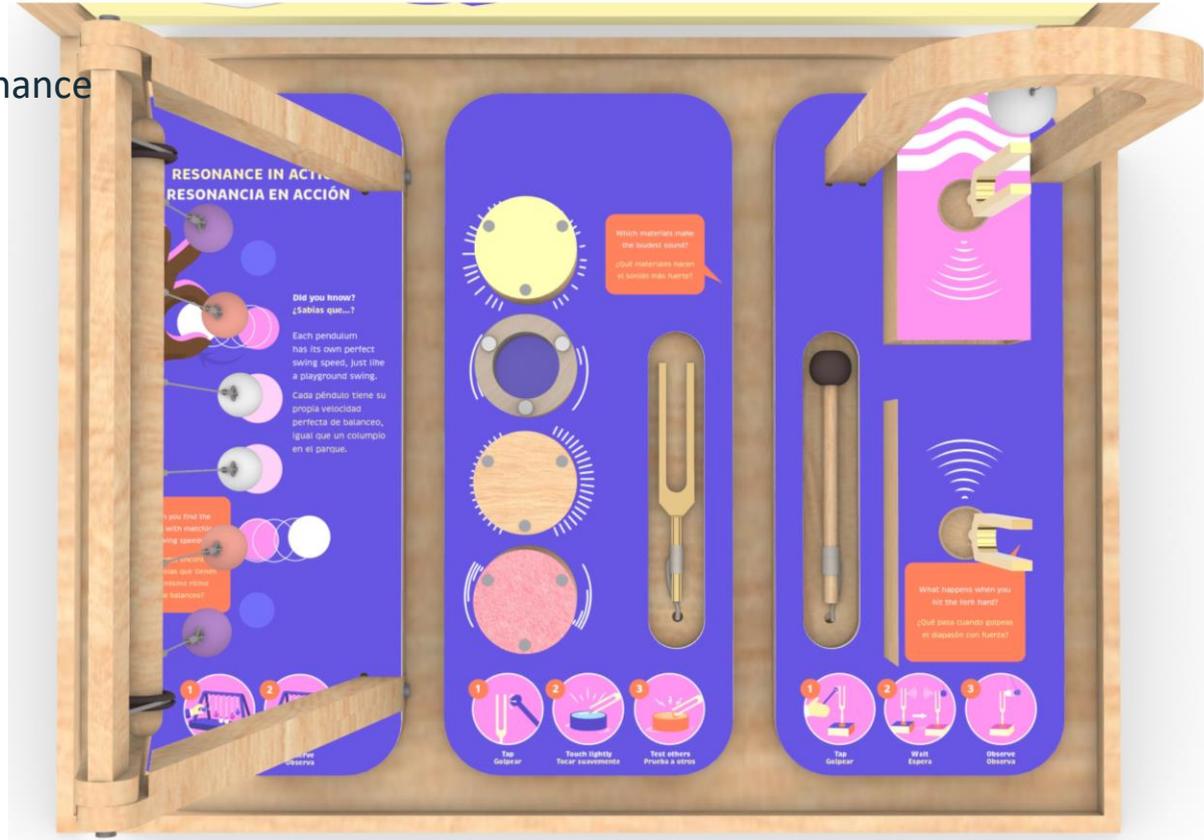
1. Resonance Swing
2. Material vibrations
3. Tuning Fork Force



Discover Radical Resonance

ELEMENTS

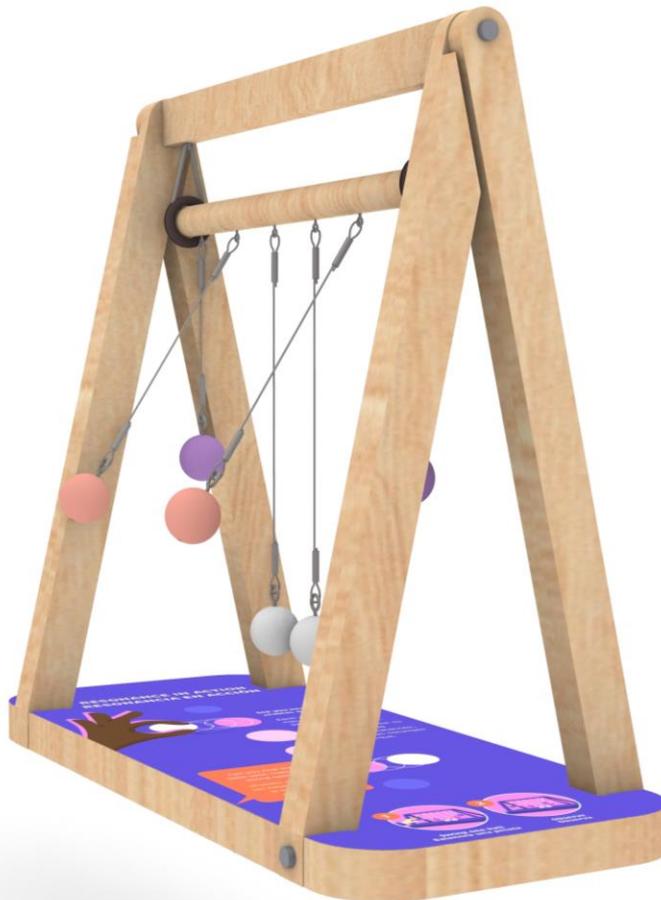
1. Resonance Swing
2. Material vibrations
3. Tuning Fork Force



Discover Radical Resonance

RESONANCE SWING

To demonstrate how resonance transfers from a swinging object, to an identical object, suspended at the same height.

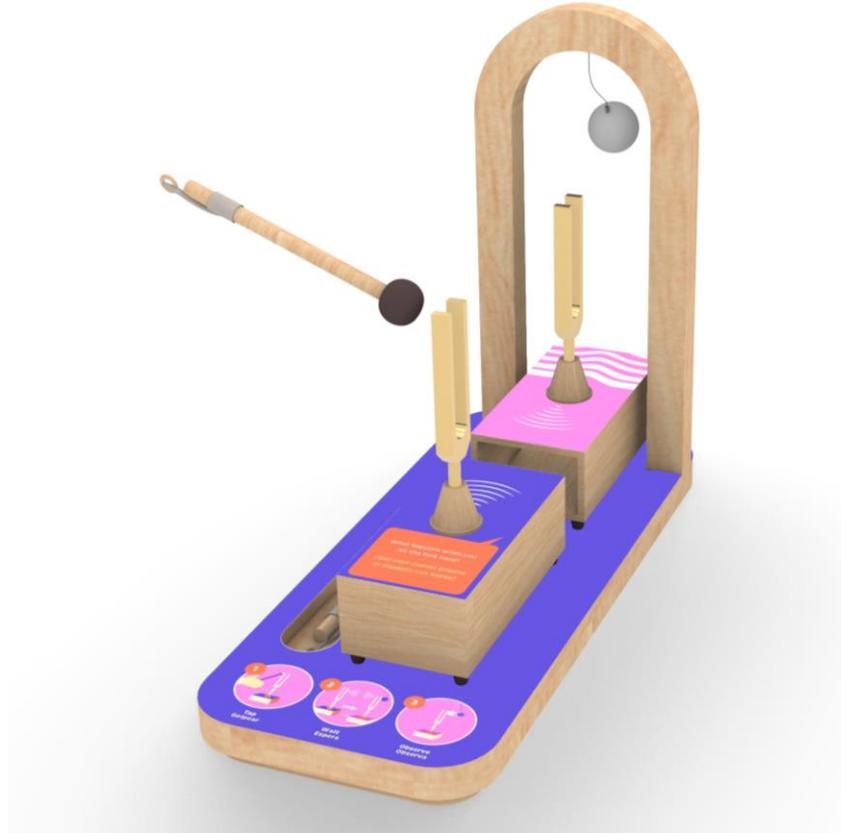


Discover Radical Resonance

TUNING FORK FORCE

To show how vibration at a specific frequency will activate a corresponding tuning fork.

The movement is illustrated by a bouncing, suspended ping-pong ball.



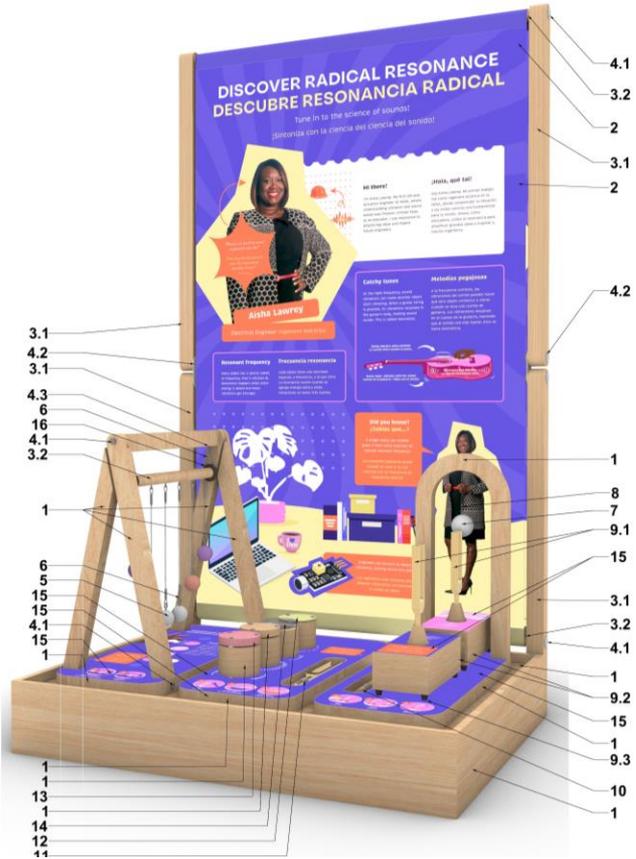
Discover Radical Resonance

MATERIAL VIBRATIONS

To demonstrate how different materials react to vibration, either by resonating and generating sound or absorbing and dampening sound.

Different material properties, cause them to react differently to the same tuning fork.





Front View
1:15

Side View
1:15



Top View
1:15

| Key | |
|-----|--|
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| 2 | Back-to-back 2-panel Polywill fabric (for sublimation printing or similar). Cut, overlapped & hemmed appropriately. Stitched to loop over dowels as indicated. |
| 3 | Hardwood timber sanded and sealed with multiple coats of polyurethane varnish. 3.1 1.26" x 1.26" square 3.2 +/- 0.79" dowel |
| 4 | 302 stainless steel hardware fixings (or similar spec). 4.1 180° fold-down hardware 4.2 Fxings 4.3 Screwed eyelet |
| 5 | 20g fishing sinker with eyelet fixing. Colour-dipped to specialist detail. |
| 6 | 1/16" light coated 316 stainless steel cable (or similar), crimped or shrink-wrapped as indicated. |
| 7 | 1.57" 2.7g plastic ping-pong ball with eyelet fixing. |
| 8 | Monofilament nylon fishing line string attached to eyelets. |
| 9 | 9.1 Tuning forks, matching set, mounted to tuning forks sound boxes 9.2 Sound boxes mounted to board through rubber foot parts |
| 10 | Rubber mallet – sourced built. Rubber sleeve fixed to steel cable, fixing the mallet to the box. |
| 11 | Tuning fork – sourced as unit. Rubber sleeve fixed to steel cable, fixing mallet to box. |
| 12 | 1/8" steel sheet laser-cut, pickled & powder-coated. Fixed to base with hardware & spacers, ensuring a 1/8" gap between material and base. |
| 13 | 1/2" PET polyester fibre. Fixed to base with hardware & spacers, ensuring a 1/8" gap. |
| 14 | 8mm toughened glass with shine-polished edges. UV-bonded to hardware & spacers, ensuring a 1/8" gap. |
| 15 | Printed vinyl applied to timber structure as indicated. |
| 16 | Rubber grommet fitted to dowel. Slotted router on outer surface for suspension cable hanging. |

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Discover Radical Resonance

TABLE TOP SIZE WHEN ASSEMBLED

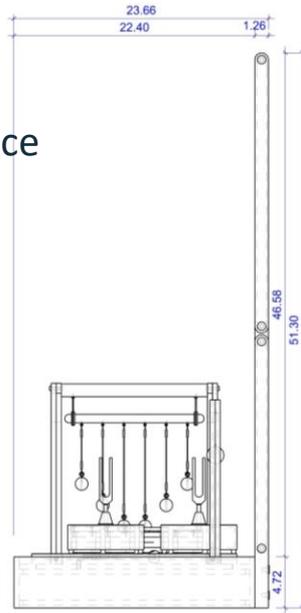
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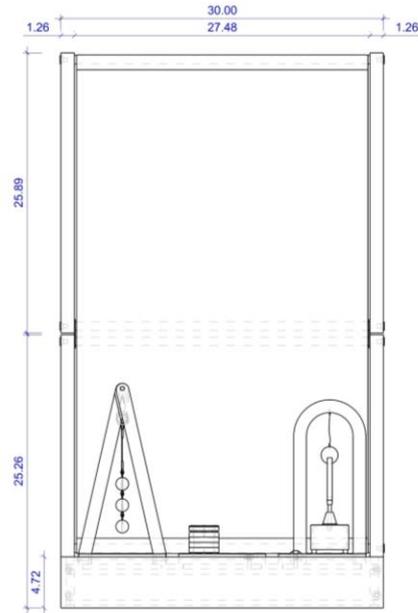
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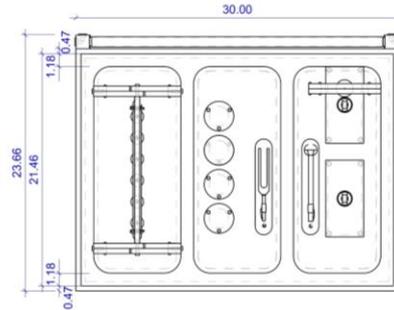
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SIDE

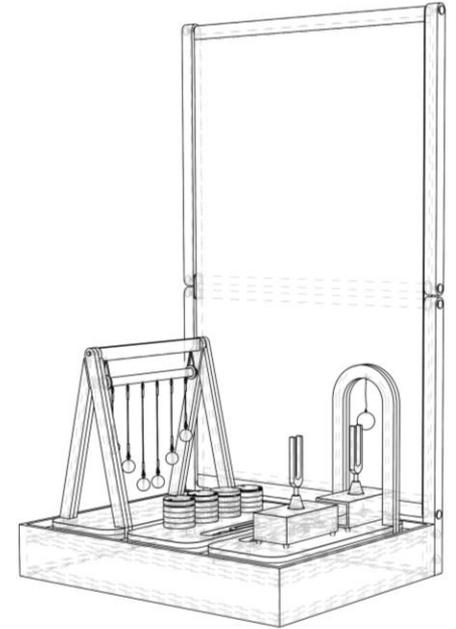


FRONT



TOP

ASTC IF/THEN



3D VIEW

Shipping Size

Resonance & Seismic packed sizes

BOX CONTENT SIZES

Width 30" / Depth 24" / Height 5"
Weight - 25 pounds

Option A - each exhibit is packaged separately:

Outer size per crate for each- Width 34" / Depth 28" / Height 9"
Weight per boxed crate for each - **40 pounds**

Option B - both exhibits are packaged into one single crate together:

Outer size for combined crate - Width 34" / Depth 28" / Height 14"
Weight per boxed crate for each - **66 pounds**

*while these are well researched estimated sizes for planning purposes, final weights will be established when the final prototype is completed with Working Studios.

OPTION A



OPTION B

