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HANDS-ON ASTROPHYSICS

Story animals? Yes,

BUT

we are

tool users

first and last.

We think in stories.



We learn with our hands.

Play = hands on learning



Play **ends on learning**





PLAY ASTROPHYSICS?

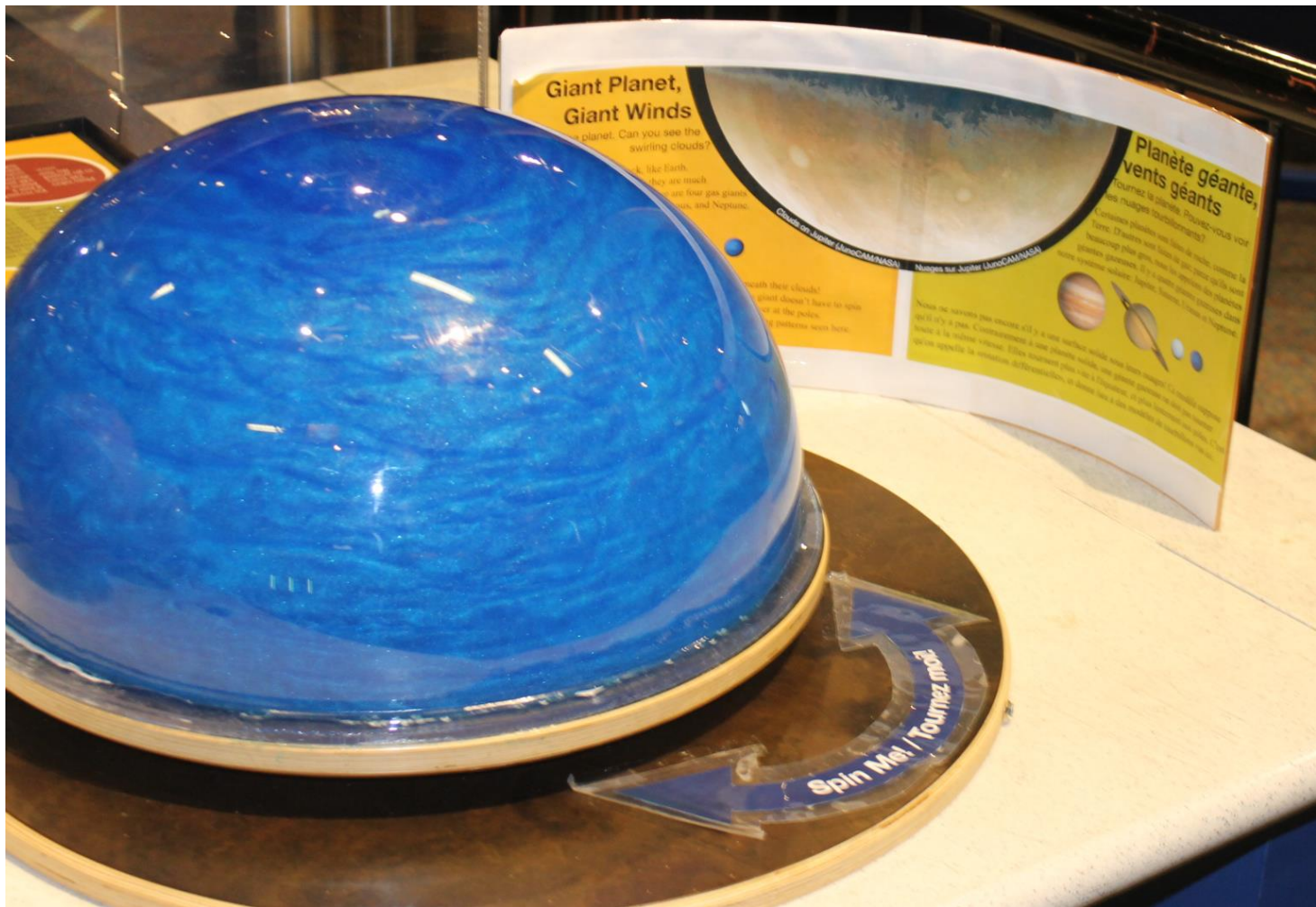
Madness!



1ST GEN: LOOK. READ. SNORE.



2ND GEN: PUSH BUTTONS.



3RD GEN: TOUCH. FEEL. PLAY.

Action

“Try this!” What our human is going to do.

Confirmation

What they just saw happen.

Explanation

Why it happened, and the science behind it.

Gravity Well

Can teach:

- Kepler's Laws
- Inverse-square law
- General Relativity
 - Gravitational Lensing



Gravity Well



Spandex + Hula-hoop = spacetime!

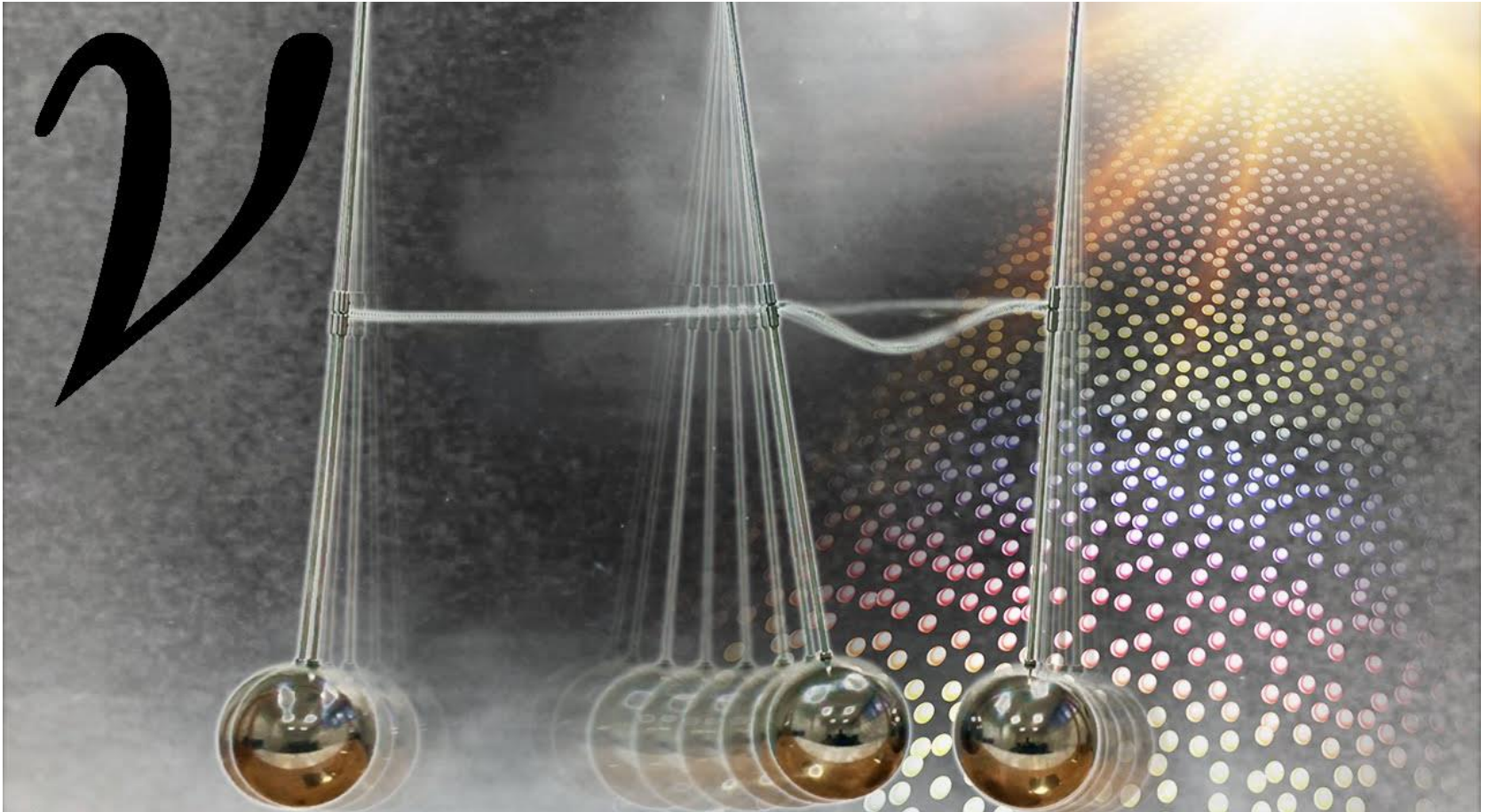
(Image credit UToledo)

Tactile wins



>>2x interactions

Classical Analogies



(Image credit Dr Martin Archer, St Mary's College London)

**But I don't have a Science
Center!**

Pop-up exhibits!

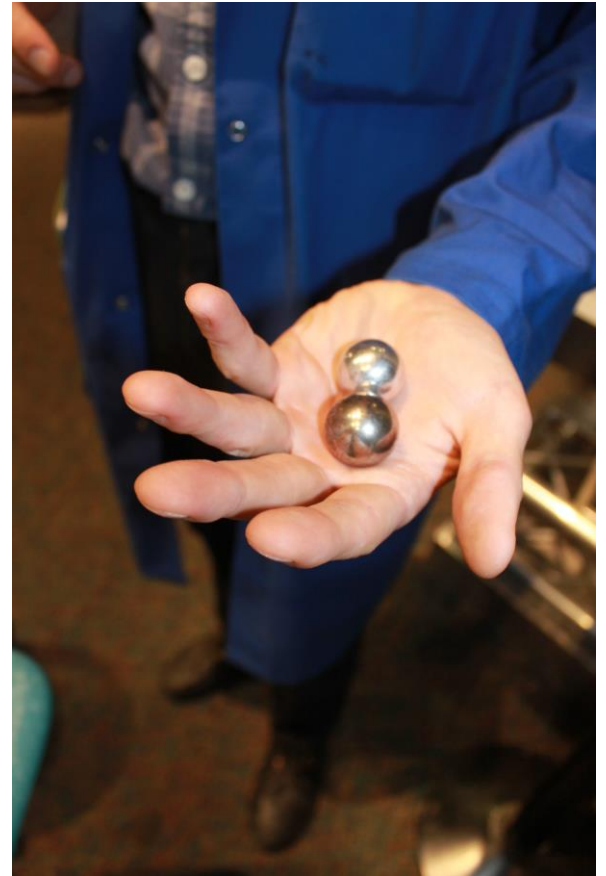
Pop-up anywhere.

- On campus?
- Public Libraries?
- Parks?
- Malls?



Pocket Science

(noun) a small hand-held science demo, typically able to fit into one's pocket.



**Go past prose.
Go past graphics.
Give them play, and they will
learn.**