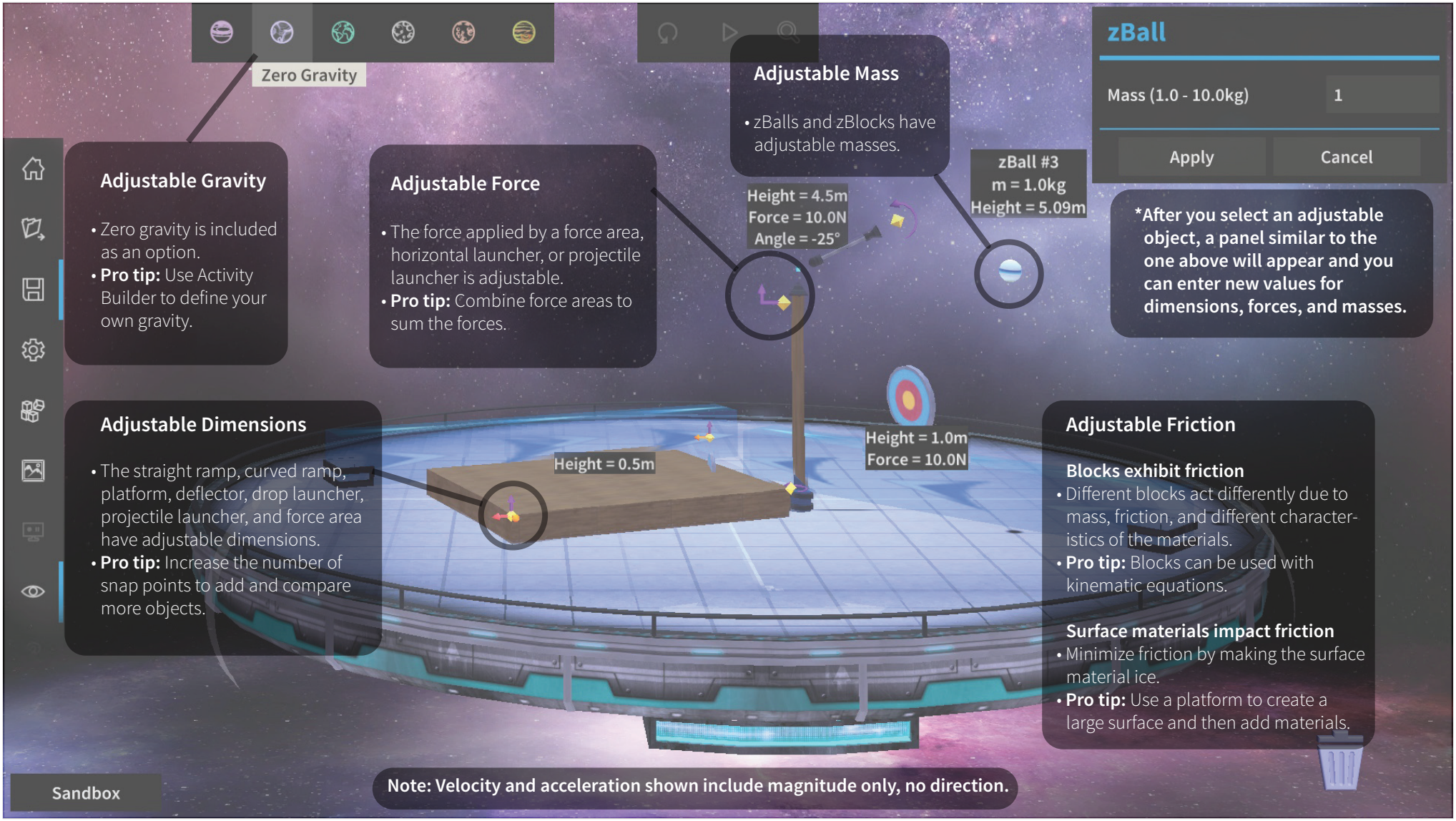
Newton's Park

Ideas using physical science and physics concepts



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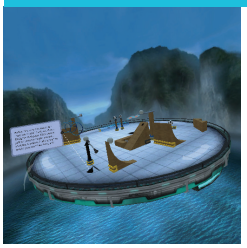
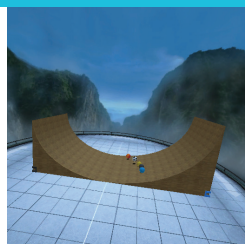
Newton's Park

Ideas using physical science and physics concepts

Energy





Introduce

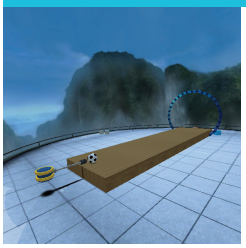
Chain Reaction **(A398)**
Chain Reaction Demo **(A414)**
Sandbox **(AP23)**

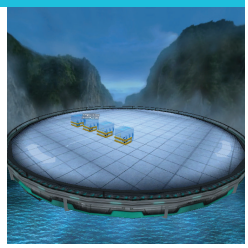
- Use curved ramp with blocks or balls
- Calculate potential energy and kinetic energy at any point

Dive Deeper

Chain Reaction Advanced **(A470)**
Conservation of Energy **(A480)**
Energy Skee Ball **(A473)**
Basketball Dribble **(A471)**
Shuffleboard **(A431)**

Forces





Introduce

Friction Exploration **(A430)**
Sandbox **(AP23)**

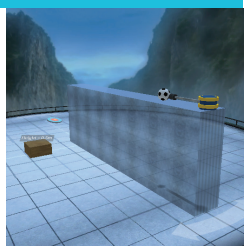
- Use straight ramp with blocks
- Experiment using different blocks on the same surface
- Change materials to observe the impact of friction for the same blocks on different surfaces

Dive Deeper

(including Newton's Laws)
Motion Depends on Force and Mass **(A402)**
Motion Depends on Force and Mass Demo **(A403)**
Gravitational Force Calculations **(A452)**
Sandbox **(AP23)**

- Combine force areas

Projectile Motion



Introduce

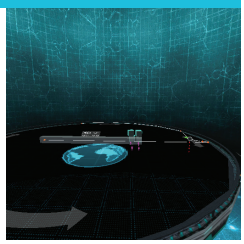
Parabolic Trajectories **(A458)**
Games around the Solar System **(A474)**

Dive Deeper

(including 2D kinematic equations)
Motorcycle Stunts **(A416)**
Sandbox **(AP23)**

- Use projectile launcher and balls

Motion in a Straight Line



Introduce

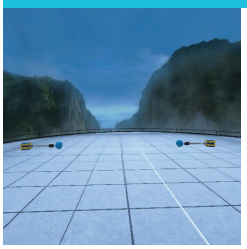
Graphing Speed vs Time: Part 1 **(A486)**
Graphing Speed vs Time: Part 2 **(A487)**

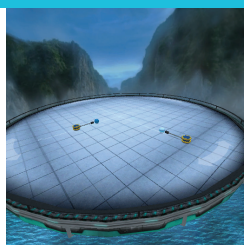
Dive Deeper

(including free-fall and 1D kinematic equations)
Speeding Ticket **(A409)**
Sandbox **(AP23)**

- Apply Constant Acceleration over a Defined Distance
  - Use force area and blocks
- Apply a Force
  - Use horizontal launcher and blocks
  - Free-fall
  - Use drop launcher and balls
- Change gravity

Momentum





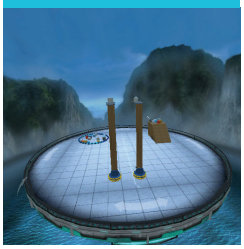
Introduce

How Collisions Affect Energy **(A464)**

Dive Deeper

Conservation of Momentum **(A457)**
Accident Investigator **(A466)**

Scientific Method



Introduce

Developing a Research Question and Hypothesis **(A432)**

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