Interactive Exhibit: **Foucault Pendulum**

*Description:*
The Foucault pendulum demonstrates the Earth’s rotation and was first exhibited in Paris in 1851 by French physicist Jean Foucault. The illuminated Earth Globe adjacent to the pendulum exhibit shows the Earth’s rotation as viewed from space and demonstrates the changing pattern of darkness and daylight throughout the seasons in both the Northern and Southern Hemispheres.

*Basic Information:*
- Suitable for grades 3 and higher.
- Maximum of 30 participants per session.
- Participants must remain outside the railing at all times and must not try to touch the pendulum.
- About 20 minutes.

*Components:*
- A 235-pound pendulum suspended on a 40-foot steel cable over a circular platform with 59 golf tees and golf balls arranged along its perimeter.
- The Pendulum strikes a golf ball approximately every 26 minutes as the Earth’s rotation carries the golf balls into the swinging pendulum’s path.
- The pendulum’s apparent steady shift clockwise is an illusion; a small model clearly demonstrates what is actually happening as the pendulum obeys Newton’s First Law of Motion.
- The Earth Globe shows why the length of day and night changes throughout the year and how the varying angles of sunlight striking the Earth’s surface determines the changing seasons.

*Sunshine State Standards Addressed:*
**Kindergarten:**
- K.N.1.5: Recognize that learning can come from careful observation.

**1st Grade:**
- 1.E.5.2: Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.
- 1.N.1.1: Raise questions about the natural world, investigate them in teams through free exploration, and generate appropriate explanations based on those explorations.

**2nd Grade:**
- 3.N.1.6: Infer based on observation.
4th Grade:
• 4.E.5.3: Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.

5th Grade:
• 5.E.5.3: Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, comets -- and identify Earth's position in it.

8th Grade:
• 8.E.5.4: Explore the Law of Universal Gravitation by explaining the role that gravity plays in the formation of planets, stars, and solar systems and in determining their motions.

9th – 12th Grade:
• 912.E.5.2: Identify patterns in the organization and distribution of matter in the universe and the forces that determine them.
• 912.E.5.6: Develop logical connections through physical principles, including Kepler's and Newton's Laws about the relationships and the effects of Earth, Moon, and Sun on each other.

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