



1. **Solar System and Planets:** Questions about the planets in our solar system, their characteristics, and their orbits.

**Phet Links:**

[My Solar System](#)  
[Gravity and Orbits](#)

**LabXchange Links:**

[The Origin of Stars and Planets](#)  
[Where Did the Sun Go?](#)  
[Moon Observation and Orbit](#)  
[Galaxy Formation and Evolution](#)

2. **States of Matter:** Understanding the different states of matter (solid, liquid, gas) and how they change under various conditions.

**Phet Links:**

[States of Matter](#)  
[States of Matter: Basics](#)  
[Gases Intro](#)

**LabXchange Links:**

[Energy and Phase Changes](#)

3. **Ecosystems and Food Chains:** Exploring different ecosystems, food chains, and the interdependence of organisms.

**LabXchange Links:**

[Ecology](#)  
[Population and Community Ecology](#)  
[Ecosystems](#)  
[Ecosystems and the Biosphere](#)  
[Conservation and Biodiversity](#)

4. **Human Body Systems:** Basic knowledge about the major systems of the human body, such as the circulatory, respiratory, digestive, and nervous systems.

**LabXchange Links:**

[The Circulatory System](#)  
[The Immune System and Disease](#)  
[The Reproductive System](#)  
[The Respiratory System I](#)  
[The Respiratory System II](#)  
[The Respiratory System III](#)  
[The Cardiovascular System: Blood](#)  
[The Cardiovascular System: Blood Vessels and Circulation](#)  
[The Cardiovascular System: The Heart](#)  
[The Musculoskeletal System](#)  
[Animal Nutrition and the Digestive System](#)  
[Anatomy of the Nervous System](#)  
[The Muscular System](#)  
[The Nervous System](#)  
[The Sensory System](#)

5. **Forces and Motion:** Concepts related to forces, motion, and simple machines.

**Phet Links:**

[Forces and Motion: Basics](#)  
[Energy Skate Park: Basics](#)  
[Projectile Motion](#)  
[Pendulum Lab](#)  
[Balancing Act](#)

**LabXchange Links:**

[Dynamics: Force and Newton's Laws of Motion](#)  
[Forces and Vectors](#)  
[Work, Energy and Simple Machines](#)  
[Kinematics](#)

6. **Electricity and Circuits:** Understanding the basic principles of electricity and simple circuits.

**Phet Links:**

[Circuit Construction Kit: DC-Virtual Lab](#)  
[Circuit Construction Kit: DC](#)  
[John Travoltage](#)

**LabXchange Links:**

[Electric Circuits](#)  
[Electric Current, Resistance, and Ohm's Law](#)  
[Electromagnetic Induction, AC Circuits, and Electrical Technologies](#)

7. **Magnets and Magnetism:** Exploring the properties of magnets and how they interact with other materials.

**Phet Links:**

[John Travoltage](#)

**LabXchange Links:**

[Magnetic Fields](#)  
[Magnetism](#)

8. **Sound and Light:** Understanding the properties of sound and light, how they travel, and how they interact with objects.

**Phet Links:**

[Waves Intro](#)  
[Bending Light](#)  
[Geometric Optics](#)  
[Geometric Optics: Basics](#)  
[Wave Interference](#)

**LabXchange Links:**

[Sound](#)  
[Light](#)  
[Waves and Energy Transfer](#)

9. **Rocks and Minerals:** Learning about different types of rocks, their formation, and their uses.

10. **Life Cycles:** Understanding the life cycles of plants and animals, including metamorphosis and reproduction.

**LabXchange Links:**

[The Cellular Basis of Inheritance](#)  
[Cell Reproduction](#)  
[Plant Reproduction](#)  
[Animal Reproduction and Development](#)  
[Diversity of Animals](#)  
[Diversity of Plants](#)

11. **Weather and Climate:** Questions about weather patterns, climate zones, and climate change.

**Phet Links:**

[Greenhouse Effect](#)

**LabXchange Links:**

[Climate and Climate Change](#)  
[Our Climate, Our Future](#)  
[Deciphering Earth's Complex Climate and Human Influence](#)

12. **Environmental Conservation:** Raising awareness about the importance of environmental conservation and sustainable practices.

**Phet Links:**

[Greenhouse Effect](#)

**LabXchange Links:**

[Conservation and Biodiversity](#)  
[Conservation Biology and Biodiversity](#)

13. **Scientific Method and Inquiry:** Introducing the scientific method and the process of conducting scientific investigations.

**LabXchange Links:**

[Experimental Thinking](#)  
[The Scientific Method](#)  
[Reasoning, Planning and Solving Problems](#)

14. **Adaptations and Survival:** Understanding how animals and plants adapt to their environments for survival.

**Phet Links:**

[Natural Selection](#)

**LabXchange Links:**

[Evolution](#)  
[The Study of Life I](#)  
[The Study of Life II](#)  
[Biodiversity & Relationship](#)  
[Why Is Biodiversity Important?](#)

15. **Simple Chemical Reactions:** Introducing basic chemical reactions and their applications.

**Phet Links:**

[Concentration](#)

**LabXchange Links:**

[Chemistry of Life](#)