Biology

1. **Plant Growth & Development**
   - Effect of different types of soil on plant growth.
   - Impact of light color on photosynthesis rates.
   - Influence of various fertilizers on plant health.
   - How plant roots respond to different soil pH levels.
   - Effect of temperature on seed germination.
2. **Genetics & Heredity**
   - Study of genetic variations in local plant species.
   - Effect of environmental factors on genetic traits.
   - Investigating genetic disorders in model organisms.
   - Effect of selective breeding on plant traits.
   - The impact of CRISPR on gene editing in bacteria.
3. **Human Biology**
   - Impact of diet on blood sugar levels.
   - The effect of exercise on heart rate variability.
   - Study of human reaction times under different conditions.
   - The impact of sleep deprivation on cognitive function.
   - Exploring the role of gut microbiota in digestion.
4. **Ecology**
   - Effects of pollution on local wildlife populations.
   - Study of invasive species in a local ecosystem.
   - The impact of climate change on local flora and fauna.
   - Investigating the role of bees in pollination.
   - Effects of deforestation on soil erosion.

Chemistry

1. **Chemical Reactions**
   - Investigating the rate of reaction between different acids and bases.
   - Effect of temperature on the rate of a chemical reaction.
   - Study of oxidation-reduction reactions in everyday substances.
   - Investigating the effect of catalysts on chemical reactions.
   - How different concentrations affect reaction rates.
2. **Materials Science**
   - Study of the properties of biodegradable plastics.
   - Investigating the strength of various types of concrete mixtures.
   - Effect of temperature on the viscosity of liquids.
   - Comparing the thermal insulation properties of different materials.
   - Study of corrosion rates in various metals.
3. **Environmental Chemistry**
   - Analysis of water quality from different sources.

- ○ Investigating the effects of pollutants on plant growth.
- ○ Study of the impact of detergents on water ecosystems.
- ○ The effectiveness of different methods for purifying water.
- ○ Exploring the role of chemistry in waste management.
4. **Biochemistry**
   - ○ Effect of enzymes on the breakdown of starches.
   - ○ Investigating the role of proteins in enzyme activity.
   - ○ Study of the impact of different sugars on yeast fermentation.
   - ○ Analysis of the role of lipids in cell membranes.
   - ○ The impact of vitamin deficiency on human health.

Physics

1. **Mechanics**
   - ○ Investigating the impact of different surfaces on friction.
   - ○ Study of projectile motion and its practical applications.
   - ○ Effect of mass on acceleration in simple machines.
   - ○ Exploring the principles of levers and pulleys.
   - ○ Impact of different shapes on air resistance.
2. **Electromagnetism**
   - ○ Study of the efficiency of various types of batteries.
   - ○ Investigating the effects of magnetic fields on electrical circuits.
   - ○ Study of the relationship between current, voltage, and resistance.
   - ○ Exploring the principles of electromagnetic induction.
   - ○ Investigating the effects of different materials on electromagnetic waves.
3. **Optics**
   - ○ Study of light refraction through different mediums.
   - ○ Investigating the effect of lens shape on image formation.
   - ○ The impact of color filters on light transmission.
   - ○ Study of the polarization of light.
   - ○ Exploring the principles of optical illusions.
4. **Thermodynamics**
   - ○ Study of heat transfer through different materials.
   - ○ Investigating the efficiency of various types of heat insulators.
   - ○ Effect of temperature on gas volume in a closed system.
   - ○ Study of the specific heat capacities of different substances.
   - ○ Exploring the principles of thermal conduction and convection.

Engineering

1. **Structural Engineering**
   - ○ Investigating the strength of various bridge designs.
   - ○ Study of the impact of different materials on structural stability.
   - ○ Exploring the principles of load distribution in beams.

- ○ Effect of design on earthquake resistance in structures.
- ○ Comparing the efficiency of different building materials.
2. **Mechanical Engineering**
    - ○ Study of the efficiency of different types of gears.
    - ○ Investigating the impact of friction in mechanical systems.
    - ○ Exploring the principles of hydraulic and pneumatic systems.
    - ○ Study of the effects of various lubricants on machine performance.
    - ○ Designing and testing a simple robotic arm.
3. **Electrical Engineering**
    - ○ Investigating the efficiency of different types of electrical circuits.
    - ○ Study of the impact of resistance on electrical power consumption.
    - ○ Exploring the principles of renewable energy sources.
    - ○ Study of the effectiveness of different types of electrical insulation.
    - ○ Designing a simple solar-powered device.
4. **Environmental Engineering**
    - ○ Study of the effectiveness of different water filtration methods.
    - ○ Investigating the impact of recycling on waste reduction.
    - ○ Exploring the principles of sustainable building design.
    - ○ Study of the effectiveness of green roofs in urban areas.
    - ○ Designing a low-cost waste management system.

Astronomy

1. **Planetary Science**
    - ○ Investigating the effects of gravity on planetary motion.
    - ○ Study of the impact of planetary atmospheres on surface conditions.
    - ○ Exploring the principles of planetary formation.
    - ○ Study of the impact of solar radiation on planetary climates.
    - ○ Comparing the characteristics of different planets in our solar system.
2. **Stellar Astronomy**
    - ○ Investigating the life cycle of different types of stars.
    - ○ Study of the effects of stellar evolution on star systems.
    - ○ Exploring the principles of nuclear fusion in stars.
    - ○ Study of the impact of stellar flares on surrounding space.
    - ○ Comparing the properties of different types of stars.
3. **Galactic Astronomy**
    - ○ Study of the structure and composition of different types of galaxies.
    - ○ Investigating the effects of black holes on galactic formations.
    - ○ Exploring the principles of dark matter and dark energy.
    - ○ Study of the impact of galactic collisions on star systems.
    - ○ Comparing the characteristics of different galaxies.
4. **Cosmology**
    - ○ Investigating the origins of the universe.
    - ○ Study of the expansion of the universe over time.

- ○ Exploring the principles of cosmic microwave background radiation.
- ○ Study of the impact of cosmic events on galaxy formation.
- ○ Comparing different theories of the universe's formation.

Mathematics

1. **Applied Mathematics**
   - ○ Study of mathematical modeling in real-world problems.
   - ○ Investigating the impact of statistical methods on data analysis.
   - ○ Exploring the principles of optimization in various fields.
   - ○ Study of mathematical algorithms in computer science.
   - ○ Comparing different methods for solving linear equations.
2. **Pure Mathematics**
   - ○ Investigating the properties of prime numbers.
   - ○ Study of geometric shapes and their properties.
   - ○ Exploring the principles of number theory.
   - ○ Study of algebraic structures and their applications.
   - ○ Comparing different methods for proving mathematical theorems.
3. **Statistics**
   - ○ Study of the impact of sample size on statistical accuracy.
   - ○ Investigating the effectiveness of different statistical tests.
   - ○ Exploring the principles of probability and its applications.
   - ○ Study of statistical methods in data interpretation.
   - ○ Comparing different techniques for data visualization.
4. **Computational Mathematics**
   - ○ Investigating the use of algorithms in solving complex problems.
   - ○ Study of numerical methods for solving differential equations.
   - ○ Exploring the principles of computer simulations in mathematics.
   - ○ Study of the impact of computational power on mathematical research.
   - ○ Comparing different programming languages for mathematical modeling.

Environmental Science

1. **Climate Change**
   - ○ Investigating the impact of greenhouse gases on global temperatures.
   - ○ Study of the effects of deforestation on climate change.
   - ○ Exploring the principles of carbon sequestration.
   - ○ Study of the impact of climate change on ocean levels.
   - ○ Comparing different methods for reducing carbon footprints.
2. **Conservation**
   - ○ Investigating the impact of conservation efforts on wildlife populations.
   - ○ Study of the effectiveness of protected areas in biodiversity preservation.
   - ○ Exploring the principles of habitat restoration.
   - ○ Study of the impact of human activities on natural habitats.

○ Comparing different conservation strategies for endangered species.
  3. **Sustainability**
        ○ Investigating the effectiveness of renewable energy sources.
        ○ Study of the impact of sustainable agriculture practices.
        ○ Exploring the principles of zero-waste living.
        ○ Study of the impact of sustainable transportation on urban areas.
        ○ Comparing different methods for reducing environmental impact.
  4. **Pollution**
        ○ Investigating the effects of air pollution on human health.
        ○ Study of the impact of water pollution on aquatic ecosystems.
        ○ Exploring the principles of waste management and recycling.
        ○ Study of the impact of noise pollution on wildlife.
        ○ Comparing different methods for reducing pollution in urban areas.

Computer Science

  1. **Artificial Intelligence**
        ○ Investigating the impact of machine learning algorithms on data analysis.
        ○ Study of the effectiveness of different AI models in pattern recognition.
        ○ Exploring the principles of natural language processing.
        ○ Study of the impact of AI on various industries.
        ○ Comparing different AI techniques for solving complex problems.
  2. **Software Development**
        ○ Investigating the impact of different programming languages on software performance.
        ○ Study of the effectiveness of different software development methodologies.
        ○ Exploring the principles of user interface design.
        ○ Study of the impact of software testing on product quality.
        ○ Comparing different approaches to software development.
  3. **Cybersecurity**
        ○ Investigating the effectiveness of different encryption methods.
        ○ Study of the impact of cybersecurity threats on data protection.
        ○ Exploring the principles of network security.
        ○ Study of the effectiveness of different cybersecurity practices.
        ○ Comparing different methods for securing digital information.
  4. **Data Science**
        ○ Investigating the impact of data visualization on data interpretation.
        ○ Study of the effectiveness of different data analysis techniques.
        ○ Exploring the principles of big data and its applications.
        ○ Study of the impact of data privacy on data usage.
        ○ Comparing different methods for analyzing large datasets.