Idea Evaluation Instructions

A **definition**, **scoring scale** and **2 examples** will be provided for each of the 8 following factors of an idea.

Originality (1-4): **The degree to which the idea is not only rare but is also ingenious, imaginative, or surprising.**
    4: Not expressed before (rare, unusual) and Ingenious, imaginative or surprising
      - Develop a method to record and interpret human thoughts directly into digital format.
      - Propose a theory that unifies quantum mechanics and general relativity through multidimensional time.
    3: Unusual, interesting; shows some imagination
      - Investigate the use of genetically modified fungi to decompose plastic waste rapidly.
      - Explore the potential of harnessing lightning as a renewable energy source.
    2: Interesting
      - Study the effects of intermittent fasting on gut microbiota diversity.
      - Analyze the impact of urban green spaces on mental health in city residents.
    1: Common, mundane, boring
      - Measure the growth rate of common bacteria under different temperature conditions.
      - Conduct a survey on students' study habits during exam periods.

Paradigm Relatedness (1-4): **The degree to which an idea preserves or modifies a paradigm. Paradigm-Modifying ideas are sometimes radical or transformational.**
    4: Paradigm Breaking. For scientific research, a paradigm breaking idea introduces new elements and changes the fundamental concepts and experimental practices.
      - Propose that consciousness is a fundamental component of the universe and develop experiments to test this.
      - Suggest that the laws of physics vary across different regions of the cosmos and devise methods to detect such variations.
    3: Paradigm Stretching. For scientific research, a paradigm stretching idea changes the fundamental concepts and experimental practices.
      - Use quantum computing to simulate complex biological processes at the molecular level.
      - Apply principles from neuroscience to develop artificial intelligence that mimics human cognition.
    2: Slightly Paradigm Stretching. For scientific research, a slightly paradigm stretching idea introduces new elements.
      - Integrate virtual reality technology into psychological therapy for treating phobias.
      - Utilize drone technology for real-time environmental monitoring.
    1: Paradigm Preserving. For scientific research, conduct research with usual methods and concepts.
      - Conduct experiments using established chemical reactions to synthesize known compounds.
      - Perform standard statistical analysis on existing data sets to confirm previous findings.

Acceptability (1-4): **The degree to which the idea is socially, legally, or politically acceptable.**
    4: Common strategies that violate no norms or sensibilities.
      - Publish collaborative research findings in open-access journals.
      - Attend international conferences to present research and network.
    3: Somewhat uncommon or unusual strategies that don't offend sensibilities.
      - Create an interactive online platform to engage the public in research projects.
      - Use gamification techniques to teach complex scientific concepts.
    2: Offends sensibilities somewhat but is not totally unacceptable.
      - Conduct experiments involving the genetic modification of animal embryos.
      - Use controversial data sources acquired under questionable circumstances.
    1: Radically violates laws or sensibilities or Totally unacceptable business practice.
      - Perform human experimentation without informed consent.
      - Falsify data to achieve desired research outcomes.

Implementability (1-4): **The degree to which the idea can be easily implemented.**
    4: Easy to implement at low cost or non-radical changes.
      - Switch to digital data recording to reduce paper waste.
      - Use existing equipment during off-peak hours to maximize usage.
    3: Some changes or reasonably feasible promotions or events.
      - Apply for additional funding to expand the scope of the current project.
      - Train staff to use new software that improves data analysis efficiency.
    2: Significant change or expensive or difficult but not totally impossible to implement.
      - Upgrade laboratory facilities with state-of-the-art equipment.
      - Organize a multidisciplinary research team requiring coordination across departments.
    1: Totally infeasible to implement or extremely financially nonviable.
      - Construct a research facility on the moon to conduct low-gravity experiments.
      - Build a particle accelerator the size of the solar system to test new physics theories.

Applicability (1-4): The degree to which the idea clearly applies to the stated problem.
  4: Solves an identified problem that is directly related to the stated problem (do X to get Y, and Y is part of the stated problem)
    - Develop a rapid diagnostic test for a widespread infectious disease.
    - Create a biodegradable alternative to single-use plastics to reduce pollution.
  3: Solves an implied problem that is related to the stated problem (do X to get an implied Y, which applies to the stated problem)
    - Implement machine learning algorithms to improve data processing efficiency.
    - Introduce energy-efficient practices in the lab to reduce operational costs.
  2: May have some benefit within a special situation and somehow relates to the stated problem (do X, which somehow relates to the stated problem)
    - Organize community outreach programs to enhance public understanding of science.
    - Incorporate team-building exercises to improve lab morale.
  1: Intervention is not stated or does not produce a useful outcome (no X) or (do X for useless Y)
    - Rearrange the lab furniture to improve aesthetics.
    - Change the lab coat color to boost team spirit.

Effectiveness (1-4): The degree to which the idea will solve the problem.
  4: Reasonable and will solve the stated problem without regard for workability (If you could do it, it would solve the main problem)
    - Discover a universal cure for viral infections by targeting a common viral protein.
    - Invent a clean energy source that provides unlimited power without environmental impact.
  3: Reasonable and will contribute to the solution of the problem (It helps, but it is only a partial solution)
    - Develop a new drug that significantly improves treatment outcomes for a disease.
    - Design a water filtration system that removes 99% of contaminants.
  2: Unreasonable or unlikely to solve the problem (It probably will not work)
    - Propose to cool the Earth's temperature by painting all rooftops white.
    - Attempt to increase human lifespan to 200 years by dietary changes alone.
  1: Solves an unrelated problem (It would not work, even if you could do it)
    - Study butterfly wing patterns to improve internet security protocols.
    - Analyze ancient texts to solve modern traffic congestion issues.

Implicational Explicitness (1-3): The degree to which there is a clear relationship between the recommended action and the expected outcome.
  3: Implication is clearly stated and makes sense (do X so that Y)
    - Increase sample size to enhance the reliability of experimental results.
    - Implement quality control measures to reduce errors in data collection.
  2: Implication is not generally accepted or is vaguely stated (do X, which solves a not-generallyaccepted Y) or (do X which solves a vaguely stated Y)
    - Use homeopathy to treat bacterial infections, expecting improved patient outcomes.
    - Rely on psychic abilities to predict natural disasters.
  1: Implication is not stated, even though relevant (do X without a stated Y)
    - Collect soil samples from various locations.
    - Measure atmospheric pressure regularly.

Clarity (1-3): The degree to which the idea is clearly communicated with regard to grammar and word usage.
  3: Crisp, with standard usage, including complete sentences or well-developed phrases, and every word is commonly understood
    - Investigate the role of gut microbiota in regulating immune system function.
    - Examine the correlation between air pollution levels and respiratory health issues.
  2: Understandable, with acceptable usage or understandable phrases; some words might be known only within a small context; sentences might contain fragments or be incomplete (yet understandable)
    - Test how plants grow under different lights.
    - Look at effects of exercise on heart health.
  1: Vague or ambiguous words or use of poor language structure
    - Do stuff in lab to see what happens.
    - Check out some science things to get results.