Once your theme and idea are settled, try to write a short 1-2 page long project brief for yourself. Bring it with you to your next tutorial

Background Research:

Why it's important:

Conducting background research is foundational for any project as it ensures that you have a thorough understanding of the subject area before embarking on your own work. By exploring related works (existing works and research), you can identify what has already been done, understand the current state of knowledge, and spot gaps or opportunities for your own projects. This background research helps prevent reinvention and ensures that the project is built upon solid, existing knowledge. It also inspires innovation by showing you where you can push boundaries or apply concepts in new ways. Moreover, understanding the background aids in crafting a more informed and focused project question.

Simple Example:

Imagine you are interested in developing a new type of eco-friendly packaging material that reduces waste and carbon footprint. For your background research, you start by reviewing existing materials currently used in packaging, such as plastics, cardboard, and biodegradable options. You look into their production processes, environmental impacts, and recycling rates. Through research, you discover that although biodegradable options exist, many require specific conditions to decompose effectively, which is often not met in standard waste management systems. This gap indicates an opportunity for your project to develop a material that can decompose in more common environmental conditions, offering a more practical eco-friendly solution.

Project Question:

Why it's important:

Defining a specific project question to investigate allows you to maintain a clear focus throughout your project. This question acts as a guiding beacon, ensuring that all efforts contribute towards answering it. It helps in narrowing down the scope of the project, making project and development more manageable and directed. A well-formulated question also facilitates critical thinking and

problem-solving, as you must continually assess your progress towards answering this central query.

Based on the background research about eco-friendly packaging materials, you might formulate a project question like: "How can a new packaging material be designed to decompose effectively in typical environmental conditions found in standard waste management systems, while maintaining the durability and functionality of traditional packaging options?" This question focuses your project on innovating a solution that addresses the identified gap, ensuring all your efforts are directed towards creating a material that is both eco-friendly and practical for everyday use.

Goals:

Why it's important:

Setting clear goals early in a project is crucial for guiding its initial direction and ensuring a focused approach. Early goals provide a roadmap, helping to organize the project into achievable tasks and milestones. This foundational step allows you to identify key objectives, prioritize actions, and track progress effectively. Early goal setting also motivates you by establishing clear targets, fostering a sense of direction and purpose from the outset. Moreover, defining a variety of goals, such as learning and performance objectives, encourages a comprehensive view of the project, emphasizing both the process and the final outcomes. This approach ensures that you are not just focused on the end product but also on gaining valuable skills and insights throughout the project development phase.

For the project on developing a new eco-friendly packaging material, your goals might include:

Learning Goal: Understand the decomposition process of various materials in different environmental conditions.

Performance Goal: Design a prototype of the packaging material that demonstrates improved decomposition rates in conditions similar to standard landfills.

Impact Goal: Reduce the environmental impact of packaging waste by creating a material that can effectively decompose in common waste management systems.