Background Research Plan Worksheet

Name: Selena Student

1. What is the **question** you are going try to answer with an experiment?
Which material is the best insulator?

2. List the **keywords** and phrases from your question and the topic in general. (Hint: Use an encyclopedia to help you)
insulation, asbestos
Conduction, fiberglass
cellulose fibers

3. Now use your keywords to build some **questions to guide your background research**. Develop at least two or three from each "question word." Don't worry about whether you already know the answer to the question—you'll find the answers when you do your background research. And don't forget to "network" with knowledgeable adults who can help guide you toward good materials!

Question Word	Possible Questions (you can think of others)	Substitute your keywords (or variations of your keywords) for the blanks in the previous column. Write down the relevant questions and use them to guide your background research.
Why	Why does ____ happen? Why does ____ ____? Why _____?	
How	How does ____happen? How does ____ work? How does ____ detect ____? How does one measure ____? How do we use _____? How _____?	How does one measure heat conduction. How does insulation work?

Question Word	Possible Questions (you can think of others)	Substitute your keywords (or variations of your keywords) for the blanks in the previous column. Write down the relevant questions and use them to guide your background research.
Who	Who needs _____? Who discovered _____? Who invented _____? Who _____?	Who needs insulation? Who invented insulation?
What	What causes _____ to increase/decrease? What is _____ made of? What are the characteristics of _____? What is the relationship between _____ and _____? What do we use _____ for? What _____?	What is heat insulation made of? What causes heat conduction to increase? What do we use insulation for?
When	When does _____ cause _____? When was _____ discovered? When _____?	
Where	Where does _____ occur? Where does _____ get used? Where _____?	Where does insulation get used?

4. To analyze the results from experiments you might need to know some **key formulas or equations**. Think about your own experiment and write down any step or task that requires a formula or equation. Don't worry about whether you already know what the formula or equation is—you'll find the actual equation when you do your background research.

   List steps or tasks that may require a formula or equation:

   Final temp° − starting temp° = heat transferred