Name: _____ Group: _____

CREATING THE CONTEXT

I ask myself questions

- Research the scientific (and technological) concepts related to the problem to be solved.
- Define the key terms.

I must

- Reformulate the goal of the problem to be solved in one's own words.
- Define the independent and dependent variables, if appropriate.

I think

- Formulate a hypothesis or a tentative explanation and justify it. ("I believe that . . . because . . .")

Reflection

	Yes	No
Do I have a good understanding of the scientific (and/or technological) concepts related to the problem to be solved?	☐	☐

PLANNING THE PROBLEM SOLVING

I plan

Materials

- Choose and list the materials necessary for the experiment.

Procedure

- List the different steps for the experiment using the following guidelines:
  - Use sentences that are simple and clear.
  - Use action verbs (e.g. measure, weigh, pour, time, trace) at the beginning of each sentence.
  - List the steps in chronological order.
  - Make sure that the safety rules are always respected.
- Plan to include a control group, if necessary.

Name: _____ Group: _____

PLANNING THE PROBLEM SOLVING (*continued*)

Table of results

- Draw one or more tables to record the results (data, observations) of the research.
- Give each table its own title.

Reflection

	Yes	No
Have I thought of other possible scenarios?	☐	☐

INITIATING THE PROBLEM SOLVING

I experiment

- Perform the experiment following the plan of action.
- If necessary, make modifications to the plan of action (list of materials, procedure, etc.). Record and justify all of the modifications.
- Respect safety rules at all times.
- Record results.
- Based on the results, make any calculations necessary and draw one or more diagrams, if appropriate.

Reflection

	Yes	No
Did I record and justify all of the modifications I made to my plan of action?	☐	☐

ANALYZING RESULTS AND DRAWING CONCLUSIONS

I analyze my results

- Make connections between the results and the goal of the problem to be solved (diagrams, calculations, etc.).
- Evaluate the relevance of the results and the experiment.
- List the advantages and the disadvantages of the experiment, if appropriate.
- List any errors that may have been made in the course of the experiment (or their causes) and suggest improvements.

I draw my conclusions

- Review the hypothesis, if appropriate.
- Draw a conclusion linked to the goal under “I must” in the section *Creating the context*.