Name: _____ Period: _____ Date: _____

Planning an Investigation Assignment – Student Edition

I. Fill in the Gaps

Use the words in the word bank to complete the sentences.

Word Bank:					
Variable	controlled variables	independent	dependent	testable	fair

1. A _____ is anything that affects a scientific investigation.
2. The _____ variable is deliberately changed and has a testable _____ of values.
3. The _____ variable that is the information that is collected or observed in the experiment.
4. The _____ are all other factors which must be kept the same to ensure that the investigation is _____ and unbiased.

II. Planning an Investigation

This task requires you to write a plan which investigates:

How changing the temperature of the water affects the length of time it takes for an antacid tablet to dissolve.

The equipment that you will have access to is in the equipment list below:

Equipment list:

- Beaker (250ml)
- Cold water source
- Hot water source
- Stopwatch
- Antacid tablets
- Thermometer

1. Write a hypothesis which describes how changing the temperature will affect how the antacid tablets will dissolve.

_____

_____

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2. Identify the variable which you are changing in this investigation. This is the independent variable.

   _____

3. Describe briefly how you could change the independent variable and provide a range of values that you will test.

   _____

   _____

   _____

   Range of values: _____

4. Identify the dependent variable and how you will measure it.

   _____

   _____

   _____

5. List any other variables that will affect this investigation and describe how you could control them.

   _____

   _____

   _____

6. Write a step-by-step method which describes how to carry out this investigation.

   _____

   _____

   _____

   _____

   _____

   _____

   _____

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7. What is the benefit of carrying out a trial of the experiment?

   _____

   _____

   _____

8. Draw a diagram (or a series of diagrams) which shows how you will set up and run your experiment in the space below.

9. Design a results table which you could use to record your results.

10. Describe how you could make sure that your investigation is reliable.

    _____

    _____

    _____