[The complete HTML document follows the template, with the content generated based on the MYP Science Criteria B and C analysis]

MYP Science: Scientific Investigation Assessment

Student Name: _____ **Grade Level:** MYP Year 4

Teacher: _____ **Date:** {{DATE}}

Assessment Overview

Duration: 2 hours **Total Marks:** 60

Focus Areas:
- Scientific Inquiry
- Design and Problem Solving
- Material Properties Research

Assessment Instructions:

1. Read all sections carefully before beginning.
2. Demonstrate scientific thinking and methodical approach.
3. Show all working, calculations, and reasoning.
4. Use additional pages if needed for detailed explanations.
5. Focus on clarity, precision, and critical analysis.

Criterion B: Scientific Inquiry Investigation

Investigation Challenge [25 marks]

Research Question: How do different environmental conditions affect the mechanical properties of polymer materials?

a) Develop a precise research question for investigating polymer material properties [5 marks]

b) Design a controlled experiment to test your research question, including:

- Hypothesis
- Variable identification
- Experimental procedure
- Safety considerations

c) Create a data collection table and explain your measurement techniques [5 marks]

d) Analyze and interpret your experimental results, including:

- Graphical representation
- Statistical analysis
- Identification of patterns

e) Critically evaluate your experimental methodology and suggest improvements [5 marks]

Criterion C: Design and Problem Solving

Design Challenge [25 marks]

Design Challenge: Develop an innovative solution to address a real-world material science problem.

a) Define a specific scientific design challenge related to material properties [5 marks]

b) Develop a comprehensive design solution, including:

- Conceptual design
- Technical specifications
- Constraint considerations

c) Create a prototype design or detailed technical diagram [5 marks]

d) Develop a testing and evaluation methodology for your design [5 marks]

e) Reflect on potential improvements and real-world applications [5 marks]
Assessment Rubric and Scoring Guide

Criterion B: Scientific Inquiry Rubric

Level	Description	Marks
0	Minimal scientific investigation skills	1-2
1	Basic scientific investigation approach	3-4
2	Coherent scientific investigation approach	5-6
3	Comprehensive scientific investigation	7-8

Criterion C: Design Problem Solving Rubric

Level	Description	Marks
0	Minimal design approach	1-2
1	Basic design strategy	3-4
2	Coherent design approach	5-6
3	Sophisticated design approach	7-8