STEAM Assessment Question Sheet

Student Name: _____	**Class:** _____
Student ID: _____	**Date:** {{DATE}}

Assessment Details

Duration: 2 hours	**Total Marks:** 100
Topics Covered:	• Science • Technology • Engineering • Arts • Mathematics

Instructions to Students:

1. Read all questions carefully before attempting.
2. Show all working out - marks are awarded for method.
3. Calculator use is permitted except where stated otherwise.
4. Write your answers in the spaces provided.
5. If you need more space, use the additional pages at the end.
6. Time management is crucial - allocate approximately 1 minute per mark.

Section A: Multiple Choice [20 marks]

Question 1 **[2 marks]**

What is the primary goal of the scientific method?

A) To prove a hypothesis

B) To disprove a hypothesis

C) To develop a theory

D) To test a theory

Question 2 **[2 marks]**

Which type of technology is used to control and manage data?

A) Hardware

B) Software

C) Firmware

D) Network

Section B: Short Answer Questions [40 marks]

Question 3 **[10 marks]**

Describe the design process and its importance in engineering.

Question 4 **[10 marks]**

Explain the connection between art and mathematics.

Section C: Project-Based Task [40 marks]

Question 5 **[40 marks]**

Design and propose a solution to a real-world problem using STEAM principles.

a) Identify the problem and its significance [5 marks]

b) Develop a design brief and proposal [15 marks]

c) Create a prototype or model [10 marks]

d) Evaluate and refine the solution [10 marks]

Activity 1: STEAM Principles Matching Game

Match the STEAM principle with its definition:

1. Science	_____
2. Technology	_____
3. Engineering	_____
4. Arts	_____
5. Mathematics	_____

Definitions:

- The study of the natural world around us.
- The application of scientific knowledge for practical purposes.
- The process of designing, building, and testing solutions.
- The expression of human creativity.
- The study of numbers, quantities, and shapes.

Activity 2: Design a Solution

Choose a real-world problem and design a solution using STEAM principles.

a) What is the problem? [5 marks]

b) How can STEAM principles be applied to solve the problem? [10 marks]

c) What materials and resources are needed? [5 marks]

d) How will the solution be presented and communicated? [10 marks]

Activity 3: STEAM Concept Mapping

Create a concept map showing the connections between different STEAM principles.

Include the following:

- Science
- Technology
- Engineering
- Arts
- Mathematics
- How each principle relates to the others
- Examples of how STEAM principles are used in real-world applications

Activity 4: STEAM Principles Quiz

Complete the quiz to assess your understanding of STEAM principles.

Question 1 **[2 marks]**

What is the primary goal of the scientific method?

A) To prove a hypothesis

B) To disprove a hypothesis

C) To develop a theory

D) To test a theory

Question 2 **[2 marks]**

Which type of technology is used to control and manage data?

A) Hardware

B) Software

C) Firmware

D) Network

Activity 5: Reflective Journaling

Reflect on your learning and understanding of STEAM concepts.

a) What did you learn about STEAM principles? [5 marks]

b) How can STEAM principles be applied to solve real-world problems? [10 marks]

c) What challenges did you face during the assessment? [5 marks]

d) What would you do differently next time? [10 marks]