

**KVM PUBLIC SCHOOL**  
**HOLIDAY HOMEWORK (SESSION 2025-26)**  
**CLASS VIII**  
**MATHEMATICS**

**Artificial Intelligence and Mathematics**

🌟 **Objective:** To explore how core mathematical concepts such as data handling, linear equations, and quadrilaterals form the basis for applications in Artificial Intelligence (AI).

**1. Data Handling and AI Predictions**

Imagine an AI robot is analyzing daily temperatures of a city over a week. Create a table with your own data for 7 days (temperatures in °C).

Then:

- Draw a bar graph or pie chart representing the data.
- Calculate the mean, median, and mode of the temperatures.
- Explain in 3–4 lines how AI uses such data to make weather predictions.

**2. Understanding Quadrilaterals in AI Design**

AI often uses image recognition that involves shapes. Draw and label the following quadrilaterals: square, rectangle, parallelogram, rhombus and trapezium.

Then answer:

- Which quadrilaterals have equal sides or angles?
- Design a simple AI robot face using only quadrilaterals and label the shapes used.

**3. Equations and AI Logic**

Solve the following linear equations:

1.  $3x + 5 = 20$
2.  $2x - 7 = 5$
3.  $4(x - 2) = 2x + 6$

Then create a real-life word problem for any one of the above equations and solve it.

- Explain how AI uses such equations to solve real-life problems (e.g., calculating cost, distance, or time).

**SCIENCE**

**Artificial Intelligence in Healthcare**

🌟 **Objective:** To help students understand how Artificial Intelligence (AI) is transforming the healthcare sector by improving disease detection, treatment planning, and lab testing.

**1. AI in Healthcare: An Introduction**

List and explain three diseases where AI has helped doctors in early detection. For each disease, write:

- The name of the disease
- How AI helps in diagnosing it
- The benefit of early detection

**2. Treatment Using AI Tools**

Research and write about two ways AI is helping in treatment. (Example: Robotic surgery, personalized medicine, virtual health assistants) Explain each in 4–5 lines with a real-life example if possible.

**3. AI in Lab Testing**

Make a small poster or infographic showing how AI is used in laboratories for:

- Blood testing
- Scanning reports (X-rays, MRIs)
- Detecting infections like COVID-19 or tuberculosis

Include 2–3 illustrations and short labels.

- Research and prepare a short report on how an MRI (Magnetic Resonance Imaging) machine works and how Artificial Intelligence (AI) is being used to improve its functioning. Include simple diagrams, basic principles and real life applications of AI in medical imaging.

#### **4. Think & Write: Pros and Cons of AI in Healthcare**

In a table, list three advantages and two possible limitations of using AI in medicine. (Think about speed, accuracy, job roles, privacy, etc.)

### **SOCIAL SCIENCE**

#### **Question -1 Map Skill:**

- (a) Which regions in India are most likely to benefit from AI-based solutions for agriculture and water management?  
(b) Mark the top 5 Indian cities that are emerging as major AI hubs. What factors are contributing to their growth in AI research and development?

#### **Question-2 Poster Making**

Design a poster titled “ AI-Powered Smart City”.

#### **Question -3 Project Work**

Imagine your country is making laws for AI. Write a “ Mini Constitution for AI” with at least 5 rights and responsibilities for AI systems.

#### **Question 4 Research**

Research how AI may impact the future of work, including: (i) Job displacement (ii) New Job Creation (iii) Changes in skill requirements

### **ENGLISH**

#### **Is AI going to replace humans by 2050 ?**

- Q1. Make comic strip on the topic : " Will AI replace humans? " ( Conversation between Humans and AI )  
Q2. Imagine yourself attending future classes where human teacher is replaced by mechanical teacher who cannot understand any human emotions. Frame a story on the topic : "The AI School"  
Q3. Write a letter to the Principal requesting her to organise an AI workshop in your school.( As advancement in technology shows that AI will become the upcoming future. Humans will be replaced by AI. )  
Q4. Find 10 words along with their meanings highlighting the positive impact of AI.

### **HINDI**

1. अध्यापक के स्थान पर यदि कंप्यूटर स्थान ले ले तो इसके क्या परिणाम होंगे । सकारात्मक एवं नकारात्मक विचार लिखें ।
2. आधुनिक तकनीकी शिक्षा एवं गुरुकुल शिक्षा के संबंध में दो छात्रों के बीच संवाद लिखिए ।
3. यदि मनुष्य के सारे कार्य रोबोट करने लगे तो इसके भयावह परिणाम की कल्पना करते हुए अपने विचार लिखिए।

### **GENERAL INSTRUCTIONS**

- \*All work should be compiled in a file or folder and submitted after the vacation.
- \*Use ruled sheets for writing and plain sheets for drawings, wherever required.
- \*Complete assignments neatly: Use clean sheets, write legibly, and maintain organization.
- \*Follow instructions carefully: Read and understand each task before starting.
- \*Manage time effectively: Plan and prioritize tasks to complete homework within the given timeframe.
- \*Review and reflect: Go through completed work, identify areas for improvement, and learn from mistakes.
- \*Submit on time: Ensure timely submission on the designated date.