Explore Handout: Building a Neural Network Model

Name(s): _____
Class/Group: _____
Date: _____

Objective:

You will work with your team to **build and explain a simple neural network model** that shows how input data flows through different types of neurons (like a robotic brain or artificial intelligence system).

Your Group Roles:

Circle or write your group's assigned roles:

- Designer _____ Builder _____
- Recorder _____ Presenter _____

Which neural network was our group assigned? Circle ONE.

Facial Recognition Neural Network Speech Recognition Neural Network

Self-Driving Car Neural Network Object Recognition Neural Network

Language Translation Neural Network Chatbots (Conversational Neural Networks)

Emotion Recognition Neural Network Handwriting Recognition Neural Network

Medical Image Neural Network Predictive Text Neural Network

Model Construction Notes:

Use this space to describe how you built your model.

1. What connections did you make between the neurons (sensory data) in your given neural network?
(Describe the order from input → hidden → output and how many of each you used.)

2. Did you face any challenges during construction? How did you solve them?

Sketch Your Neural Network Layout

(Draw your model. Label the neuron types and use arrows to show the direction of data flow.)

What Each Layer Does:

Write a short description of each type of neuron in your model.

- **Input Neurons (Green):**

- **Hidden Neurons (Yellow):**

- **Output Neurons (Red):**

Group Presentation Checklist:

Use this checklist before you present to the class:

✅ We can explain how the **information flows** through our model.
✅ We can describe what each **neuron layer** does.
✅ We can give one **real-life example** of neural networks in technology (like Siri, Alexa, facial recognition, etc.).

Reflection Questions:

1. How did building this model help you understand how neural networks work?

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2. What similarities do you see between your model and how real neural networks (like AI or the human brain) process information?
