

Name \_\_\_\_\_

## Fact vs. Inference - Understanding Parts of an AI System

Read the passage below carefully. Then complete the activity that follows. A **fact** is something that is directly stated in the passage. An **inference** is something you can reasonably figure out from the passage, even though it is not directly said.

### How Language Translation AI Works

When you type a sentence in English into an online translation system, the first step is to capture your words as **input data**. The system does not actually "understand" English the way a human does. Instead, it breaks the text down into smaller units, like words and phrases, and compares them to patterns it has already learned from millions of examples in its training dataset.

The **processing stage** involves a neural network model that has been trained on pairs of sentences in different languages. This model estimates the most likely way to represent your English words in another language, such as Spanish or Mandarin. It uses probabilities and patterns rather than following a strict set of human-written rules.

The system then produces an **output**: the translated sentence. While the result is often accurate, it may sound slightly unnatural or awkward because the AI is focusing on matching patterns rather than meaning. To improve over time, the system uses **feedback** from users - such as corrections, usage data, or ratings - to adjust its model and provide better translations in the future.

Write **4 facts** and **3 inferences** based on the passage. Be sure your facts are things the text explicitly says, while your inferences are logical conclusions that go beyond the text but are supported by it.

#### Facts (4):

- 1.
- 2.
- 3.
- 4.



#### Inferences (3):

- 1.
- 2.
- 3.

---

**Reflection Question** - Why is it important to know the difference between facts and inferences when reading about AI?