



## Pros & Cons Sorting: Small Models vs. Big Models in AI

Large Language Models, or LLMs, can be grouped into two main categories: small models and big models. Small models are lighter and more efficient because they are trained with fewer parameters and less data. As a result, they use less memory, require less electricity, and often deliver responses more quickly. Another important feature of small models is that they can run directly on personal devices such as laptops and smartphones without requiring a constant internet connection. However, their smaller size means they struggle with very complex reasoning tasks and are often less accurate in multiple languages.

Big models are at the opposite end of the spectrum. They are trained on massive datasets with billions or trillions of parameters. Their size allows them to deliver highly detailed and nuanced answers, perform well in many languages, and explain complicated topics. But this comes at a cost: big models require powerful servers, consume huge amounts of energy, and are expensive to operate. They also tend to respond more slowly than small models because of the computing power needed.

Despite these differences, both small and big models share some important traits. They are capable of summarizing articles, helping students with writing, and answering a variety of questions. Both can also produce errors or misleading answers that sound correct but are not. For this reason, users must always think critically when working with any type of model.

**Instructions:** For each statement below, circle or mark the best answer.

1. Uses much less memory and storage - (Small Models | Big Models | Shared)
2. Requires powerful servers and large electricity - (Small Models | Big Models | Shared)
3. Summarizes short passages for students - (Small Models | Big Models | Shared)
4. Provides highly nuanced and detailed answers - (Small Models | Big Models | Shared)
5. Runs directly on laptops or smartphones - (Small Models | Big Models | Shared)
6. Responds more quickly with shorter wait time - (Small Models | Big Models | Shared)
7. Handles many languages with high accuracy - (Small Models | Big Models | Shared)
8. Sometimes produces confusing or incorrect answers - (Small Models | Big Models | Shared)
9. Struggles with deep reasoning or complex tasks - (Small Models | Big Models | Shared)
10. Costs far more to train and operate - (Small Models | Big Models | Shared)
11. Can be used for tutoring and writing - (Small Models | Big Models | Shared)
12. More affordable and practical in classrooms - (Small Models | Big Models | Shared)