1. What are the four pillars of Object-Oriented Programming? Explain each pillar.

The four pillars of Object-Oriented Programming are Abstraction, Encapsulation, Inheritance, and Polymorphism. Abstraction is when you hide complexity in the code such as a function. We can create a function to complete a series of complex tasks so that when we need to use that function later we do not need to write out each step. Encapsulation is hiding the details of how a method works. When you encapsulate data you are using a function class or object to bundle data and methods together and hide the information into a single keyword or phrase. Inheritance is when objects inherit properties and functionalities from other classes. When you create a parent class can pass properties and functionalities down to another class. Polymorphism is when objects are able to share functionalities with other objects with the ability to not have to use all of the functionalities or change some of them.

2. What is the relationship between a Class and an Object?

Objects have attributes and things that define them. Classes are where you group the code together to structure and define the data for the objects. Classes are used when you are creating a new concept that has separate properties and functionalities. They lay out the blueprint for the object that is going to be created as an instance of that class.

Sources:

- https://stackoverflow.com/questions/27642239/what-is-polymorphism-in-javascript
- https://www.freecodecamp.org/news/four-pillars-of-object-oriented-programming/
- https://youtu.be/_W8oCSFwcTQ
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