**Geologic History of Utah**

**Introduction Question**

Why do we care about the past?

**Activity Questions**

**Stop 1: Grand Canyon National Park**

1. What is the age range of these rocks?
2. Did the Tonto Group form in a marine or continental environment?
3. What kind of fossils do you see in the 3D rock model? In what depositional environment did the Kaibab Formation form?

**Stop 2: Zion National Park**

1. What is the age range of these rocks?
2. Based on the grain size and the example fossil, in what kind of environment did the Chinle Formation form?
3. What kind of rock is the 3D model from the Navajo Sandstone? What sedimentary features do you see?
4. In what kind of environment did the Navajo Sandstone form?

**Stop 3: Bryce Canyon National Park**

1. What is the age range of these rocks?
2. What kind of rock is at the link?
3. In what energy environment did the Claron Formation form?

**Arches National Park**

1. What is the age range of these rocks?
2. What kind of fossil is found in the Mancos Shale? What does that tell you about the depositional environment?
3. What is the depositional environment of the Mancos Shale?
4. In what kind of environment did the Morrison Formation form?

**Fill out these charts to help you with the final question.**

**In which national parks do these formations occur?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Formations** | **Grand Canyon** | **Zion** | **Bryce Canyon** | **Arches** |
| Claron |  |  |  |  |
| Mancos |  |  |  |  |
| Morrison |  |  |  |  |
| Navajo |  |  |  |  |
| Chinle |  |  |  |  |
| Kaibab |  |  |  |  |
| Tonto Group |  |  |  |  |

**What are the characteristics of these rock formations?**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Formations** | **Age** | **Marine or Continental** | **Energy Level** | **Depositional Environment** |
| Claron |  |  |  |  |
| Mancos |  |  |  |  |
| Morrison |  |  |  |  |
| Navajo |  |  |  |  |
| Chinle |  |  |  |  |
| Kaibab |  |  |  |  |
| Tonto Group |  |  |  |  |

1. **Based on this chart, what is the geologic history of Utah, from the Cambrian to the Eocene?**
2. **What do you think could prompt environmental changes like these?**
3. **What changes do you think we might see recorded in the rocks in the future?**