Search plan:

<u>Topic description:</u> Describe the purpose of searching for big prime numbers and how it has helped us in the past, as well as discussing the ways in which big prime numbers are being found today.

<u>What are we interested in about this topic?: the choices</u>

- What big prime numbers can be used for
- The methods of searching for big prime numbers

1. What are big prime numbers used for:

Primarily used for computing examples include, cryptography (RSA encryption), hash tables, checksum, pseudorandom number generation

2. The methods of searching for big prime numbers:

Prime sieves: takes a large number of integers, and rules out all numbers that cant be prime, therefore leaving out all those that are. There are many types of prime sieves

Primality test: tells you if an integer is prime or not

Main subject: search for big prime numbers, finding Marsanne primes.

Details: uses of big prime numbers, methods of finding big prime numbers, discovery of big primes, applications of big prime numbers, manner at which prime numbers have been used.

Goal of this search: where big prime numbers might take us in the future, is there a limit to what they can provide for us. What is limiting their applications, technology or the amount of known prime numbers.