DNA Replication

Here are some notes summarising all you need to know about DNA replication. Unfortunately, they are in the wrong order…

… nucleotides in a 5’ → 3’ direction (In the ….

… is needed for building up a complementary strand for this template.

To this primer, DNA polymerase III adds nucleotides in a 5’ → 3’ direction, moving…

… sealed up by DNA ligase which makes a sugar-phosphate bond between adjacent DNA fragments.

The DNA double helix is uncoiled and the two strands are…

… DNA polymerase III can follow along behind it, adding nucleotides in one continuous strand., however…

… a short length of RNA to the template strand of DNA, which acts as a prime.

… away from the replication fork as it does so. In this way…

… replication fork will be opening up in the 3’ → 5’ direction: another method, therefore,…

… short lengths of DNA – called *Okazaki fragments* - are formed between RNA primers.

… separated by the enzyme *Helicase*, producing a *replication fork*.

… reproduce or ‘replicate’ a double helix with anti-parallel strands.)

… the RNA primer and replaces it with DNA. A nick is left where…

…because the template strands are anti-parallel, for the other template strand, the…

At regular intervals along the 3’ → 5’ strand, RNA primase adds …

Behind the replication fork, the enzyme DNA polymerase III adds…

Next, DNA polymerase I removes…

… two nucleotides are still left unconnected – this nick is…

… opposite direction to the direction of the bases in the template strand, so as to…

As DNA helicase moves along *one* of the anti-parallel template strands in a 5’ → 3’ direction…