

Part A

What process happens in S phase?

What is the first thing that must happen to start this process?

What components from your supplies are needed for this step?

Using your supplies create a representation of the first step in this process

What cellular components arrive to maintain what happened in step 1?

What supplies do you have that can represent these components?

Using the appropriate supplies ensure step 1 will be maintained for the duration of the process

What is the orientation of each strand of DNA?

What are the names of each strand? Why are they different?

Using paper and tape (so your cardboard will remain reusable) label the orientation and name of each strand

What cellular
component arrives
now?

What does this
cellular
component do?

Using your supplies, represent this cellular component carrying out its action on both strands simultaneously(ish)

Now that these
temporary
sequences are in
place what
component
arrives?

Where does this
component start
its action?

What does this
component
create?

Using your supplies, represent this cellular component carrying out its action on both strands simultaneously(ish). *Note that this representation should look different than the previous.

Part B

Observe the strands you started with and those you've created

What is
different
between the
strands?

What is the
same?

What does
green
represent in
the strands of
this exercise?

What does the
cell do about
this?

What cellular
component
carries this
process out?

Using your supplies, represent the cell's solution to the presence of the green sequences

What is the
last hurdle to
the new
strands being
complete?

Represent the cell completing the strands

This process is carried out on the entire length of the strands you started with

What is the
end product?

This end
product
consists of
what types of
strands?

Flip the model you've created.

What does this
change?
What doesn't
it change?

What are your
key take-
aways from
this exercise?