

Go to bit.ly/3Hax70b. Click **Start** and use the animation to answer the questions below.

1. What does PCR stand for? **Polymerase chain reaction**
2. What does it do? **Make copies**
3. What are some uses of PCR? **Genetic engineering, forensic identification & medical testin**
4. How is PCR specific? **Primers, different targets different primers**
5. What 5 components are needed for PCR: **Primer, DNA polymerase, nucleotides, water & salts**
6. Why does cycle 1 need:
 - a) A temperature of 95°C? **Disrupts complimentary base pairing to separate DNA strands**
 - b) A temperature of 50°C? **Base pairing can occur again, but more primers present so primers bind before DNA comes back together**
 - c) A temperature of 70°C? **Activates DNA polymerase & builds onto primers creating new DNA**
7. In what cycle do the desired products first appear? **Cycle 3**
8. How many cycles does it take to have more than 1 billion copies of just the target sequence? **30**
9. a) What is a limitation of PCR? It can only amplify **what is present**
b) **How does this relate to using PCR testing to test for the presence of COVID-19?**

10. Scroll down and summarize 3 uses for PCR

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