

## Conclusions and Analysis of DNA Extraction Lab - Answers

1. Each step in the procedure aided in isolating the DNA from other cellular materials.

Match the procedure with its function:

PROCEDURE	FUNCTION
A. Filter pulpy pea mixture through cheesecloth	<u>  D  </u> To precipitate DNA from solution
B. Knead peas with salty/soapy solution	<u>  A  </u> Separate components of the cell
C. Initial mashing and grinding of peas	<u>  C  </u> Break open the cell walls
D. Use of ethanol to filtered extract	<u>  B  </u> Dissolve cell membranes
E. Use of pineapple juice or meat tenderizer	<u>  E  </u> Break up proteins

2. What did the DNA look like?

**Long, white, stringy stuff.**

3. A person cannot see a single cotton thread 30 metres away, but if you wound thousands of threads together into a rope, it would be visible much further away. Can you use this as an analogy to explain what happened in our DNA extraction?

**You cannot see a single strand of DNA, but when they are all clumped together to can see them.**

4. Explain what happened in the final step when you added ethanol to your pea extract. (Hint: DNA is soluble in water, but not in ethanol)

**DNA does not dissolve in alcohol. This causes the DNA to clump together and precipitate out into the alcohol.**

5. Why is it important for scientists to be able to remove DNA from an organism? List two reasons.

**DNA sequencing, studying gene, gel electrophoresis etc.**

6. What are sources of contamination? Why might this lab not work properly?

**Contamination: skin cells, other cellular components, cannot separate RNA from DNA. Might not work because not enough time, not cold enough, not enough DNA**