

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