Mica Education

Name: .....

Date: .....

FIRST* PART 6

37 READING PRACTICE

You are going to read a newspaper article about a teenager who invented a new kind of torch. Six sentences have been removed from the article. Choose from the sentences **A-G** the one which fits each gap **(1-6)**. There is one extra sentence which you **do not** need to use.

☐ **A)** The intensity of the light produced varies according to external conditions.

☐ **B)** There were moments when she thought she'd never find a solution.

☐ **C)** She has tried it out and the results have been way beyond her expectations.

☐ **D)** And she is convinced there will be plenty of them.

☐ **E)** She experimented with these and realised what their potential might be.

☐ **F)** She began to take an interest in it and come up with her own inventions.

☐ **G)** She was delighted to discover that in theory this was possible.

TORCH POWERED BY BODY HEAT

Fifteen-year-old Ann Makosinksi, from Canada, has designed an award-winning torch - powered only by the heat from a human hand. Ann won a prize for her invention in a competition at an international science fair, beating 15 other finalists from around the world.

Neither of Ann's parents has a post-secondary science education, but they have always encouraged her. Her father works as a laboratory manager and helped her by teaching her the basics of electronics.
37) .....

Ann has been submitting projects to school science fairs ever since she was 11 and has always had an interest in alternative energy. While researching different sources of energy, she learned about devices called Peltier tiles that can generate electricity when heated on one side and cooled on the other.
38) ..... . The tiles could be used to capture heat from the human hand.

Ann started by doing some calculations to see whether the warmth of a human hand could produce enough energy to power a torch. **39)** ..... . Now all she had to do was put her ideas into practice.

However, this was by no means as straightforward as she had originally hoped. Ann spent months researching on the internet, trying out different models and refining her design. **40)** ..... . The cost of materials was also becoming an issue. In the end, she came across an internet article which gave her the idea for an affordable design that she believed would work.

Ann's torch consists of a hollow aluminum tube with a cut-out section into which a Peltier tile has been placed. The air flowing through the tube makes contact with one side of the tile, while the other side is heated by the user's hand. **41)** ..... . Because of the way the tiles work, it is brighter in colder temperatures than warmer ones; when it's colder, there's a bigger difference in temperature between the human hand and the surrounding air.

Ann explains that, if mass-produced, the torch could be manufactured and sold very cheaply. She's keen to see her invention being used all over the world, but in the meantime, she has been giving its wider applications some serious thought. **42)** ..... . This is particularly true in parts of the world where access to electricity is not assured.