For Ch. 4 of The Ghost Map, classify the information in the chapter according to the categories below.

Essential (to know) - This is information VITAL to the main point of the book (How the cholera outbreak gripped London in fear as the dead mounted and how John Snow and Henry Whitehead sought to solve the mystery).

*The popular fear of cholera was amplified by the miasma theory of its transmission. The disease was both invisible and everywhere: Seeping out of gully holes, looming in the yellowed fog along the Thames.

*London was overcrowded sewer in the first half of the nineteenth century. The tremendous growth of london was a riddle that could not be explained by simply adding up decisions made by large numbers of individual humans. The city had taken on a life of its own. It was product of human choice. Some new form of collective human choice where the collective were at odds with the needs and desires of its individual members.

*The city is life's largest footprint. And microbes are its smallest. As you zoom in the past the scale of the bacterium and the virus, you travel from the regime of biology to the regime of chemical istry: from organisms with a pattern of growth and development, life and death to mere molecules.

*The search for unpolluted drinking water is as old as civilization itself. As soon as there were mass human settlements, waterborne diseases like dysentery became a crucial population bottleneck. For much of human history, the solution to this chronic publichealth issue was not purifying the water supply.

Need (to know) - This is information that one needs to know in order to understand how the chapter fits in with the rest of the book.

*"bills of mortality" dated back to the plague years of 1600s when clerks first began recording the names and parishes of the dead.

*snow knew something was wrong with the water but he had to find a way to prove it.

*growing a city of three million from less than a million a century before required more than just increased energy inputs. It also required an immense population base that was willing to move from the country to the city.

*other distortion and half- truths circulated between the neighborhood and the wider city. The folklore spread in part because the communication system of london.a

Nice (to know) - This is just the information that will impress your teachers if you remember. It might be odd or interesting facts that register with you personally.

*alcohol kills off the virus before it get affect your intestines so it might give you a little stomach ache but won't kill you.

*This disease will spread like an atrophy in the human body and ruin will follow ruin, till the entire city is disgusting to the remnant of the inhabitants.

*The environmental impact of a planet industrializing at such a dramatic rate. But most of us accept without debate the long- term viability of human settlements with populations in the millions, or ten of millions.

*London as a monstrous, cancerous presence focused not merely on the smell or the overcrowding.