



# Biology

## Measles Worksheet

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In 1998 Dr. Andrew Wakefield and his team published an article in The Lancet medical journal. His scientific paper stated that he had found a link between the MMR vaccination and autism and bowel disease in children.

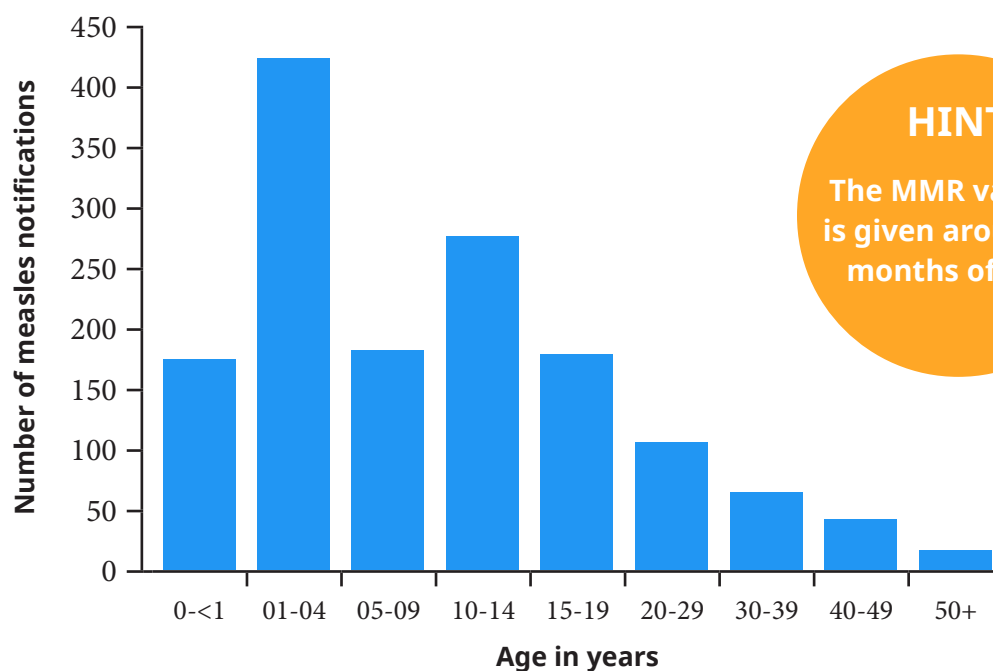
A media storm ensued.

Despite The Lancet paper being formally withdrawn and the thorough discrediting of the paper with an over-whelming amount of independent research supporting the safety of the vaccine; uptake of the vaccine dropped incredibly in that year and for many years after.

An outbreak of Measles occurred in Wales in November 2012.

Study the graph of the rate of measles for different age groups below and the timeline and consider the questions which follow.

**Chart of number of notifications by age during outbreak period: 1 November 2012 - 12 noon 03 July 2013.**



#### HINT

The MMR vaccine is given around 14 months of age.



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1. Approximately how many children under the age of 4 contracted the measles virus during the outbreak?

2. Why were children under 1 susceptible to the disease?

3. Suggest why children aged 1-4 were more likely to catch the disease than those under 1?

4. Other than the under 4's which other age group had the most cases of measles in Wales during the epidemic?

5. Looking at the timeline can you suggest why this might be the case?



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6. Approximately how many children under the age of 9 contracted the disease?

7. What percentage is this of the 1455 cases reported overall?

8. Approximately how many people above age 30 -39 contracted the disease?

9. What percentage is this of the 1455 cases reported overall?

10. Suggest why this is much lower than the cases reported for the children under 9?