Student Worksheet: Calculating Vaccine Efficacy

Vaccine efficacy is the percent reduction of disease following vaccination during a clinical trial. Scientists calculate vaccine efficacy using this equation:

$$\frac{\%\ who\ got\ sick\ after\ Placebo - \%\ who\ got\ sick\ after\ Vaccine}{\%\ who\ got\ sick\ after\ Placebo}$$

Practice calculating vaccine efficacies in the following examples.

Vaccine 1

Group	% of Trial Participants	
	Got Disease	Stayed Healthy
Got Vaccine 1	20	80
Got Placebo	40	60

Calculations:

% Efficacy _____ Did this vaccine work? Why or why not?

Vaccine 2

Group	% of Trial Participants	
	Got Disease	Stayed Healthy
Got Vaccine 2	10	90
Got Placebo	30	70

Calculations:

% Efficacy _____ Did this vaccine work? Why or why not?

Vaccine 3

Group	% of Trial Participants	
	Got Disease	Stayed Healthy
Got Vaccine 3	23	77
Got Placebo	25	75

Calculations:

% Efficacy _____ Did this vaccine work? Why or why not?

Vaccine 4

Group	% of Trial Participants	
	Got Disease	Stayed Healthy
Got Vaccine 4	3	97
Got Placebo	60	40

Calculations:

% Efficacy _____ Did this vaccine work? Why or why not?