For each of the following questions, outline how you could use an A/B test to find an answer. Be sure to identify all five key components of an A/B test we outlined above.

Does a new supplement help people sleep better?

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| Key Components of an A/B Test | Sleep Test |
| 1. Two versions of something whose effects will be compared. | Test how long people sleep when given the new supplement vs the old supplement. (Need to define what “better” means) |
| 1. A sample, divided into two groups. | Get a population of people who struggle sleeping, perhaps from the customers of the old sleep supplement and randomly divide them into two groups. |
| 1. A hypothesis. | People taking the new supplement will sleep longer than people taking the old supplement. |
| 1. Outcome(s) of interest. | Length of time that people are asleep and how quickly it takes for people to fall asleep. |
| 1. Other measured variables. | Number of times people wake up while asleep. |

Will new uniforms help a gym's business?

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| Key Components of an A/B Test | Uniform Test |
| 1. Two versions of something whose effects will be compared. | Test whether retention rates increase after staff start wearing new uniforms. |
| 1. A sample, divided into two groups. | Divide the gym’s classes into two groups, one will still wear the normal uniform, the other instructors will wear the new uniforms. |
| 1. A hypothesis. | New uniforms will help the business retain its current clients. |
| 1. Outcome(s) of interest. | Retention rate. |
| 1. Other measured variables. | New sign-up rate. |

Will a new homepage improve my online exotic pet rental business?

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| Key Components of an A/B Test | Homepage Test |
| 1. Two versions of something whose effects will be compared. | Create a new website layout to compare to the old website layout. |
| 1. A sample, divided into two groups. | Take all the previous customerid or isp’s and divide into two random groups so that when that customid or ISP number comes to the website they either get website A or B. |
| 1. A hypothesis. | The new website layout will enable/attract more exotic pet rentals than the previous website. |
| 1. Outcome(s) of interest. | # of rentals, total rental revenue |
| 1. Other measured variables. | Time spent on the website |

If I put 'please read' in the email subject will more people read my emails?

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| Key Components of an A/B Test | Please Read Test |
| 1. Two versions of something whose effects will be compared. | Send out two versions of the same email. |
| 1. A sample, divided into two groups. | Divide the listserv into two equally random groups. |
| 1. A hypothesis. | The email with “please read” in the subject line will get more opens than the one without. |
| 1. Outcome(s) of interest. | # of opens, # of links clicked |
| 1. Other measured variables. |  |