POSTERIOR SAMPLES

$$y_i \sim Normal(\mu_i, \sigma)$$

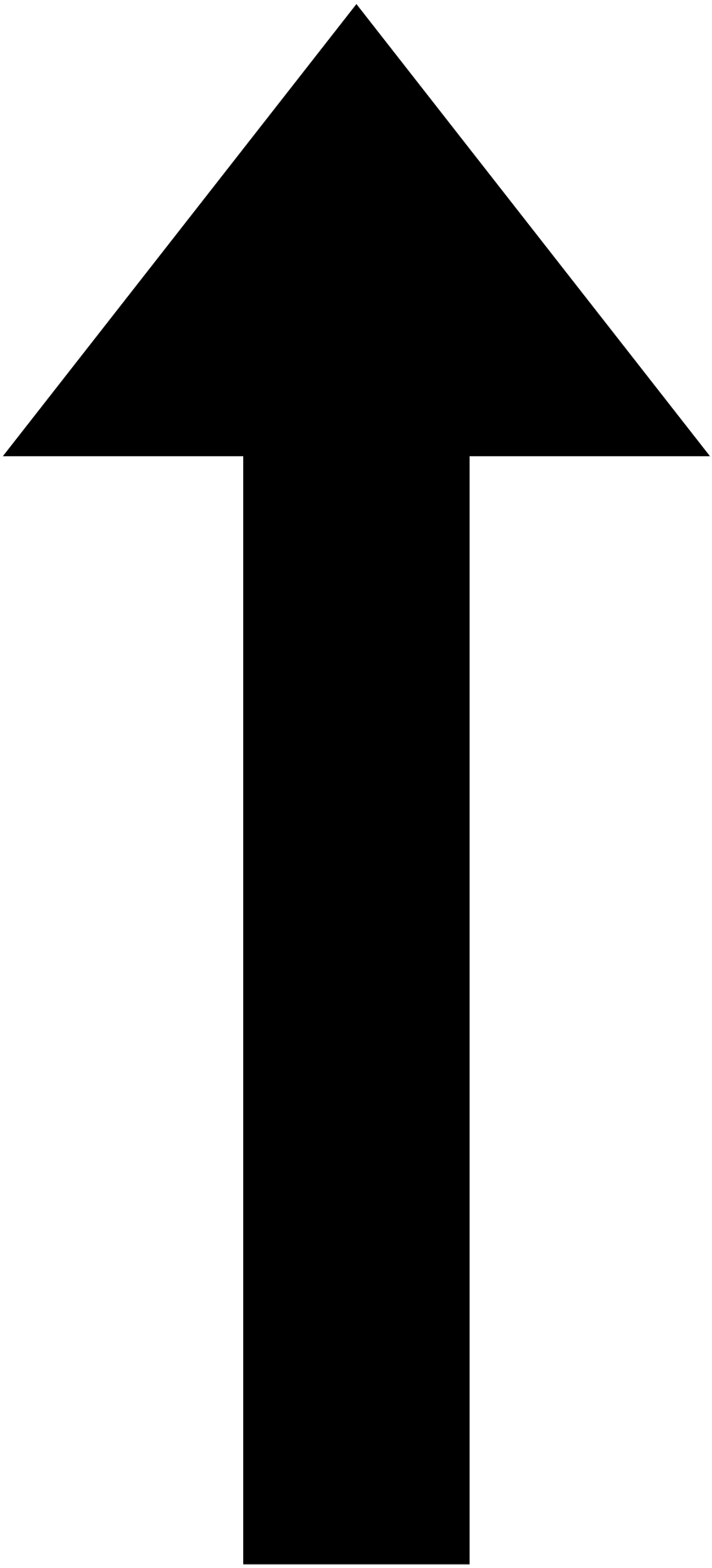
$$\mu_i = \alpha + \beta x_i$$

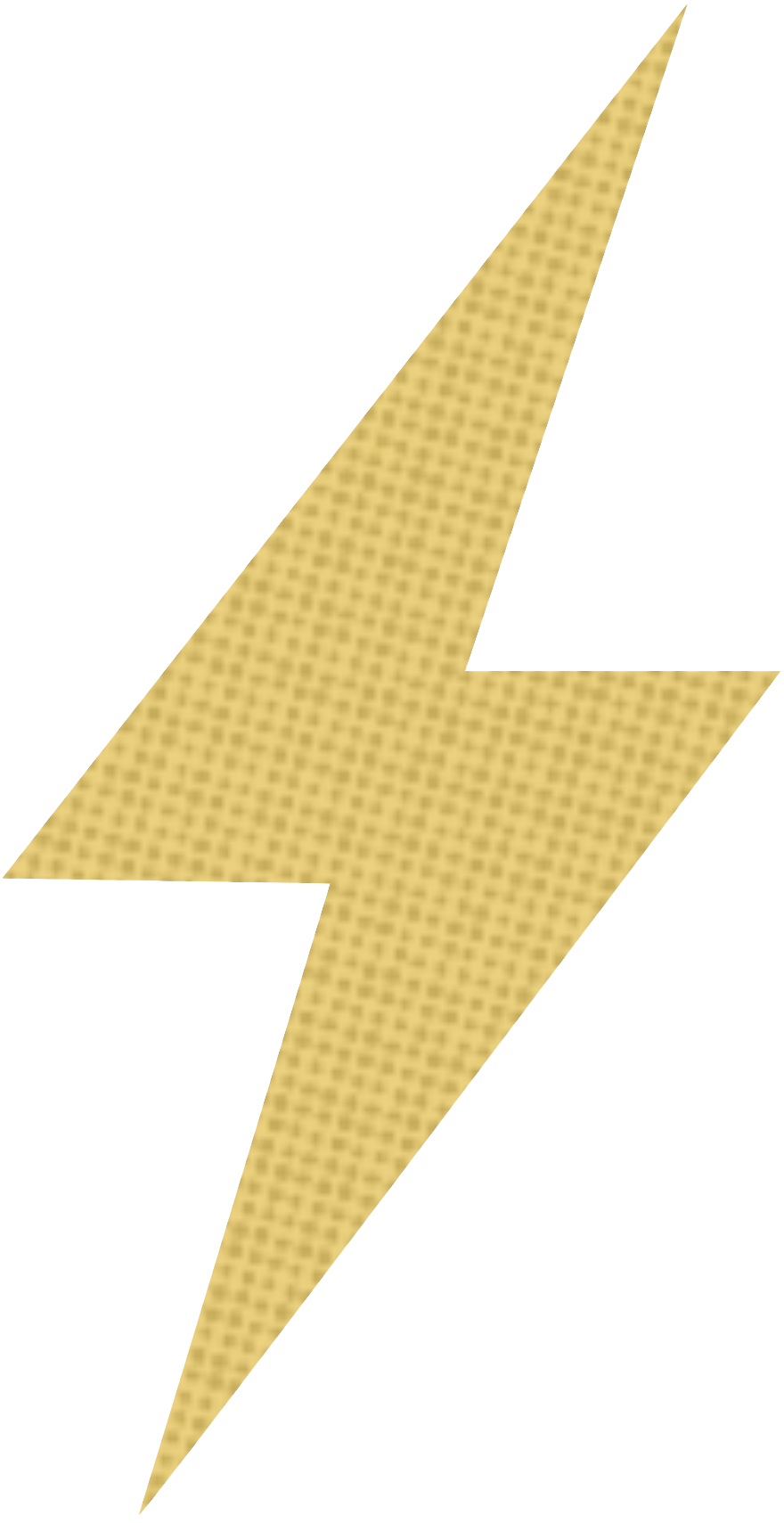
$$\alpha \sim Normal(0, 20)$$

$$\beta \sim lognormal(0, 1)$$

$$\sigma \sim Exponential(1)$$

```
> samples
# A tibble: 2,000 × 3
         a         b     sigma
   <dbl[1d]> <dbl[1d]> <dbl[1d]>
 1      115.     0.889      4.78
 2      109.     1.02       5.30
 3      112.     0.928      5.07
 4      111.     0.949      5.30
 5      111.     0.955      5.04
 6      115.     0.872      5.19
 7      109.     1.01       5.13
 8      117.     0.844      5.00
 9      115.     0.882      4.94
10      112.     0.939      4.95
# … with 1,990 more rows
```






FIT!

POSTERIOR SAMPLES

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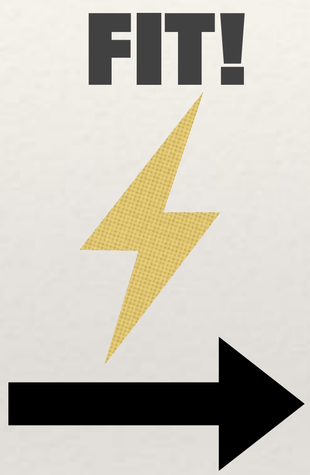


```
> samples
# A tibble: 2,000 × 3
       a     b sigma
   <dbl> <dbl> <dbl>
 1  115. 0.889  4.78
 2  109. 1.02   5.30
 3  112. 0.928  5.07
 4  111. 0.949  5.30
 5  111. 0.955  5.04
 6  115. 0.872  5.19
 7  109. 1.01   5.13
 8  117. 0.844  5.00
 9  115. 0.882  4.94
10  112. 0.939  4.95
# … with 1,990 more rows
```

POSTERIOR MEAN ESTIMATES

$$E_y[\theta] =$$

```
> colMeans(samples)
          a           b       sigma
112.9296580   0.9253803   5.0453651
```