Problem

In a remote village of Melatron Township, time is kept using only minutes. If you lived there, and counted minutes from the time you were born, would you be older or younger than one million minutes on your most recent birthday? Make a prediction, and then calculate approximately how many minutes old you actually were on that birthday.

Extension :
Do you think it's possible that your teacher is 39 447 000 minutes old? Explain.

Hints

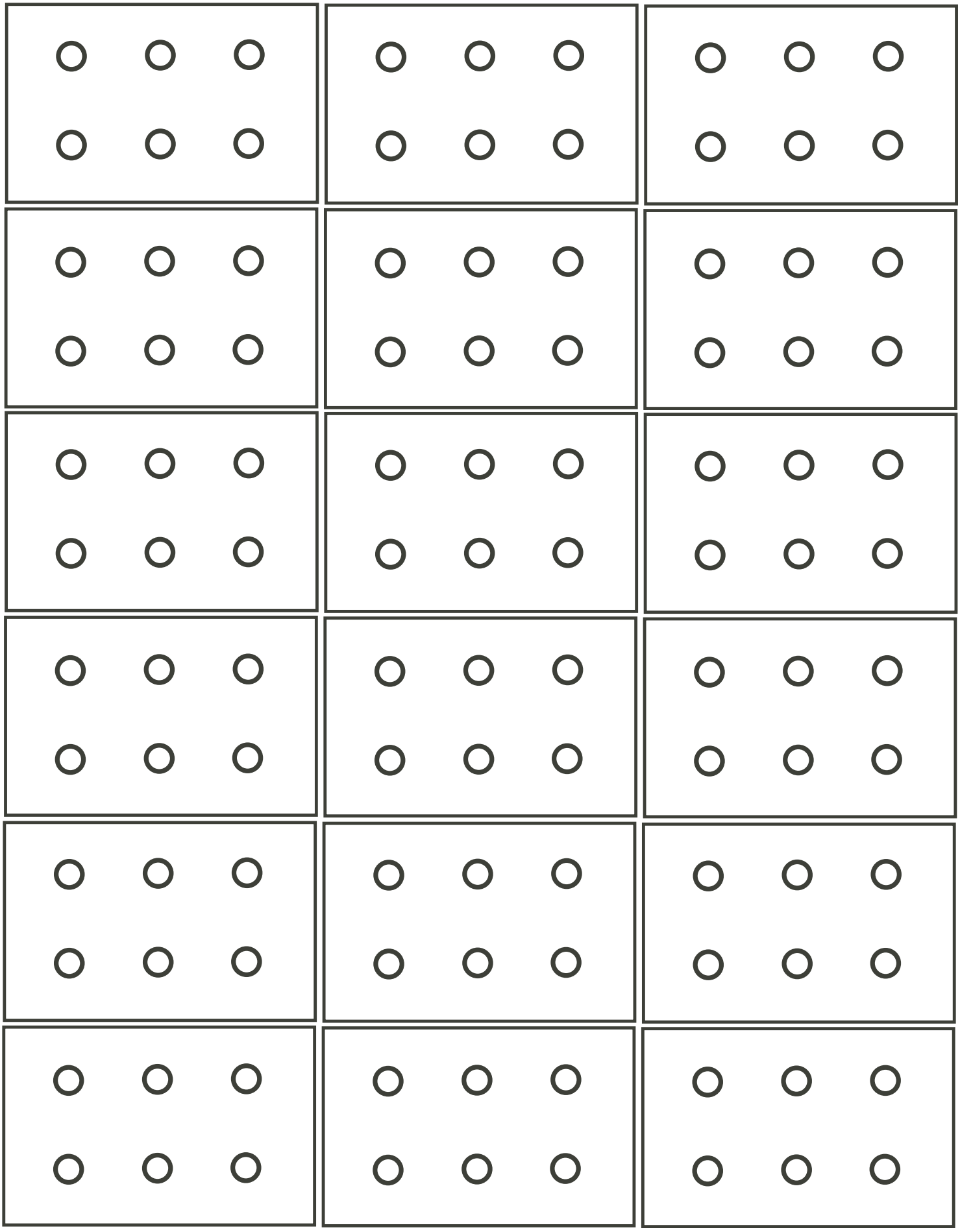
Hint 1 - How many minutes are there in one hour?

Hint 2 - How many hours are there in a day? Minutes in a day?

Hint 3 - How many days are there in one year? Minutes in one year?

Extension:

Hint 1 - How does your age in minutes compare to the given age?



Solution

There are $60 \times 24 \times 365 = 525\,600$ minutes in one year. Thus a 10 year old student would be 5 256 000 minutes old. (If you use $365\frac{1}{4}$ days in a year, the figure is 525 960 minutes/year; students may also suggest adding two or three days for leap years.) They may also use the estimate of about half a million minutes per year, giving a ten year old's age as about five million minutes.

Comment: In making a prediction, students might estimate the number of minutes per year as $60 \times 24 \times 365 \approx 60 \times 25 \times 400 = 600\,000$, or $60 \times 20 \times 400 \approx 480\,000$, or about half a million minutes in one year in either case.

Extension:
The teacher would have to be about 75 years old! Encourage students to estimate, using their own age in minutes. (If they used the estimate of half a million minutes in one year, as above, the teacher would be approximately 80 years old.)