

Activity 2: Exponential Decay

A person drinks a caffeinated soda and takes a vitamin. The caffeine and the vitamin in the bloodstream each reach a maximum level of 30 milligrams.

- A. Caffeine is flushed out of a child's blood stream at a rate of about 25% an hour.
- B. Caffeine is flushed out of an adult's blood stream at a rate of about 15% an hour.
- C. The vitamin is flushed out of a person's blood stream at a rate of about 20% an hour.

1. Write a function for the amount of substance remaining in the bloodstream t hours after the maximum level is reached.

- A.
- B.
- C.

2. Compare the three situations in a table.

Time after Maximum Level			
1 hour			
2 hours			
3 hours			
4 hours			
5 hours			

3. Compare the three situations graphically.