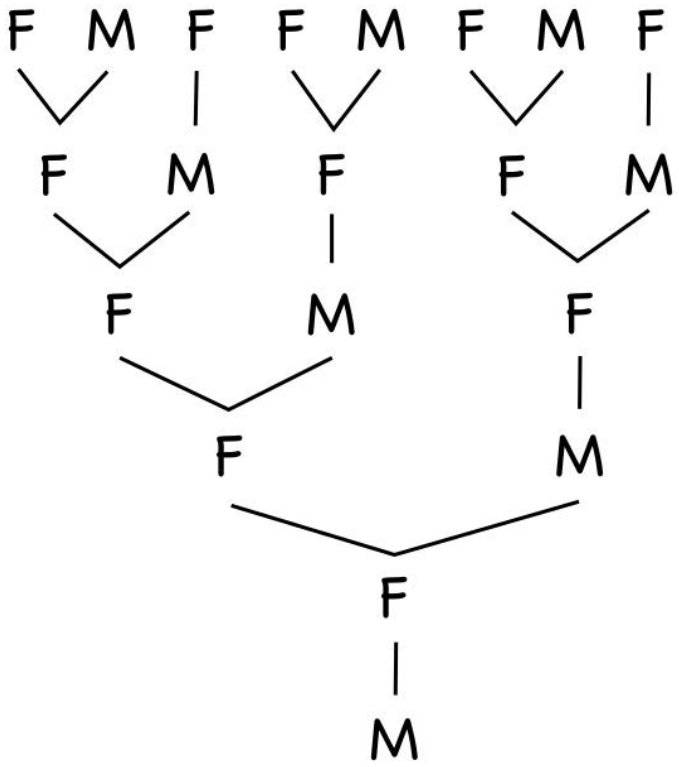
Puzzle of the Week

Counting the Ancestors of Bees

A female bee's egg can have one of two things happen. If a male bee is not involved, then the egg will turn into a male bee. If a male bee is involved, the egg will turn into a female bee.

The ancestry of a typical male bee starts with a mother and no father - it has 1 ancestor 1 generation back. Its mother has a mother and father, so it has two grandparents - it has 2 ancestors 2 generations back. And so on. Here is the start of its ancestral tree.



THE CHALLENGE: How many ancestors will a male bee have 10 generations back? How about 20 generations back?

EXPLORATION: Find a pattern that will help you make these calculations more easily. What does the ancestry of a female bee look like? What simplifications are we making in doing all this counting?