BRAIN DEVELOPMENT + DECISION MAKING 101

Description of this class for parents + caregivers

By the time a kid hits middle school, their brain is halfway through its maturation... a process that won't finish until they're close to 30. It is the imbalance in this maturation—the fact that some parts of the brain send and receive signals much faster than others—that sits at the heart of middle school (and high school!) decision making. This lesson is all about these normal imbalances inside the maturing teen brain that make it harder (but not impossible) for adolescents to make consistently good decisions.

As "immature" kids become "mature" adults, 2 things are happening inside their brains:

1. Pruning: The brain itself is a mass of about 100 billion nerve fibers called neurons—when the neurons aren't used, they die away.
2. Myelination: The slow wrapping of the remaining neurons in a blanket of fat cells called myelin. A neuron covered with myelin sends signals faster—much faster! about 3000x faster—than an unmyelinated one.

Myelination happens in a very specific order and is considered done only after the prefrontal cortex (the consequential decision-making part of the brain) is fully coated—this is the part that takes until most people are nearly 30. Some parts of the brain *are* fully mature by middle + high school though—namely the limbic system, the brain's hub for emotion, risk taking, and reward-seeking. Because the limbic system is mature, it can send and receive brain signals faster than the prefrontal cortex, explaining why teens are generally more likely than people of other ages to make impulsive, emotionally-driven choices.

Explaining this science to students helps them to understand why they sometimes struggle to make the best decisions. Kids often feel embarrassed and ashamed when they do something thoughtless or downright foolish. It helps to know that their choices can be connected to uneven myelination. Yes, it's hard (but not impossible!) for them to make consistently smart, consequential, "adult" choices. Understanding how the brain matures can help them hack their brains, behave less impulsively, and choose the better option.