The Awesomely Evolved Human Brain

**THE BRAIN'S REWARD SYSTEM**
Your brain has evolved to make you feel good when you do things that help you survive. The pleasure you feel is caused by the chemical dopamine, which is released in your brain's reward system. When you enjoy certain activities, dopamine is released, and you are more likely to repeat those activities. This brain system has evolved to help you learn and grow, and to become healthy, happy, and successful.

**WHEN TOO MUCH OF A GOOD THING CAN BE BAD**
The brain's reward system can go haywire. This is especially true in today's world, where many of the foods we eat are highly processed, and technology invades almost every aspect of our lives, overwhelming us with information. Because evolution takes millions of years, our brains have not yet caught up with the demands of today. This overload can throw us out of balance and lead to compulsivity—or the inability to stop a behavior, even when it's harmful.

**Dopamine Overload**
Ever feel like you just can't stop? Maybe it's eating potato chips, or maybe it's playing a video game over and over—it can be different things for different people. These experiences overstimulate the brain's natural reward system, causing some people to compulsively repeat certain behaviors, like overeating, which can cause obesity. It also happens with drugs, which overload the brain with dopamine. This is why for some people, experimentation can lead to addiction.

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**THE BRAIN EVOLUTION TIMELINE**
- **BEGINNING OF TIME**
  - **MILESTONES**
    - **WALKING UPRIGHT**: 6,000,000 Years Ago
    - **FIRST TOOLS**: 2,600,000 Years Ago
    - **CONTROLLING FIRE**: 800,000 Years Ago
    - **CREATION OF SYMBOLS**: 40,000 Years Ago
    - **CREATION OF ALPHABET**: 3,000 Years Ago

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Have you ever thought about how many different things your brain can do? This amazing organ, which scientists are only beginning to understand, has been refined through millions of years of evolution. It helps you process information—often before you are aware of it. And it figures out things fast, even when information is incomplete. Did you know that your brain even controls what you enjoy? The brain is designed to help you survive and to keep your body's internal environment stable and balanced, a state known as homeostasis. The brain is awesomely complex and crucial to who we are and how we live.

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From Scholastic and the scientists of the National Institute on Drug Abuse, National Institutes of Health, U.S. Department of Health and Human Services.

More Info: For additional facts about the brain and drugs, visit scholastic.com/headsup and teens.drugabuse.gov.