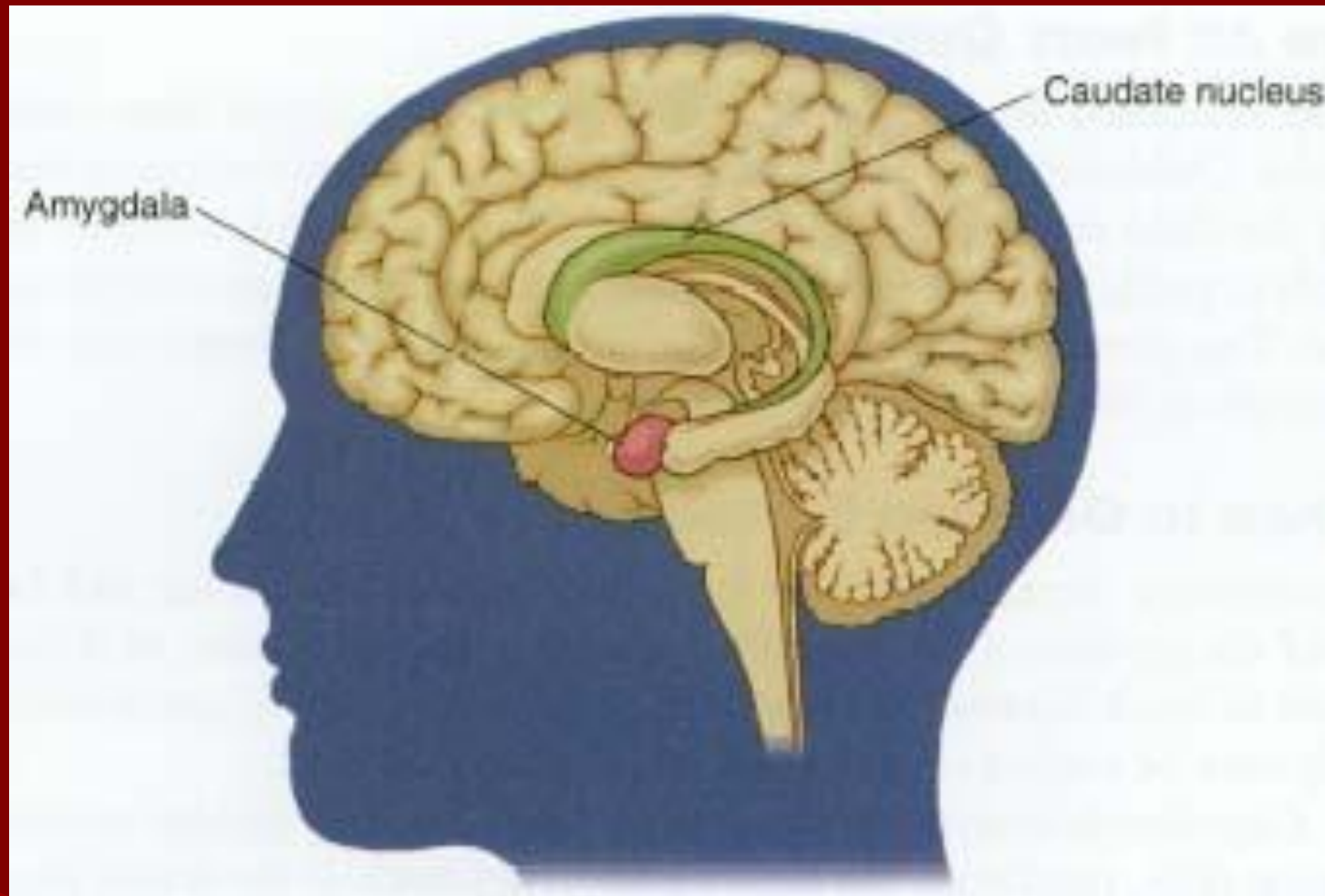




**ADOLESCENCE AND
AMGYDALA**





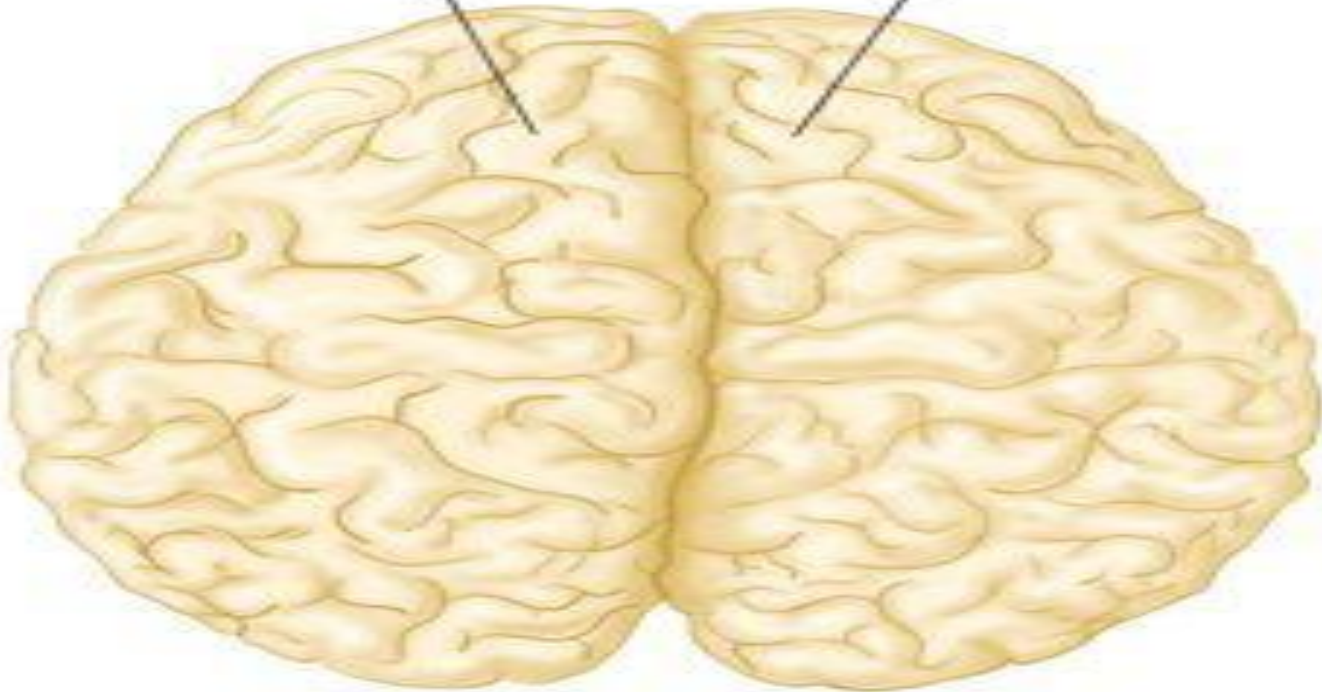


TWO HEMISPHERES

The image features a dark red background with a large, light pink diamond shape in the center. A red crayon is positioned at the top left, with a yellow squiggle extending from its tip. At the bottom right, another red crayon is shown, with a long, wavy yellow squiggle extending from its tip across the bottom of the pink diamond.

Left Hemisphere

Right Hemisphere



2 Hemispheres of the Brain

AMYGDALA FUNCTIONS

- *Processing emotions*
- *Memory of Emotional reactions*



Adolescent Psychology

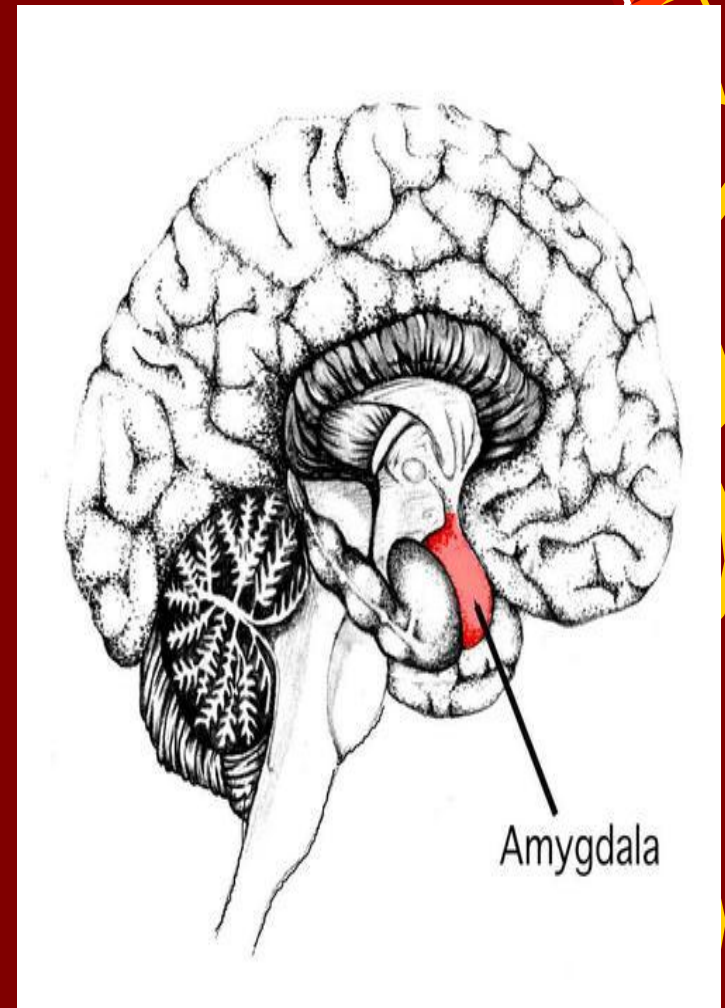
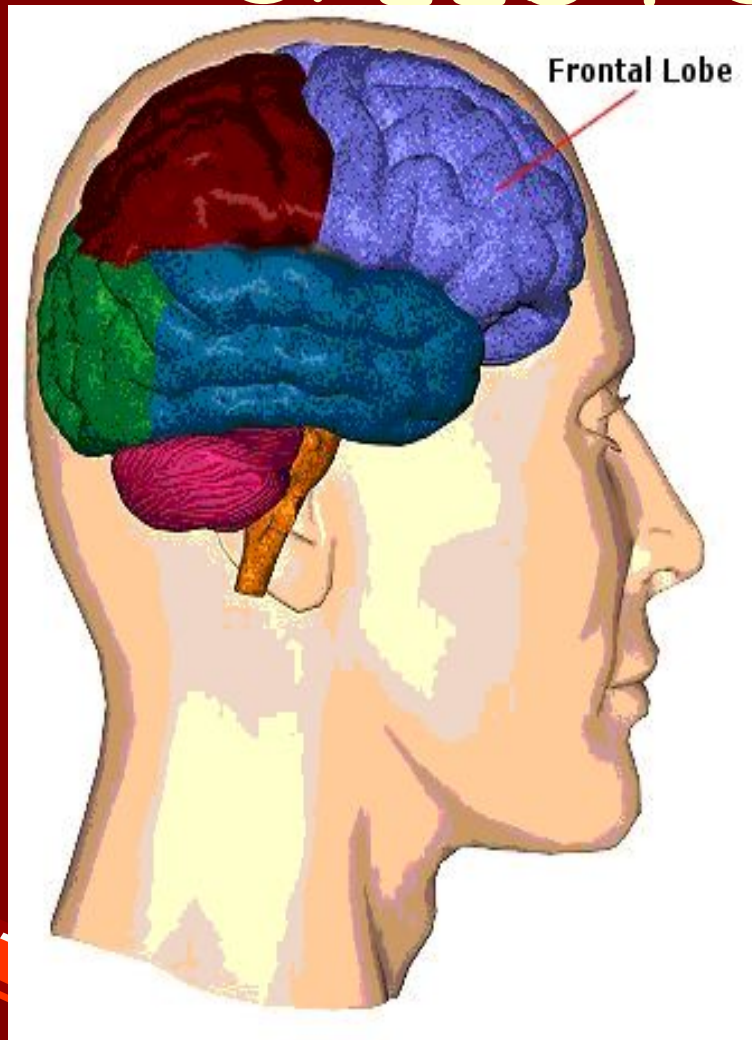
Psychological Issues



Recklessness and Risk-taking behaviour



SPEED FORMATION



SUBSTANCE ABUSE

Overindulgence in and dependence of a drug or chemicals



Alcohol Abuse



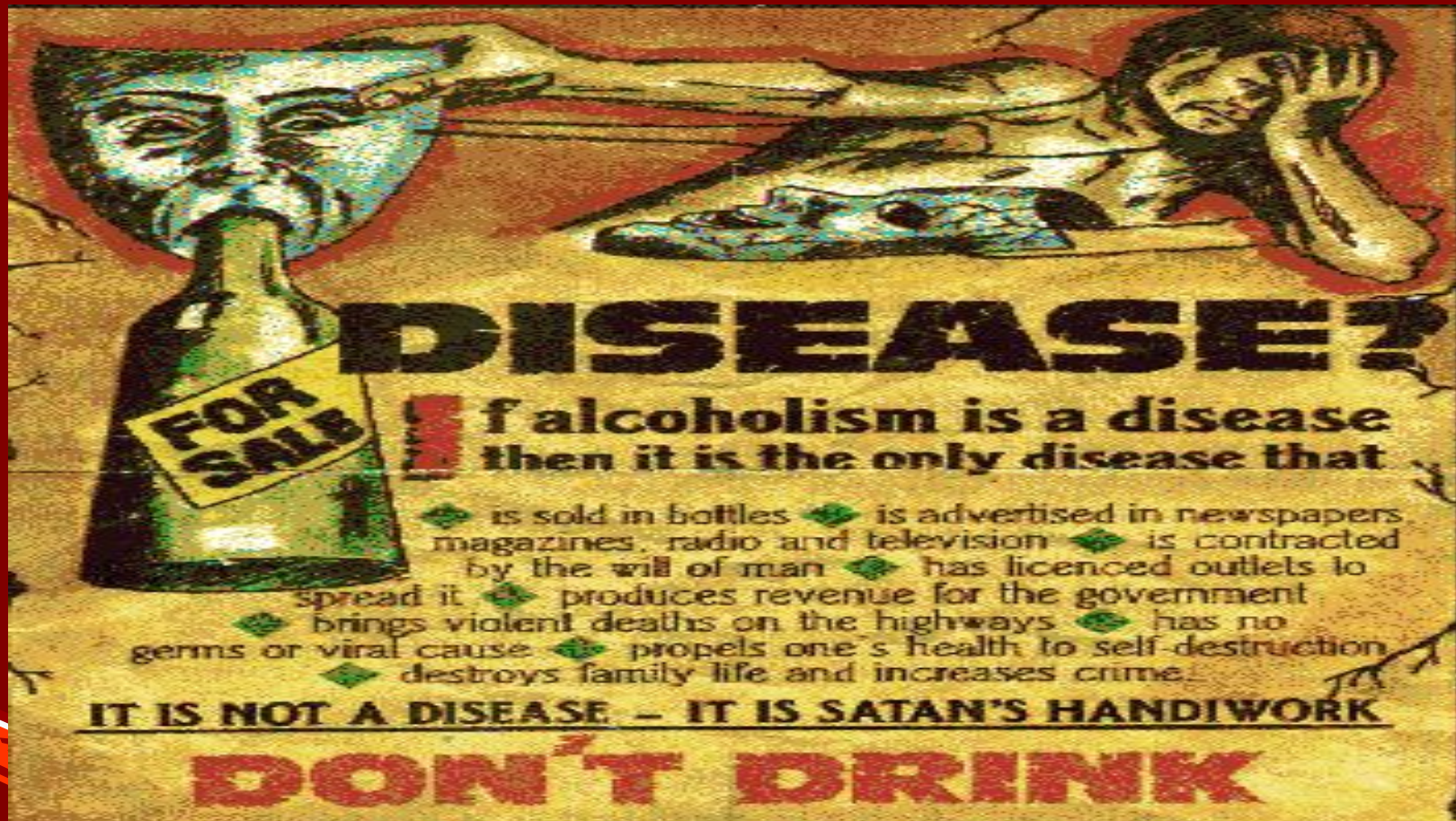
Focus

It is Drug Abuse!!



Alcohol tragedy

<http://www.youtube.com/watch?v=ZLbndJKMtCk>



Why teens start to take drugs?

- Curiosity and Experimentation
- Peer Pressure
- To Relax or to Have Fun
- Depression or Personal Problems
- Family Factors



Curiosity and Experimentation



- The desire to try something new, different
- Wanting to take risk



Peer Pressure



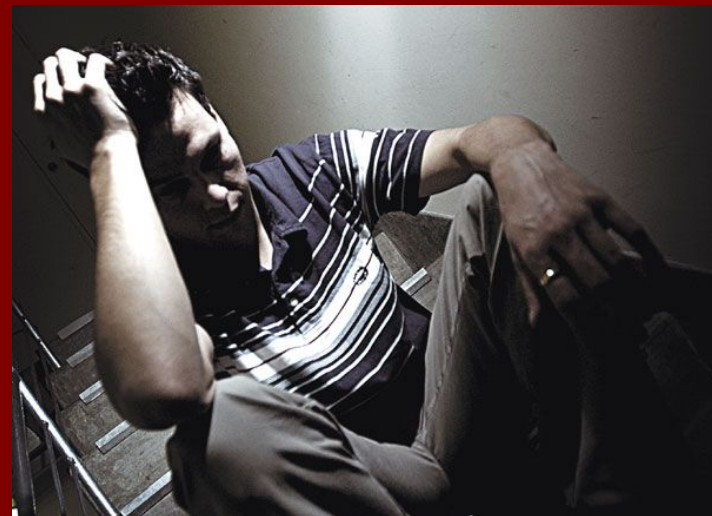
- "Most of my friends were doing it"
- Teens seek out friends who engage in similar activities
- Desire to feel a part of a group



Depression or Personal Problems



- To feel better
- To get confidence and self-esteem
- To escape from psychological or physiological pain.



Family and other factors

- Unhappy childhood
- Conflict with parents or teachers
- To rebel: Because parents said "NO"



Commonly used drugs

- Just 20% had tried cannabis
- Just 2% had tried amphetamines for non-medical reasons
- 6% had tried ecstasy
- 2% had tried inhalants (petrol, glue...)
- 2% had tried cocaine
- 0.3% had tried heroin

According to National Drug Strategy Household Survey of Australians aged 14-19 years, in 2007





Risk Taking in
Adolescence



Why Take the Risk?

- Adolescents take more risks than children or adults
 - *The crash rate per mile driven for 16-19 year-olds is 4 times the risk for older drivers.*
 - *Risk is highest at age 16.*
 - *The crash rate per mile driven is twice as high for 16 year-olds as it is for 18-19 year-olds.*

INSURANCE INSTITUTE FOR HIGHWAY SAFETY | HIGHWAY LOSS DATA INSTITUTE



Why Take the Risk?

- Adolescents and adults reason about risk in similar ways
- Educational interventions designed to change adolescents' knowledge have been ineffective

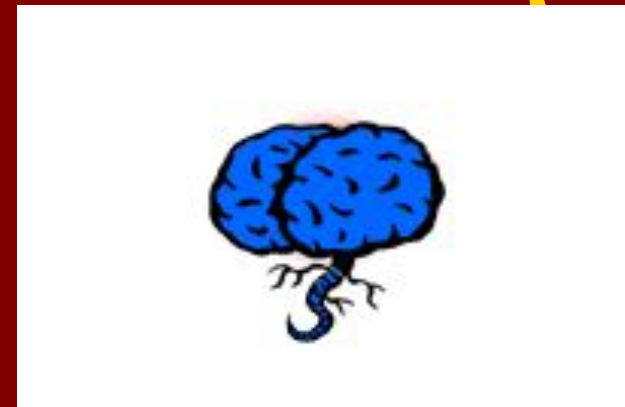


Why Take the Risk?

Evidence from Developmental Neuroscience



- Risk taking in adolescence is the product of the interaction between two brain networks:
 - Socioemotional Network
 - Cognitive Network
- Both mature during adolescence
- Different timetables



Why Take the Risk?

Socioemotional Network

- Sensitive to social and emotional stimuli
- Important for reward processing
- Localized in limbic and Para limbic areas of the brain, *an interior region that includes the amygdala, ventral striatum, orbit frontal cortex, medial prefrontal cortex, and superior temporal sulcus.*
- Becomes more aggressive
- Driven by puberty



Why Take the Risk?

Cognitive Network

- Functions such as planning, thinking ahead, and self-regulation
- Mainly consists of outer regions of the brain, including the lateral prefrontal and parietal cortices and those parts of the anterior cingulate cortex to which they are connected.
- Gains strength only gradually



Why During Adolescence?

- Teenagers spend so much time with their peers
- Presence of peers makes the rewarding aspects of risky situations more significant



Why During Adolescence?

- Preference for smaller immediate rewards over larger delayed rewards
- Immediate rewards are emotionally arousing
- There has been a significant drop in the age of Pubertal Maturation over the past 200 years



How to Reduce Risk-Taking?

- Raising the price of cigarettes
- More attentively enforcing laws governing the sale of alcohol
- Expanding adolescents' access to mental-health and contraceptive services
- Raising the driving age
- Parents should introduce their own restrictions





- Limit the hours teenagers are allowed to drive
- Limit passengers in the car with a teenage driver
- Beginning drivers get supervision behind the wheel.



Teen Behavioural Problems



- **Your Teen Seems To Hate You**
 - "...Part of adolescence is about separating and individuating, and many kids need to reject their parents in order to find their own identities."
(Nadine Kaslow)
- **Communication Devices Rule Their Lives**
 - "Being networked with their friends is critical to most teens." (Goldman)





- **Staying Out Too Late**
 - "Part of what teens do is test limits, but the fact is that they actually want limits, so parents need to keep setting them." (*Goldman*)
- **Hanging Out with Kids You Don't Like**
 - "Teenagers are so attached to their friends that it's like criticizing them directly." (*Bartell*)





- **Everything's a Drama**

- "What happens is that kids feel misunderstood, and eventually they will stop telling you anything..." (*Bartell*)





Teen pregnancies

Problems to Teen Mothers:



- Left out of crowds
- Likely to drop out of school
- Poverty
- Face unemployment
- Likely to face divorce

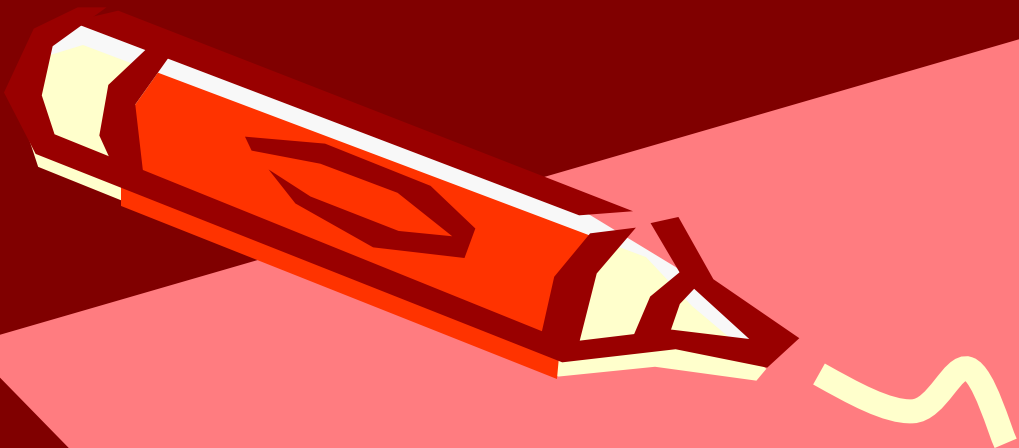


Affects the Babies Born:



- A former U.S. Surgeon General, Dr. M. Jocelyn Elders stated that, "ninety per cent of the young men in prison between [ages] 19-35 were born to teenaged mothers."





Letting out a secret

What girls like but they wont tell
boys



Girls like the chase:

- They like to be chased
- Don't be too obsessed with them
- Give them the feeling that your still interested in them



Talking opposites:

- Is they answer a question in a short phrase then there is a problem.
- Short phrase refers to "its okay" or "its fine".
- Learned response
- Done due to feeling of insignificance



Give them some time off

- They prefer it when you hang out with your "GUY" friends.
- Don't always stick to them.
- They want some time to be with their friends



They don't like it when you hang around their friends

- Fear that one of their dirty secrets might come out.
- Their friends might steal you away.
- And on the contrary would like to know your friends



Heightened jealousy

- They fear that you might cheat on them.
- They want to have other girls just because you can't have them.
- Don't compliment some other girl too much



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