**Chemistry 101 – Spring 2017**

**Current Events Articles**

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Drug Overdose on the Rise: <https://www.nytimes.com/interactive/2017/04/14/upshot/drug-overdose-epidemic-you-draw-it.html?rref=collection%2Ftimestopic%2FPrescription%20Drug%20Abuse&action=click&contentCollection=timestopics&region=stream&module=stream_unit&version=latest&contentPlacement=2&pgtype=collection&_r=0>

1. List the first three things that come to mind, that you know, about the topic before reading the article.
2. Heroin
3. Prescription Drugs
4. Club Drugs
5. What is the main problem explained in this article?

The number of annual drug overdoses has increased by over 500% since 1990. Researchers attribute the rise to an “increased availability of prescription opioids and…potent synthetics like fentanyl”. Because of its chemical reaction with the brain, fentanyl is 50 times more powerful than heroin and requires more frequent dosages to produce the same effect because of its short half-life in the body. For this reason, users often don’t realize how much they’ve taken until it’s too late and there’s a shorter period to help those who are struggling with addiction.

1. Discuss how science is being used to investigate this problem:
   1. Currently we are trying to treat the situation in a variety of ways including:

* Access to addiction treatment and medications:
* Tighter regulation of prescription opioids
* Needle Exchanges/Supervised Injection Centers
* Law Enforcement

One way in which science is playing a role in helping to battle the overdose crisis is experimenting with a variety of other drugs to either ween drug addicts off heroin/fentanyl or using drugs like naloxone as a fast-acting overdose antidote. Science has also conducted experiments like the “Rat Park” experiment where researchers looked at addiction within two populations of rats: those who were isolated and those who lived amongst other rats/had stuff to do. The study concluded that although both rats had equal access to heroin water and regular water, those who lived in Rat Park amongst other rats and lived a high-quality life did not become addicted. Studies like this help us to better understand how we can treat patients to avoid relapse.

* 1. Was the reader supplied this or any other *unbiased* background scientific knowledge?

The ways listed in bullets were supplied from the article. The study about Rat Park was from prior background in scientific knowledge.

1. Discuss how a citizen leader, such as yourself, can apply the information gained from the study to personal decision making.

Taking from what was learned in the Rat Park experiment, people often turn to drugs to fill a void, disguise their pain, or escape from reality. In making person decisions, choose what makes you the happiest. Keep yourself busy and find people who make you happy and enjoy the same things as you do. If you live a life that makes you feel whole you are much less likely to get addicted.

1. Discuss how a policy maker could apply the information gained from the study to policy making decisions.

As a policy maker, this should help you with both pre-and post-addiction. In the pre-addiction stage, you should be making your community more appealing by working on getting nice facilities/pathways/parks and creating social programs for members of the community to come out and interact with one another. As for post-addiction, you can see that recovery often works best through bonding with others and having a support system. Create programs where recovering addicts feel that they are a part of something bigger like community outreach or soup kitchens where they are surrounded by people and have a purpose to be there.