

A chimpanzee is the central figure, wearing a bright red long-sleeved sweater and brown trousers. It is sitting and looking directly at the camera with a calm expression. The background is a plain, light-colored surface.

# Do scientists treat animals with respect?

Lesson 1

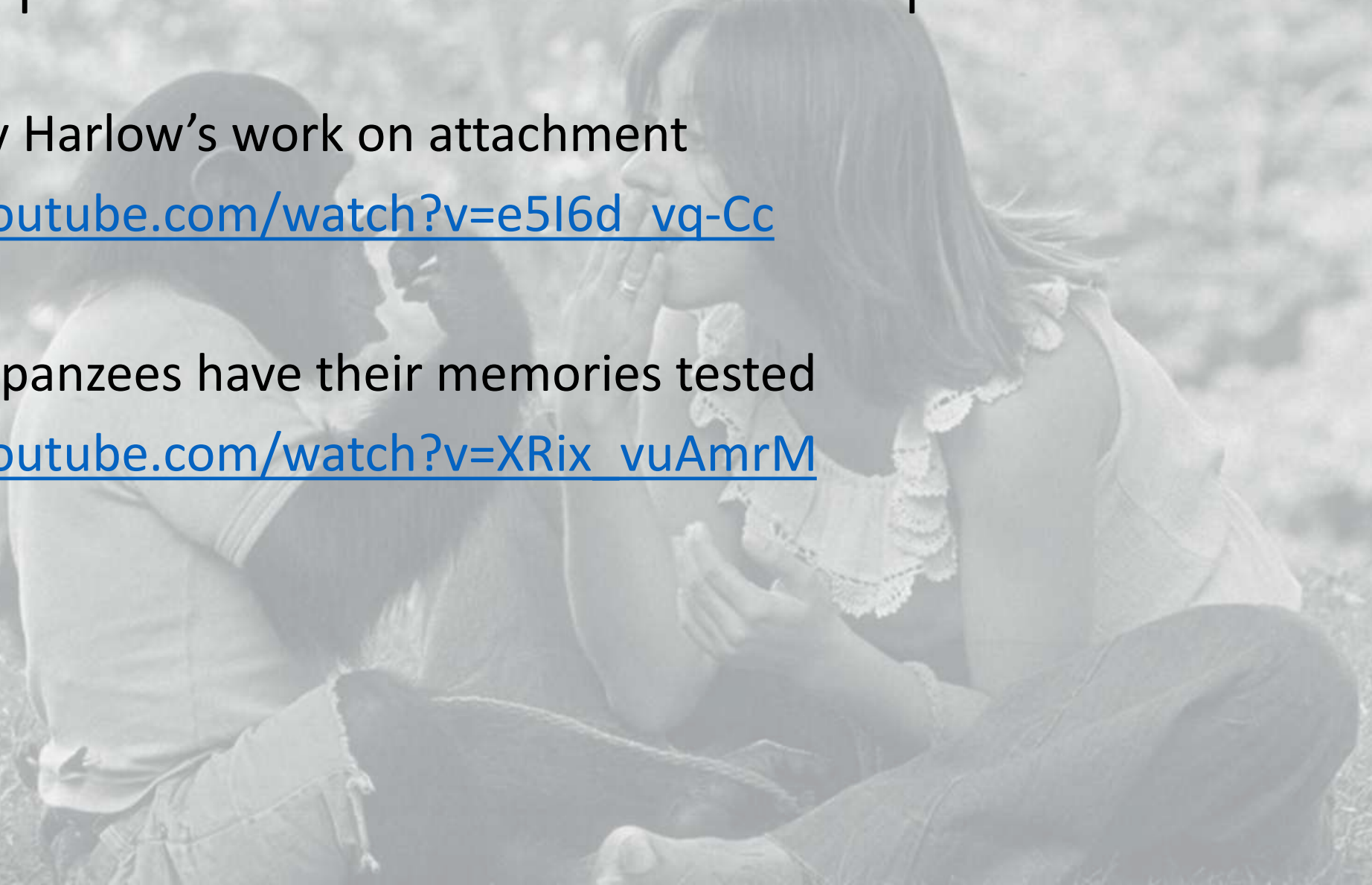
# Are these primates treated with respect?

Video 1 – Harry Harlow's work on attachment

[https://www.youtube.com/watch?v=e5I6d\\_vq-Cc](https://www.youtube.com/watch?v=e5I6d_vq-Cc)

Video 2 – Chimpanzees have their memories tested

[https://www.youtube.com/watch?v=XRix\\_vuAmrM](https://www.youtube.com/watch?v=XRix_vuAmrM)



# 1. Project Nim

Nim Chimpsky was the name given to a chimpanzee which was taken from its mother as an infant and raised in an American family. Nim was raised as a human would be and taught sign language. The experiment wanted to discover if a chimpanzee could learn to form full sentences on their own.

Unfortunately for Nim, the experiment was not particularly successful and he became so violent that he had to be moved to various care centres and he was never looked after particularly well. He could not form relationships with other chimps as he had grown up with humans instead.



- a) Was Nim treated with respect?
- b) In what way was Nim harmed?
- c) How could the experiment have been done without causing Nim any harm?

## 2. Chimpanzees used in cosmetic testing

Chimpanzees have been used regularly for cosmetics testing. This is to ensure that any cosmetics are not dangerous or cause any side effects.

The chimpanzees may have spent their whole lives in isolation, living in a cage and are exposed to potentially dangerous chemicals.



- a) What suffering might these chimpanzees have endured?
- b) Why do you think scientists chose chimpanzees to test on?
- c) Are these chimpanzees treated with respect?



### 3. Chimpanzees used to test for the HIV virus

In the 1980s the HIV virus spread across the world, killing thousands of people.

Originally, nobody knew why people were dying until French scientists isolated a virus they thought was causing the deaths.

To test that this was definitely the virus responsible, chimpanzees were injected with the virus and observed.

When the chimpanzees later died with symptoms of AIDS, scientists knew they had the right virus and could start developing treatments.



- a) What suffering might these chimpanzees have endured?
- b) Why do you think scientists chose chimpanzees to test on?
- c) Are these chimpanzees treated with respect?

# Rank the studies in the following order:



- a) The most distressing for the animals
- b) The most worthwhile research
- c) The least respectful

# Group task

In your groups,  
produce 2 rules that  
scientists must abide  
by when working  
with animals



# Individual task



The researchers we have looked at today are all planning on repeating their research.

You must write to them and explain one of the rules that the class has just discussed, explaining why it is important they follow this rule



# Optional homework

Research how animals were used to develop treatments for asthma or diabetes





# Do scientists treat humans with respect?

Lesson 2

On mini-whiteboards answer who you think the experiment is suitable for:

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above



# Testing a cancer drug that has vomiting as a side effect

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above



# Testing a cancer drug that has no side effects

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above





# Testing whether electric shocks increase concentration

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above



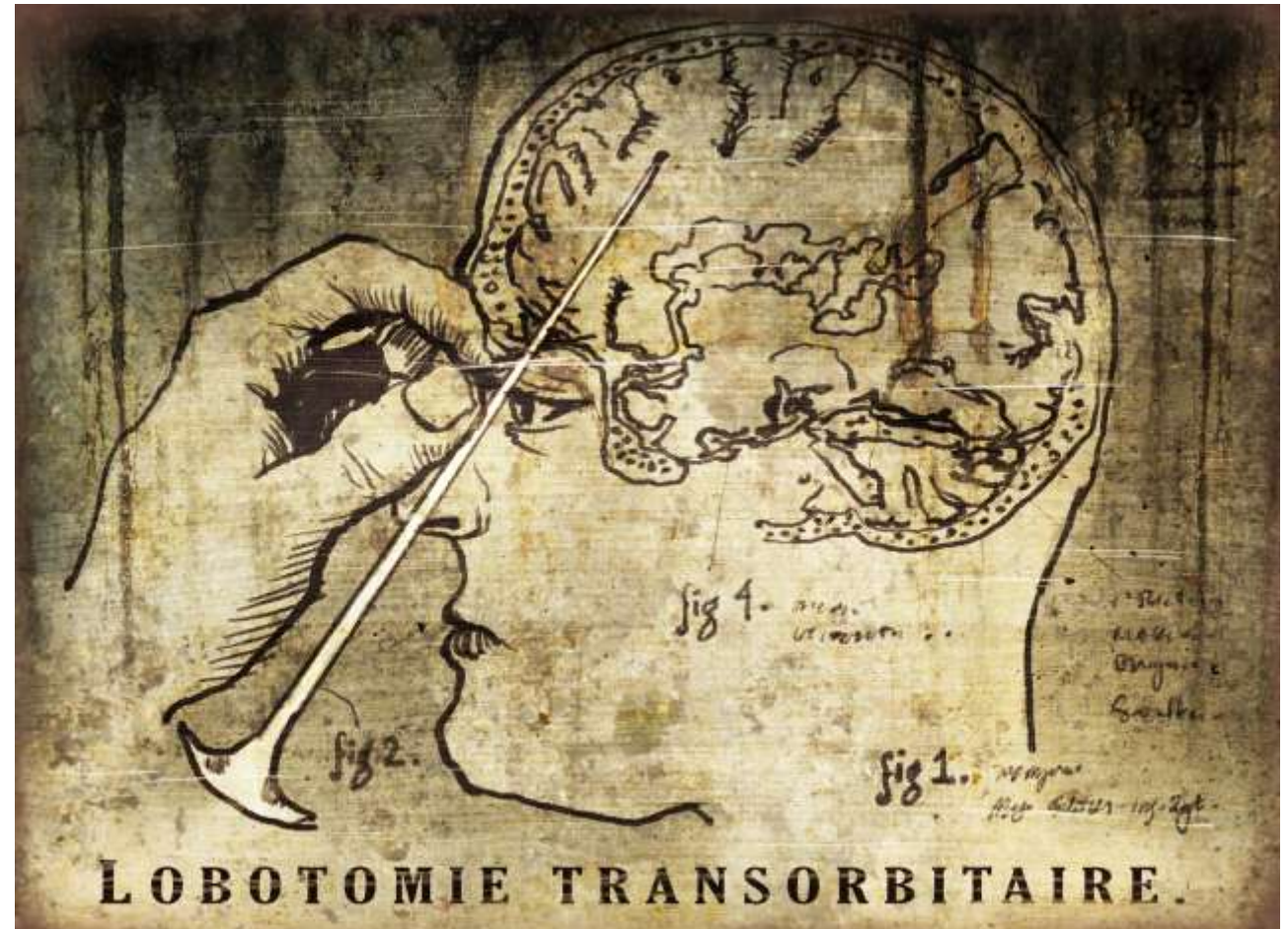
# Testing whether being raised in isolation leads to early death

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above



# Testing if removing parts of the brain lead to memory problems

- a) Humans
- b) Chimpanzees
- c) Rats
- d) All of the above
- e) None of the above



Describe in 3 words how Albert must have felt

<https://www.youtube.com/watch?v=FMnhyGozLyE>



The research suggests that phobias are learned through association.

Was this study worth the suffering that Albert endured?

# Feather phobia

<https://www.youtube.com/watch?v=IMZ5o2uruXY>



1. Was the treatment successful?
2. How did the treatment work?
3. Was the suffering Jackie endured worth it in the end?
4. The Albert experiment led us to understand how to treat Jackie's phobia. Does this justify Albert's suffering? Why/why not?



Dr. Roberts has developed a new drug to treat cancer. He is asking for 100 cancer patients to test his drug out on

Your job is to either:

- a) Write a request for access to the 100 patients, explaining that the potential side-effects of the drug could be outweighed by the treatment of cancer
- b) Write a letter to Dr. Roberts explaining why he will not be given access to humans until he can prove his drug will not harm them



# Peer assessment checklist

- a) Have they shown respect for the cancer patients?
- b) Have they justified their arguments?
- c) Have they communicated effectively?



# Optional homework

Research another way in which humans have participated in scientific research and explain why it can be justified



# How do scientific discoveries affect other people?

Lesson 3



# What are the symptoms of depression?

Work in pairs to list as many possible symptoms as you can





# How depression is classified

1. Sad/low mood
2. Loss of interest in usually pleasurable activities
3. Overeating/undereating
4. Too much/ not enough sleep
5. Problems concentrating
6. Loss of energy
7. Feelings of guilt
8. Change in activity level
9. Suicidal thoughts



# Mary has depression

Mary is 63 years old and has depression. She has had depression from a young age. She was raised in a poor family and had a troubled childhood, with an abusive father and an alcoholic mother who had symptoms of depression but was never diagnosed.

She has spent a lot of her life unemployed. She drinks alcohol excessively and has used recreational drugs for long periods of time.

When Mary was younger her boyfriend was killed in a car accident and she has never had a stable relationship since then.

She is now in poor health and her friendship group is very small.



# Harrington et al (1993)

A study done by Harrington and colleagues in 1993 found that people with depression have a 20% chance of having someone else in their family with depression.

People without depression have a 10% chance of having someone else in their family with depression.

What does this suggest about the possible cause of depression?



# Mary has depression

Mary is 63 years old and has depression. She has had depression from a young age. She was raised in a poor family and had a troubled childhood, with an abusive father and an alcoholic mother who had symptoms of depression but was never diagnosed.

She has spent a lot of her life unemployed. She drinks alcohol excessively and has used recreational drugs for long periods of time.

When Mary was younger her boyfriend was killed in a car accident and she has never had a stable relationship since then.

She is now in poor health and her friendship group is very small.



**How might Mary's children feel after hearing your conclusion?**

Read the following 5 conclusions. Choose one and explain who this conclusion may upset and why

1. Scientists have discovered that the HIV virus is more likely to infect homosexual males than heterosexual males
2. Scientists have discovered that females are more likely to suffer from depression than males
3. Scientists have suggested that males are more violent because they have higher levels of testosterone (a hormone linked to aggression)
4. Scientists have suggested that men who have observed their fathers abusing their mothers are more likely to copy this and abuse their wives
5. Scientists have discovered a link between playing violent video games and aggression



**Tamiflu®**  
Oseltamivir  
75 mg

Why is it important that  
scientists are honest?

Lesson 4

**Roche**

What are the odds on me getting 'heads' ten times in a row?



Why can I not say that I always get 'heads'?



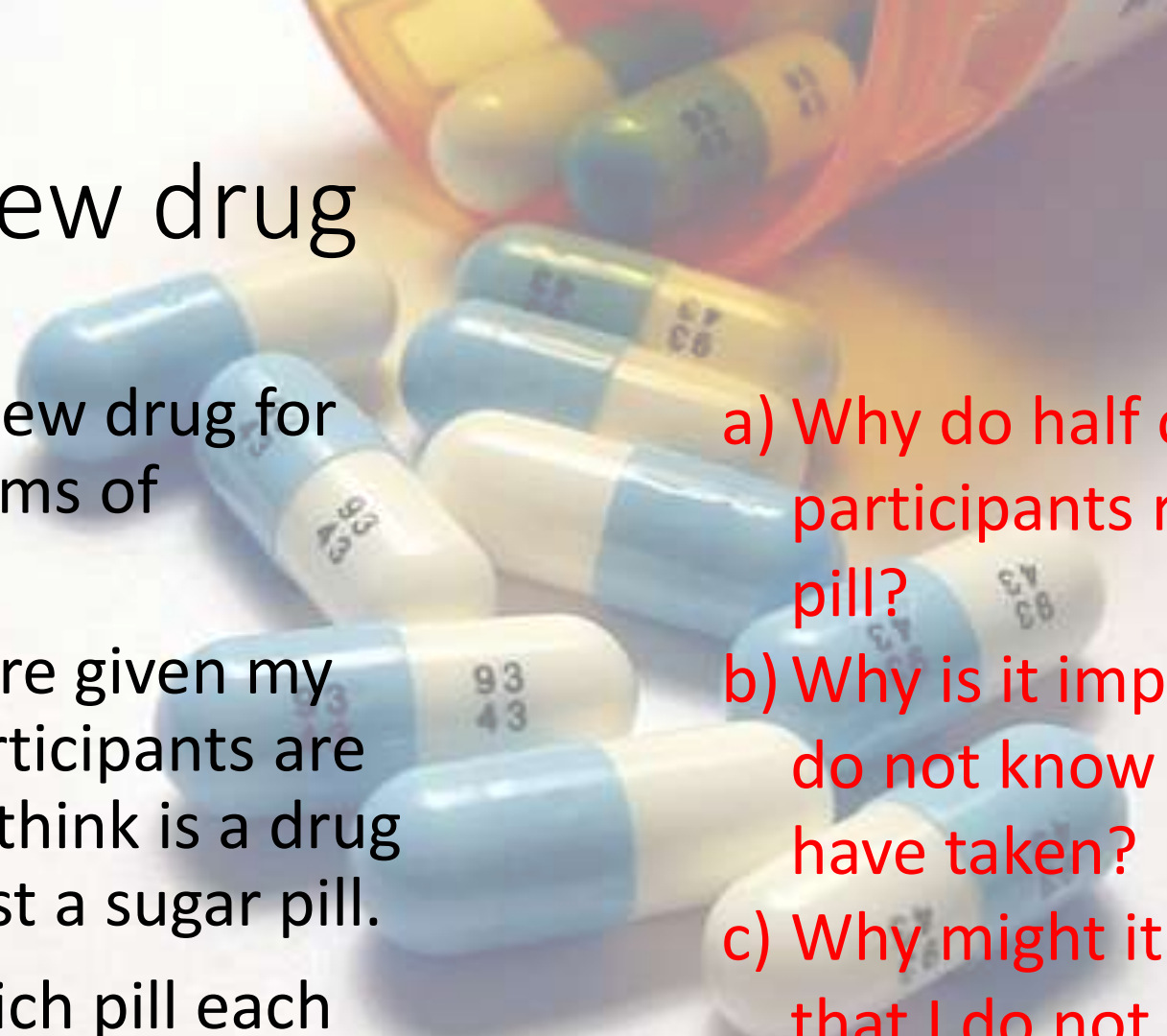
# Testing a new drug

I want to test a new drug for reducing symptoms of depression.

50 participants are given my new drug. 50 participants are given what they think is a drug but is actually just a sugar pill.

I am not told which pill each participant has taken. I measure their depression after 2 months

- a) Why do half of the participants receive a sugar pill?
- b) Why is it important that they do not know which pill they have taken?
- c) Why might it be important that I do not know which pill they have taken?



# Honesty in drug trials

<http://www.economist.com/blogs/graphicdetail/2015/07/daily-chart-other-placebo-effect>



# How does a lack of honesty affect:



- a) People needing the treatment for their depression?
- b) The NHS who have to purchase the depression treatment?
- c) The family of the people needing the treatment?
- d) The people who are selling the drug?

# What's the worst that could happen?

Imagine that the following scientific conclusions had been formed dishonestly. What's the worst that could happen and who would be affected?

- a) Fizzy drinks are bad for your teeth
- b) Breast milk is better for babies than formula
- c) Eating your 5 a day is good for you
- d) Asthma inhalers reduce asthma symptoms



Explain, using one of the examples above (or one of your own), why honesty is so important in science



# What makes a moral scientist?

Lesson 5



# On a post-it:

Describe someone who has strong morals and/or is a good person and one reason why you think this.

They could be famous or it could be somebody you know personally



# Are these scientists good people?

Project Nim researchers



John Watson

Harry Harlow

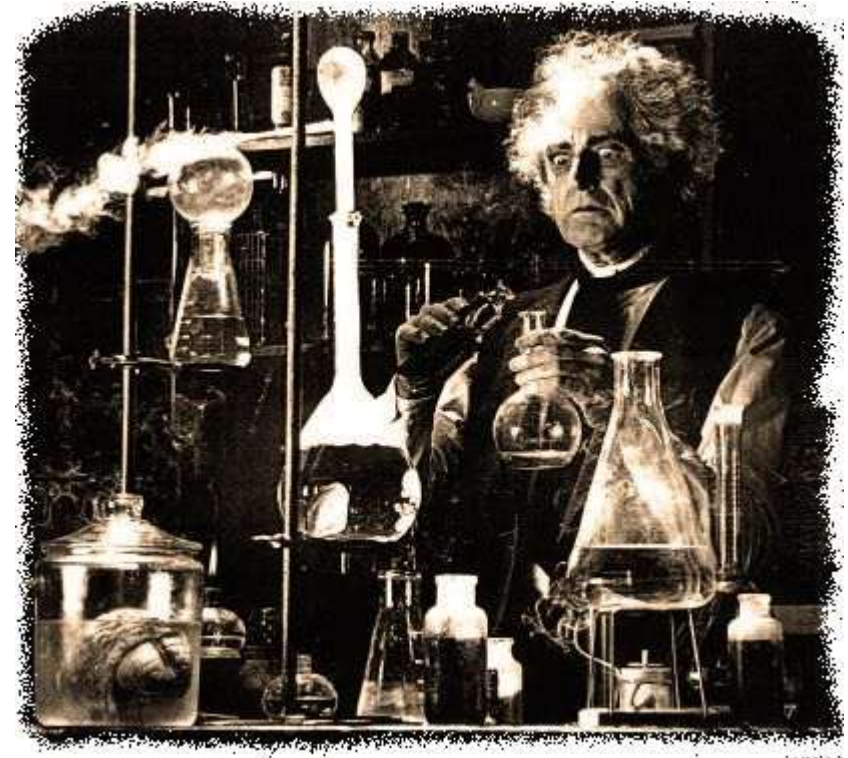


Antidepressant researchers



# What does a bad scientist look like?

In groups of 3-4, use sugar paper and pens to illustrate what a bad scientist looks like. Try to refrain from using any writing but use objects to symbolise why they are not good people (for instance a cold heart suggests it is someone who does not care for his participants)



If you're struggling you might want to add key words to the scientist to say what values they are lacking in and the consequences

# What does a good scientist look like?

This time, same groups, illustrate what a good scientist looks like. You might, for instance, give them a big heart to show they care for their participants



Why is it important that  
people who work in science  
have good character?