What does P2 stand for?
A. Population Pollution
B. Pollution Prevention
C. People Pollution
D. Pollution Patience

When was DDT first widely used?
A. WW1
B. WW2
C. Vietnam War
D. US Civil War

When was Agent Orange banned?
A. 50’s
B. 60’s
C. 70’s
D. 80’s

What are the effects of DDT on humans?

What are the different steps to Pollution Prevention and how does each step work?

Which of the following considered as the most toxic chemical?
a. Botulinum toxin
b. Atropine
c. Thalidomide
d. None of the above

How does DDT impact human?
a. Affect reproductive capabilities
b. Increase in spontaneous abortions
c. Messes with thyroid
d. All of the above

What are some ways to reduce the exposure of herbicides?

What are some differences between pesticides and herbicides?

1. How does the EDA determine toxicity level?

2. What are some issues with managing pollution?

3. Why was DDT and Agent Orange so useful? What were the effects on insects/plants,
and humans?

4. About how many synthetic chemicals have been banned since the 1950s?

1. A substance causing adverse effects in plants, animals, or humans, and impairs
functions is called?
a. Toxicant
b. Toxin
c. Poison

2. The best option for decreasing pollution is:
a. Disposal
b. Prevention
c. Recycling

1. Are toxins always avoided or are they sometimes beneficial in specific doses? Use an example to prove your point.

1. We looked at a few pesticides and herbicides including DDT, Agent Orange, Round-Up, and Atrazine. Pick the one you can argue is the most harmful and explain why. Include long-term/short-term effects in your discussion.

What is the name of Rachel Carson’s book that questioned the logic of broadcast spraying DDT when we didn’t really know the impacts?
a. Silent Spring
b. Quiet River
c. Dangers of DDT
d. Silent But Deadly

What is DDT? What is it used for?

Explain Chlorpyrifos, when and where they were used, who gets affected, and why it is so dangerous.

 1. What was the primary use of DDT?
a. Pesticide
b. Herbicide
c. Insecticide
d. GMO

2. Which of the following are NOT negative impacts of DDT?
a. Decrease in semen quality
b. Higher autism rates
c. Is passed from mother to child
d. Can cause infection

3. What war was Agent Orange heavily used in?

4. What were some of the health effects of Agent Orange?

What are characteristics of DDT?
1. Smelly, blue, tastes like oranges
2. Not effective on certain bugs
3. Colorless, tasteless, odorless

What factors affect toxicity?
1. Species
2. Gender
3. Age
4. Nutrition
5. All of the above

What does ADBE stand for?

Why are kids more sensitive to toxicity?

1. What does ADBE stand for?
a. Apples Don’t Belong at Events
b. Absorption, Distribution, Biotransformation and Excretion
c. Absorption, Dbsorptiion, Bbsorption, and Ebsorption
d. Absorption, Dispersal, Bioaccumulation and Excretion

2. What was DDT used for?
a. Killing plants
b. Killing animals and pests
c. Spraying humans for lice
d. B and C

3. What is the difference between a Toxin and Toxicant?

4. What are a few things individuals can do to Prevent Pollution?

• What is the half-life of DDT in human tissue?
o 22 days
o 30 years
o 6-10 years
o 10-15 years

• What is the best way to lower pollution?
o Treatment
o Disposal
o Reuse
o Prevention

• What is DDT?

• Explain the process and options for waste management. (Reuse to disposal)

● What does ADBE stand for?

● What is the most widely used herbicide in the US?

● Choose a toxin. Describe its potential benefits and risks, and determine if
the benefits are worth the potential risks.

● What are the effects of DDT on humans?
○ Birth defects
○ Possibly higher autism rates
○ Thyroid issues
○ All of the above

● True or False: Agent Orange was a pesticide used in the Vietnam War

1. What was used to kill insects and also won Paul Muller a Nobel Prize?
a. DDT
b. AO
c. DEA
d. EPA

2. Who suffers the most due to bioaccumulation?
a. Herbivores
b. Carnivores
c. Top Predators
d. Zooplankton

3. Explain the difference between a herbicide and an insecticide.

4. Why is it so hard to blame DDT, Agent Orange, or any other chemical for long term issues, like cancer?

1. What was the major pesticide used from the 1950s to 1970s
a. Round Up
b. Agent Orange
c. Chlorine Gas
d. DDT

2. What was the major herbicide used in the Vietnam War
a. Chlorpyrifos
b. Agent Orange
c. Water
d. DDT

3. Why is it so hard to get compensation for harm caused by pollutants?

4. Explain how symbiotic industry can reduce pollution such as the case in Kalandborg Denmark.

Which pesticide did Paul Muller receive a Nobel prize for following his discovery of its insecticide usage in 1939?
a). Agent Orange
b). DDT
c). Chlorpyrifos
d). Glyphosate (Roundup)

Which of these pesticides/herbicides biodegrades the fastest?
a). DDT
b). Chlorpyrifos
c). Glyphosate (Roundup)
d). Atrazine

When it comes to the ADBE, a toxin is stored somewhere and harder to excrete if it is \_\_\_\_?

Why are kids typically more sensitive to these more hazardous chemicals?

What was “Silent Spring” written in protest about?
a. America’s lack of clean air and water due to pollution
b. The horrific accident at Bhopal caused by Union Carbide
c. DDT’s effects on the environment
d. The toxic effects of improper nuclear waste disposal

How much of the entire country of Vietnam was ultimately sprayed with Agent Orange?
a. 1%
b. 5%
c. 50%
d. 12%

Why is Roundup the most widely used herbicide in America?

Why do bioaccumulative products seem to only start showing up in apex predators? Consider multiple explanations of this issue.

Paul Muller discovered a great use for \_\_\_\_\_\_\_, it was thought to be so great that it even won him a Nobel prize.
• Nitroglycerine (Dynamite)
• Agent Orange
• Glyphosate (Round Up)
• Dichlorodiphenyltrichloroethane (DDT)

This chemical was used during the Vietnam War, under the operation name “Ranch Hand.”
• Dichlorodiphenyltrichloroethane (DDT)
• Neonicotinoids
• Agent Orange
• Chlorpyrifos

Briefly describe the difference between Acute Toxicity and Chronic Toxicity. Provide examples.

Describe Pollution Prevention (P2) based on the sections that were covered in class. Reuse, Treatment, and Disposal. Provide some examples for each section.

Fill in the blank: “\_\_\_\_\_ is best, \_\_\_\_ is worst.”
a) Prevention, disposal
b) Disposal, prevention
c) Recycling, disposal
d) Burning, reusing

Who wrote Silent Spring in 1962?
a) Rachel Carson
b) Rachel Smith
c) Jane Austen
d) Charles Dickens

Give an example of pollution prevention.

What is DDT and why is it so harmful to the environment? What was it commonly used for?

What was the chemical widely used to kill insects and thought to be harmless to humans?
- DDT
- Roundup
- 2,4D

What is Agent Orange most known for?
- Clearing the lawn of weeds for a dinner party
- Making sure you roses are blooming
- Clearing the jungles of Vietnam to eliminate cover for Guerillas forces

What is the chemical name for Round-up?

Is the damage done from chemical solutions worth the potential harm?

1) What does biological magnification of DDT in a food chain look like?
a) Since DDT accumulates in fatty tissues of organisms, when these organisms are
consumed DDT is transferred in higher concentrations up the predator hierarchy
b) DDT slowly builds up more and more in an environment, thereby magnifying in
volume and impact
c) As insects build up resistance to DDT, it takes more and more DDT to kill them
d) We actually don’t know! – Rachel Carson theorized in her landmark book An
Inquiry into the Nature and Causes of Wealth, that only the 2nd law of
thermodynamics can predict the entropy of tectonic plates.

2) What is typically the fastest way chemicals are absorbed into the body?
a) Transdermal (skin)
b) Ingested
c) Inhalation
d) Transkerrite (hair)

1) Why are kids more sensitive to pollution?

1) Should DDT continue to be used in poor areas where it saves many lives each year from malaria, even though it wrecks and lingers in the environment for many years?

What was DDT advertised as, and how did it alter the health of others?

What was the initial intent for Agent Orange?
a. Getting your noisy neighbor to move
b. To make the best Orange Juice
c. Spraying enemy crops
d. Encourage plant growth

Which of these are NOT a toxin?
a. Alcohol
b. Ricin
c. Carbon Monoxide
d. Chocolate

How can the body excrete toxins? Give at least two.