

Pain in the Drain Lesson Plans

Overview:

The following lessons involve three short video clips and discussion, writing, and extension activities to accompany the clips. They could be done as three short lessons (about 30 minutes each), and the extension activities could potentially fill five more sessions if you choose to do them all.

3rd Grade English Language Arts (ELA) Standards for Nevada's Criterion Reference Test (CRT):

- 3.3.1 → Setting and Plot:
1. Describe the setting, sequence of events, conflict, and resolution.
 2. Identify how one event may cause another event.
 3. Make inferences and draw conclusions about setting and plot based on evidence.
- 3.3.2 → Characterization:
1. Describe physical and personality traits.
 2. Describe the motivation for a character's actions.
 3. Make inferences and draw conclusions about characters based on evidence.
- 3.3.3 → Theme:
1. Explain the main idea supported by evidence.
 2. Identify a lesson learned based on events and/or a character's actions.
- 3.3.8 → Predictions
1. Make and revise predictions based on evidence.

Achievement indicators for Science, Nevada (Grades 3-5)

Content Standard P5A: Students understand properties of objects and materials.

P5A1 → Students know matter exists in different states (i.e., solid, liquid, gas) which have distinct physical properties.

P5A2 → Students know heating or cooling can change some common materials, such as water from one state to another.

Content Standard L5C: Students understand that there are a variety of ecosystems on Earth and organisms interact with their ecosystems.

L5C2 → Students know organisms interact with each other and with the non-living parts of their ecosystem.

L5C4 → Students know all organisms, including humans, can cause changes in their environments.

Materials Needed:

TV and DVD player (if using DVD with video clips)

Computer with internet connection (if using website link)

Paper

Pen/Pencils

Drawing materials (extension activity only)

To request fun prizes for your class, such as temporary tattoos of characters, email

ichadburn@cleanwaterteam.com

Lesson 1

Before watching 'Prologue, Here Comes the FOGG,' discuss the following as a class:

<http://www.paininthedrain.com/cartoons.aspx>

1. What are some things that should not go down the drain?
 - a. Possible answers: hamburger grease, coffee grounds, banana peels, cooking oil
2. What problems could these things cause?
 - a. Possible answers: get caught in pipes under sink, clog the lateral sewer lines from your house, back up main sewer lines under streets, cause sewage overflows (sewage from underground backs up into the streets), get caught in equipment at the treatment plant
3. Where do you think things that go down the drain end up?
 - a. Possible answers: Away, into the ground
 - b. Actual answer: The drains in houses empty into small 'lateral' pipelines that empty into larger sewer lines buried beneath the streets. The dirty water then travels through miles of pipe (by gravity flow) before it gets to one of several treatment plants throughout the Las Vegas Valley. Occasionally, the water is pumped from deep pipes up to shallower pipes so it can again flow with the help of gravity.
4. In addition to the kitchen sink, what are some other ways things get into the sewers?
 - a. Answers: Shower, toilet, dishwasher, storm drains in street.

After watching 'Prologue, Here Comes the FOGG,' discuss the following as a class:

1. What does FOGG stand for?
 - a. Fat, Oil, Grease, Grit
2. What were some of the physical characteristics of each character?
3. What are some personality traits of the characters?
4. Where do the FOGG villains live? What is the setting? How do you know?
 - a. Las Vegas, Oil mentions Eastern Avenue
5. Who is the leader of FOGG and what is the gang's motivation?
 - a. Oil, he wants the villains to get people to dump FOGG down the drain to cause sewage backups and overflows.
6. What kinds of food have FOG or G in them?

- a. Possible answers: Hamburger meat, salad dressings, butter, eggshells, coffee grounds, meat trimmings, gravy, mayonnaise, paper towels, napkins

Lesson 2

Before watching 'Episode 1: The Fall of Fat,' discuss the following:

<http://www.paininthedrain.com/cartoons.aspx>

1. What is a protagonist?
 - a. A hero in a story.
2. What is an antagonist?
 - a. A bad guy in a story.
3. What is alliteration?
 - a. A poetic or literary effect achieved by using several words that begin with the same or similar consonants, as in "What in the world was Willie Wonka wearing?"
4. Give students time to write an alliteration of their own, and share some of them with the class.
 - a. Tell students to listen for the alliteration in Episode 1 and try to write it down when they hear it.

After watching 'Episode 1: The Fall of Fat,' discuss the following questions:

1. Who was the protagonist in this episode?
 - a. Captain Canit!
2. Who is the antagonist in this episode?
 - a. Fat
3. What was the conflict in episode 1?
4. What was the resolution?
5. What lesson did Grandma learn?
6. What was the alliteration used?
 - a. Freakishly filthy form of flab.
7. Summarize the steps to properly dispose of fat.
 - a. Put newspaper in a can (don't steal the newspaper!)
 - b. Pour the fat into the can
 - c. Wait for the fat to harden
 - d. Throw away the newspaper and fat
8. Who should handle hot fat from the stove and why?
 - a. Adults, it is very hot and can badly burn skin if spilled.
9. Fat tried to tell grandma it would be alright to pour the fat down the drain as long as she ran hot water down after it. Why isn't this true?
 - a. Eventually the fat will cool and harden. Wherever this occurs, it will no longer be able to flow with the rest of the wastewater and instead will stick to the inside of the pipes.
10. How could this (9a) eventually lead to a sewer blockage/overflow?
 - a. The hardened grease gets thicker and other debris sticks in it, causing a blockage.

11. How could this (10a) negatively affect the environment?
 - a. A sewer overflow causes raw sewage to flow into the streets, exposing animals and people to harmful pathogens (harmful microscopic particles/bacteria).
12. Summarize the events from episode 1
13. What was the main idea of episode 1?
 - a. Don't pour fat down the drain.
14. Do you think captain Canit has seen the last of Fat? Why or Why not?

Episode 1 Extension Activities:

1. Episode 1 dealt with fat from cooking hamburger meat. Have students look at the labels on the food in their lunches, or bring something from home with nutrition information on it.
 - a. What types of food have the most fat in them?
 - b. Can you calculate how many grams of fat are recommended in a day?
2. Create a superhero (or other character) like Captain Canit that helps the environment.
3. Writing scenario:
 - a. You are at a friend's house for dinner and you're having spaghetti with meatballs. After cooking the meatballs, you notice the grease got poured down the drain. How would you explain to them that they should not have done that? What would you suggest they do next time instead?

Lesson 3

Before watching 'Episode 2: Oil's Spoiled Holiday,' discuss the following:

<http://www.paininthedrain.com/cartoons.aspx>

1. Review the terms protagonist, antagonist, and alliteration.
 - a. Protagonist: The good guy in a story
 - b. Antagonist: The bad guy in a story
 - c. Alliteration: a phrase that uses several words which begin with the same letter
2. Review what FOGG stands for
 - a. Fat, Oil, Grease, Grit
3. Why might FOGG be busy on Thanksgiving?
 - a. Big meals being cooked. Food could contain FOGG.
4. Ask some students to share some of their family's thanksgiving traditions. Specifically, do they know how their parents cook their turkey?

After watching 'Episode 2: Oil's Spoiled Holiday,' discuss the following:

1. Who is the protagonist in episode 2?
 - a. Captain CanIt
2. Who is the antagonist in episode 2?
 - a. Oil
3. What was the conflict in Episode 2?

4. What was the resolution?
5. What was the alliteration used in episode 2?
 - a. slimy sinister son of a slick...sorry you sip
6. What lesson did the dad learn in episode 2?
7. What is the proper way to dispose of oil after deep-frying something?
 - a. Wait for the oil to cool
 - b. Put newspaper under the original container
 - c. Put a funnel in the container and pour the oil back into the container
 - d. Cap it and return it to one of several recycling points around the valley.
8. The oil can be turned into fuel. Why is this important today?
 - a. Gas is expensive
 - b. Good for the environment
9. What are some similarities/differences between episode 1 and episode 2?
10. What was the main idea of episode 2?
11. What is the website you can visit to watch these episodes and get more information from the Clark County Water Reclamation District?
 - a. www.paininthedrain.com

Episode2 Extension Activities:

1. Writing scenario:
 - a. Write another adventure for Captain CanIt.
 - b. Write about something you are thankful for.
2. It says in Episode 2 that used oil can be made into fuel. As a class, research this process.

For more classroom activities, including a word find, crossword puzzle, and coloring pages, visit <http://www.paininthedrain.com/tools.aspx>