Student Drivers - Driving question boards empower students to figure out what they really need to know and how they will get there

I noticed...

Why did...

I Wonder...

How often does...

What if...
You can find more storylines and the storyline tools at:
http://www.nextgenstorylines.org

You can find lots of examples of work in our classrooms on Twitter:
Holly Hereau @hhereau
Wayne Wright @wewright1234
Why do dead things disappear over time?
Predictions

- DRAW
- What will this look like in 2 weeks?
- What will this look like in 2 months?
Examples of Student Predictions

Q1. Draw and label your predictions of what you think the raccoon and the surrounding area will look like over time.

What will happen to the raccoon?

**Lesson 1 - Student Activity Sheet**

<table>
<thead>
<tr>
<th>Name:</th>
<th>Date:</th>
</tr>
</thead>
</table>

**Name:** [Student's Name]  
**Date:** [Date]

**What will happen to the raccoon?**

**Raccoon after 2 days:**
- [Student's drawing and text]

**Raccoon after 2 weeks (34 days):**
- [Student's drawing and text]

**Raccoon after 2 months (60-80 days):**
- [Student's drawing and text]

**What will cause it to look this way?**

- The raccoon looks like that because... (Student's explanation)
- The raccoon bones are growing because the other animals were eating the raccoon and had open the raccoon skin.

**What will cause it to look this way?**

- The raccoon is gone and there are nothing but the bones because the skin have decomposed.

**What will cause it to look this way?**

- [Student's drawing and text]
What do we Notice/ Wonder?
Driving Question Board
Why did this dead thing disappear?

Day 1
Day 5
Day 9
Driving Question Board in Lynda’s Class
Examples of Questions

- What are those insects doing on the carcass? Where did they come from?
- What happens to all the parts of the badger like the inside muscles and organs, fur, and bones?
- Do some parts of the badger go into the soil? Does some get washed away? Does it get eaten etc.?
- Is this the same thing that happens to leaves, or fruit or wood when it rots?
- How do new plants grow from parts of plants that seem like they are dead?
Questions paired with phenomena leads to more questions.
Anchoring Phenomena
Having the END in Mind!

What do you want students to produce?
The Driving Question Board
Not about how it looks but how it is used!
Initial Questions vs. Driving questions

What about parking lots?
Initial Questions

1) Questions on Bacteria + Antibiotics
   - How do antibiotics work?
   - Why not give them all at once?
   - Are there other ways to kill bacteria?

2) Questions on Bacteria + Antibiotics
   - How common are antibiotics in use?
   - How are antibiotics used in treatment?

3) Bacteria
   - How long has this been going on?
   - What type of antibiotic did they give?

4) Antibiotics
   - How do antibiotics work?
   - Why not give them all at once?

Driving Questions

Frustration
Driving Question Boards
Determining how to answer the questions
Students Figure it out

NATIONAL SUMMARY DATA

Estimated minimum number of illnesses and deaths caused by antibiotic resistance:

At least 2,049,442 illnesses, 23,000 deaths

*Bacteria and fungus included in this report

Estimated minimum number of illnesses and death due to *Clostridium difficile*, a unique bacterial infection that, although not significantly resistant to the drugs used to treat it, is directly related to antibiotic use and resistance:

At least 250,000 illnesses, 14,000 deaths

WHERE DO INFECTIONS HAPPEN?

Antibiotic-resistant infections can happen anywhere.

Abstract

Objectives:
Our goal was to determine the diversity and abundance of *Staphylococcus* bacteria on different components of a public transportation system in a mid-sized US city (Portland, Oregon) and to examine the level of drug resistance in these bacteria.

Methods:
We collected 79 samples from 2 cm x 4 cm sections from seven different areas on buses and trains in Portland, USA, taking 10 samples from each area. We isolated a subset of 14 suspected *Staphylococcus* spp. colonies based on phenotype, and constructed a phylogeny from 16S rRNA sequences to assist in identification. We used the Kirby-Bauer disk diffusion method to determine resistance levels to six common antibiotics.

Results:
We found a range of pathogenic *Staphylococcus* species. The mean bacterial colony counts were 57,14, and 80 cm² on bus and train floors, 85 cm² in cloth seats, 0.5 cm² on handlebars, 8.5 cm² on seats, and 8.6 cm² on armrests at bus stops, 3.6 cm² on the underside of seats, 2.2 cm² on window, and 1.9 cm² on vinyl seats per 5 cm² sample area. These differences were significant (p < 0.001). Of the 14 isolates sequenced, 11 were...
Students Figure it out and keep track of it.
Call To Action