

## *Building a Just and Sustainable World*

### EDUCATION CONNECTION | VISUAL LEARNING

Images, photos, and pictures stimulate the mind. For the viewer, they offer a chance to connect and question. They also offer potential for play and imagination, and pulling the observer into purposeful messages.

Most often, newspaper and magazine readers quickly glance at photos and their captions. With this YES! lesson plan, you and your students can pause to truly understand an image, its message, and why it's interesting (or not).



# Between the Devil and the Deep Blue Sea

### Step 1: What do you notice?

Ask your students to make sense of the photograph by trusting their instincts of observation and inference. In doing so, the image offers possibilities and interpretations beyond a typical reading where the reader glances at a photograph to reinforce its title or caption. Do not introduce any facts, captions, or other written words.

In response to the question, “What do you notice?” you may hear: *straight and curvy black lines, red and brown earth, desert landscape, lanes of white, blue, and green.*

### Step 2: What are you wondering?

After you’ve heard your students’ first observations, you may hear a peppering of questions: *“Is the blue water? Is it photo-shopped? Is this stained glass? What do the black lines separate? What’s coming out of the blue sections? What is a man-made structure doing in this natural landscape?”*

This is a good time to reveal the photo’s caption and other information about the photo (below). Watch how the conversation shifts from what they believe to be true to discerning the facts about the photo.

### Photo caption

Aerial view of evaporation ponds at the Potash Plant near Moab, Utah. Salts are mined and pumped up from deep below the surface, and the solution is concentrated in these evaporation ponds. Potash is extracted and is used mainly as a chemical fertilizer.

“Evaporation Ponds,” photo by Jesse Varner, Flickr.

### Photo facts

- Potash is a type of salt containing the mineral potassium. The name comes from “pot ash,” which refers to plant ashes soaked in water in a pot, the primary method of production before the industrial era. The word “potassium” is derived from potash.
- Many say the name Moab comes from the Biblical land of Moab, in present-day Jordan. The name may also come from the Paiute word “moapa,” meaning “mosquito.”
- Potash is often mined using solution mining, pictured in this photo. Holes are drilled into the earth and water (in this case, from the Colorado River), and is pumped down to dissolve the potash ore. The mixture is pumped back to the surface into evaporation ponds, and dyed bright blue to accelerate the process. After 300 days, the crystallized potash is processed for distribution.
- Canada produces 50 percent of the world’s potash, while the U.S. produces one percent. These 970,000 tons come almost entirely from New Mexico and Utah. Global potash demand is met by 12 producing countries. Of all potash produced, 95 percent goes to chemical fertilizer for agriculture. The other 5 percent is used in various products including soap, batteries, and fire extinguishers.

### Step 3: What next?

1. Tourism in and around Moab, Utah (including two national parks) provides 70 percent of the county’s jobs. Additionally, coal, natural gas, and mineral resources like potash attract industry to the area. We need oil, and gas, and potash for fertilizer. We need wild places to connect with nature. Can we have it all?
2. Dye similar to food coloring is used to color potash evaporation ponds. An English candy company removed its blue Smarties from stores because of concerns that artificial coloring may be linked to attention deficit disorder, while scientific studies promise that such coloring is safe. What colored food do you eat? How often (if at all) do you read the ingredients of food products?
3. Lobbying means trying to influence government leaders to create legislation that will benefit a particular organization. Last year, the potash mining industry spent \$80,000 on government lobbying. The oil and gas industry spent \$100 million. Environmental organizations employ lobbyists. Citizens—like you—can lobby. Why does lobbying have a negative reputation—often affiliated with manipulation and bribery? Can citizens be as effective as paid lobbyists?
4. Kronau, Saskatchewan sits on a bed of potash. A project to mine this potash is in its final stage of planning. Construction could start in 2016. Mining will bring many jobs and people to this hamlet of 258 residents. What are the benefits and dangers of this industry boom to small towns like Kronau? Will life be better—or worse?