

**Lesson #4 Jigsaw Activity:**

**What is industry doing to improve water recovery and water quality?**

Introduction: All industry in Alberta requires the use of water. As citizens, it is important to know the answers to the following questions: How is it used? Where does it go? How is it cleaned? And how is it returned? Who is making sure they are doing what they are supposed to be doing (monitoring them)? What is often upstream (where does the water come from) and downstream (where does the water go to)? Hand out the worksheet before dividing students into groups.

Step 1: Give each student a number from 1 to 6. Have all students with the same number gather in different locations around the classroom to work together. Each number will correspond with the industry their group is responsible for. Emphasize that ALL group members must have their work complete by the end of the time slot, as they will be that industry expert when they regroup with other students later.

1. Oilsands
2. SAGD
3. Farming (grain & cattle)
4. Forestry
5. City/town use
6. Tourism

All group members must have their sheet completed before moving to the next group. Remind students that they will now become the only expert in their group!

Step 2: In each expert group, give each student one of the following colours: red, orange, yellow, green, blue, purple. Have all students in that colour gather together in various locations around the classroom. There should be one expert from each industry in each group.

Expert Group #\_\_\_\_ Industry Assigned to Study: \_\_\_\_\_

|  | <b>Answer</b> | <b>Source:</b><br>name, date,<br>URL |
|--|---------------|--------------------------------------|
| Where in the province of Alberta, is your industry located?                |               |                                      |
| What product does your industry produce?                                   |               |                                      |
| What is water used for?  |               |                                      |
| How much water is used each day/year, etc.                                 |               |                                      |
| Where does the water come from?  |               |                                      |
| Does it all get returned? How much?  |               |                                      |
| What happens to the water that is not returned? (matter cycles)            |               |                                      |
| How is the water cleaned before it is returned?                            |               |                                      |
| Who is monitors this industry?   |               |                                      |
| What is often upstream (where does the water come from, and who is there)? |               |                                      |
| What is downstream (where does the water go to)?                           |               |                                      |

As a group answer the following questions:

- What surprised you about this industry?
  
- What do you think needs to be improved with your industry? How?
  
- As a citizen, are you satisfied with your findings? Explain.
  
- Does returning the water in a reasonable way hurt or help your industry? Why?

**Share: Group Colour** \_\_\_\_\_

|                             | Oilsands | SAGD | Farming (grain & cattle) | Forestry | City/town use | Tourism |
|-----------------------------|----------|------|--------------------------|----------|---------------|---------|
| Where located?              |          |      |                          |          |               |         |
| Products produced?          |          |      |                          |          |               |         |
| Water used for?             |          |      |                          |          |               |         |
| How much is used?           |          |      |                          |          |               |         |
| Where does water come from? |          |      |                          |          |               |         |
| Is it all used?             |          |      |                          |          |               |         |
| Who monitors?               |          |      |                          |          |               |         |
| Upstream?                   |          |      |                          |          |               |         |
| Downstream?                 |          |      |                          |          |               |         |

As a group discuss the following:

- Which industry is the best at cleaning their water? Explain.
- Which industry is the worst at cleaning their water? Explain.
- As an Alberta citizen, are you happy with how industry is using water? Explain.