

5.2 PIPELINE PIGGING

How can you be sure the pipeline is operating efficiently?

MATERIALS

Per small group of students:

- Cotton balls
- Q-tips
- Pipe cleaners
- Hair rollers
- Duct tape
- String
- Toothpicks
- Bobby pins
- Styrofoam or foam balls that fit in the 2-inch pipe from **5.1 Transporting Oil and Gas**.
- Brush/bottle washers

DIRECTIONS

1. **Ask** questions about, discuss and choose from one of the problems below:
 - a. Debris inside the pipe before the production begins
 - b. Build up of wax or corrosion on the walls of the pipeline
 - c. Inspection of the pipeline from the inside
 - d. Plugging or isolating the line to block an area off
2. **Imagine** an apparatus that would fit inside the pipeline to address the problem you chose... (Pipelines range from 0.5 m to 1.5 m in diameter)
3. **Plan**/draw your design and describe the characteristics the "pig" would have to accomplish your goal.
4. **Create** a list of materials that you would need to create a model, then test a prototype.



5. **Improve** your design based on your test.
6. Extension: Determine a way to move the pig within the pipeline.

REFLECTION

1. If a "smart pig" is used, what potential problems might there be with a video feed from inside the pipeline?
2. How might you address these problems?

