

Name _____ Date _____ class _____

Enigma Cylinder

Overview: This lesson serves as a good introduction to the nature of scientific inquiry.

Directions: Determine what the interior construction of the enigma cylinder looks like without opening or damaging the cylinder in anyway.

1. Write observations about the cylinder (number them).
2. Propose multiple explanations for what is happening in the cylinder (number them).
3. Test your explanations and write down what you did to test your proposed explanation.
4. Write down more observations based on your tests.
5. Write down new explanations based on the observations from your previous tests done in number 3.
6. Continue the above process until you feel that you have come up with the best possible explanation for the interior construction of the cylinder.
7. Draw a picture of the interior of the cylinder as it fits your explanation. Include your written explanation with the drawing.
8. Discuss your finding with a group next to you. Did you gain any new information or insight? Explain.
9. Explain the difference between an observation and an inference.
10. How sure are you of your explanation? Could there be other explanations?
11. Explain what you are doing in this activity that scientist do when solving a problem.