

An Atomic Mystery Model

Just as scientists can learn more about very tiny particles even when they can't see them, we can learn about things we can't see through experimentation.

- Procedure:**
1. Plan how you will use the plastic stick to probe into the space of your clay ball to discover what is inside and where it is located.
 2. You may probe in 8 locations only.
 3. On paper below, draw a model (or sketch) of your hypothesis (guess) as to the location and size of the object inside the clay ball. You might also be able to determine what kind of material the object is made of. Can you determine anything else?
 4. Use the plastic knife to cut open the ball and see what's inside.

What did you discover?

How does your model/sketch compare to what you found when you cut open the ball?

What does this have to do with SNS?

Similar to the way you just used a probe to discover information about an object you couldn't see, neutrons are used at SNS to discover the properties of objects that can't be seen with the human eye. What are materials made of? Everything in the world is made up of atoms. Your body, the car you rode in today, and everything around you is made up of atoms. Atoms are so small that we can't see them with our eyes. Atoms are about a billion times smaller than the item you found in the clay ball. Instead of a stick, SNS uses neutrons to "see" where atoms are in materials and to watch how they move around. WOW!