

Science Speakers

Chemistry

Purpose of the program

The purpose of this program is to help children connect their science curriculum to interests and careers and to stimulate their curiosity. We wish to awaken children to the wide variety of jobs that people do and help them understand the necessity of a good education to getting the jobs. By illustrating how basic science concepts are used in their work, speakers show how science is fundamental to daily life.

Reminders

Plan your presentation to run about 20 minutes. Then give the children 5-10 minutes for questions.

Children love to see examples; it helps them remember and understand. Any items you can show them will impress and delight them.

Please arrive at the school office at least 10 minutes before you are scheduled to speak.

Call **Mary Goljenboom** at United Way of Lake County with questions: **847 775 1058**.

What the children are learning

First graders (age 6) study solids and liquids. They learn to recognize differences between solids and liquids. The science content includes the following points:

- Liquids pour and flow.
- Solid materials come in all sizes and shapes.
- Pieces of solid materials (like gravel or beans) can pour like liquids, but maintain their shape.
- Some solids (like road salt) dissolve in water.

What you could say

Define your job. For example, *A chemist is a scientist who studies solids and liquids and their properties.*

Explain to the children how the science they are learning is used in your job. For example, *When a chemist studies a medicine she/he has to figure out how to get it to dissolve in the mouth and stomach so the body can use the medicine.*

Please tell the children about the duties and responsibilities of your job. Please also tell them some of the things that you enjoy about it. As you explain and/or demonstrate, please remind the children of some of the science points above. You do **not** need to refer to all of them.

Please tell the children what kind of education is needed to do the job and how you got interested in this work.

What the children are learning

Third graders (age 8) study measurement. They learn to measure length, temperature, mass (weight), and volume (fluid measurement). The children are also learning the metric system but speakers do not need to use metric. The science content includes the following points:

- Length is how far it is from one point to another.
- Temperature is a measure of how hot or cold something is.
- Volume is the three-dimensional space occupied by something.
- Capacity is the maximum amount (or volume) of fluid a container can hold.
- Mass is the amount of matter in an object. It is measured by its weight.
- Standard units of measure allow people to make measurements that have definite meaning to others.

What you could say

Define your job. For example, *A chemist is a scientist who studies matter and its properties and how those can change.*

Explain to the children how the science they are learning is used in your job. For example, *The amount of material you use in an experiment can change the outcome of the experiment. If you don't measure and record how much material you use you won't be able to figure out which variable changed the outcome of your experiment.*

Please tell the children about the duties and responsibilities of your job. Please also tell them some of the things that you enjoy about it. As you explain and/or demonstrate, please remind the children of some of the science points above. You do not need to refer to all of them.

Please tell the children what kind of education is needed to do the job and how you got interested in this work.

What the children are learning

Fifth graders (age 10) study models and designs. They learn to design and construct conceptual and physical models. The science content includes the following points:

- Models are developed to explain how systems work.
- A model is a representation or explanation of a system or interaction that cannot be observed directly.
- Conceptual models can be communicated through words and drawings.
- Physical models are constructed to demonstrate how something works or how it is constructed.



What you could say

Define your job. For example, *A chemist is a scientist who studies the composition, structure and properties of matter.*

Explain to the children how the science they are learning is used in your job. For example, *A chemist makes drawings, computer models and physical models to show the structure of atoms and molecules.*

Please tell the children about the duties and responsibilities of your job. Please also tell them some of the things that you enjoy about it. As you explain and/or demonstrate, please remind the children of some of the science points above. You do not need to refer to all of them.

Please tell the children what kind of education is needed to do the job and how you got interested in this work.