



Gifts for Santa's Scientists

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Teacher Information and Directions

Gifts for Santa's Scientists is a multi-day cooperative learning lesson in which students research 12 types of scientists to learn about their areas of study. Then students share and discuss their research information with their teams. The culminating activity involves matching 12 scientists' names with the appropriate gifts in Santa's bag.

Materials Needed (for each team)

- Scientist Research Pages #1 - #4 (one set of 4 pages)
- Scientist Expert Group Directions OR Scientist Research Directions (one 1/2 sheet per person)
- Dictionaries, Encyclopedias, or Internet Access
- Santa's Gift Bag - 2 copies per team or one for the class
- Gifts for Santa's Scientists - 1 copy per person
- What Do Scientists Study? - 1 copy per person
- Special Gifts (optional extension activity)



Advanced Preparation

1. **Preview Lesson** - This lesson will take several days and can be carried out in a variety of ways. Read through the directions and become familiar with the available activity pages and resources needed. Make notes about which pages you would like to use and how you plan to conduct each part of the activity. Fifth or sixth grade students should be able to complete the lesson in 2 days, but younger students may take longer and need more assistance.
2. **Setting Up Teams** - Place students in mixed-ability teams of 4 and number students off from 1 to 4. Within each team, assign partners who will work together. If you have a teams of 3 or 5, you will have to modify some of the directions below to make sure that everyone participates equally.



Gifts for Santa's Scientists - Day 1

1. **Brainstorm Scientists** - Begin by having the class brainstorm types of scientists. First, ask them to write down the names of different types of scientists on individual white boards or scraps of paper. Then call on students to quickly share their ideas with the class without saying what each scientist studies. Next, display the "What Do Scientists Study?" chart and ask students to turn to their partner and discuss any of the types that are familiar to them.



2. **Present Assignment** - Next, show your class the printable entitled "Gifts for Santa's Scientists." Explain that they are going to help Santa decide which gifts to give to each scientist, but before they can help, they'll need to conduct research to find out more about each type of scientist.



3. **Distribute Research Pages** - Give each team a packet of scientist research pages that includes one copy of pages 7 - 9. Each person on the team should take the page that has their number at the top. If you have three in a group, one page will not be used. If you have five in a group, you'll need two copies of one of the pages.



4. **Conduct Research** - Use one of the two methods below to have students complete their research notes page. Factors to consider would be how well your students work together and whether or not they would be able to complete the assignment on their own. Choose the appropriate direction page depending on which method you decide to use.



→ **Independent Study** (Page 12) - Provide one class period for students to independently research their three scientists and complete their research pages. Since they won't have help from a group, you'll want to be sure to review the directions and answer questions in advance.



→ **Jigsaw Expert Groups** (Page 13) - With a Jigsaw activity, you'll be creating small groups of "experts" who conduct their research together. All students with Research Page #1 will form one group, those with Research Page #2 will form another, and so on. The groups will gather in different locations in the room to complete the tasks outlined on the direction page. If you use Jigsaw, refer to their original teams as their "Base" teams and the breakout groups as their "Expert Groups." (Note: If your Expert Groups have more than five students, divide them into smaller groups and have two groups for each research page.)

Gifts for Santa's Scientists - Day 2

1. **Share Research (In Teams)** - Make sure students are in their original base teams from Day 1 and not their Expert Groups. Give each student his or her own copy of the "What Do Scientists Study?" chart (page 11) to use for taking notes. Starting with #1, each student shares about one scientist in the order they appear on their research pages. Team members (including the person sharing) write the key words from the area of study next to the type of scientist on the chart. You can find an answer key on page 13. Some of the answers are a bit over-simplified due to space limitations, but the chart does help identify themes and big ideas.



2. **Matching Scientists with Gifts (Partners)** - Now that students know what each scientist studies, they are ready to match gifts with scientists. Give each pair of students one copy of Santa's Bag of Gifts (page 6) or display it on an overhead projector or white board. Every student will need their own copy of page 5, "Gifts for Santa's Scientists." To make the game more challenging, have students put away all study materials and complete the activity based on memory alone. Working with their partners, students discuss each type of scientist, decide which gift would be most appropriate, and write the name of each gift in the box for that scientist. Some gifts might seem to go with several scientists, but each gift can only be used once so there is only one completely correct solution (refer to answer key on page 15).

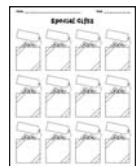


3. **Sponge Activities and Extensions** - Some students will finish early, so it's nice to have a collection of "sponge" activities to soak up the extra time and provide an extra challenge. Here are a few ideas to consider:

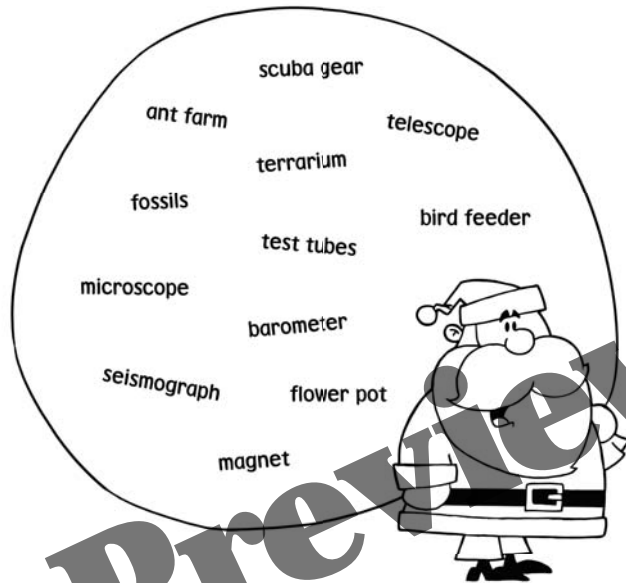
→ **Artwork** - Students can color their worksheets to prepare the them for display.

→ **Special Gifts Idea #1** - Students can use the generic Special Gifts worksheet on page 15 to create their own activity. To do this, they write the names of different scientists or professionals on the tags, then write a matching gift inside each box. Or they could write the gifts on another piece of paper and let a friend try to guess which gifts go with which person.

→ **Special Gifts Idea #2** - Students may need more than one copy of the Special Gifts page for Special Gifts Idea #2. Have them write their classmates' names on each tag and write in something they wish they could give that student as a gift. Post the worksheets for everyone to read and enjoy.



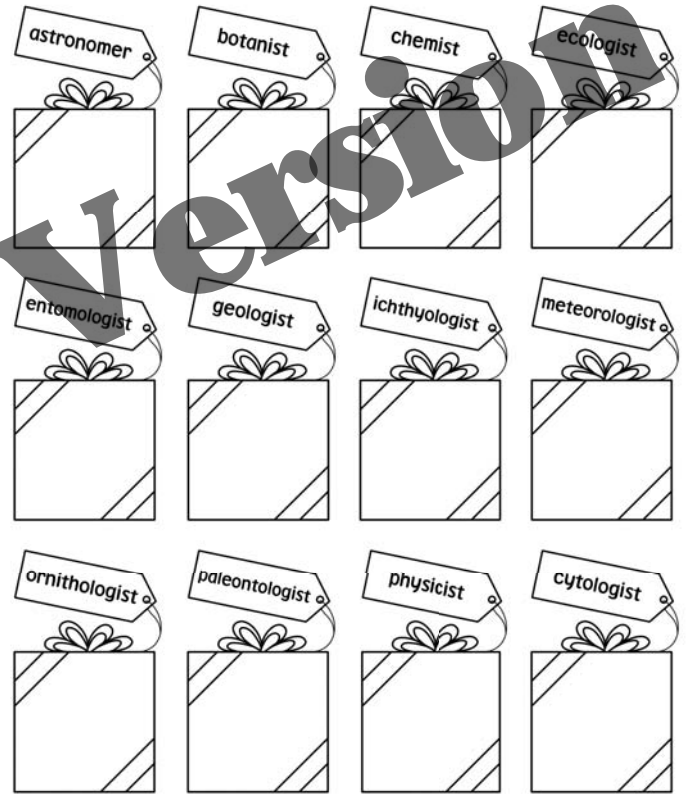
Santa's Gift Bag



Directions: Santa has a dozen gifts in his bag to give to a dozen different scientists. He wants to make sure to give each scientist the perfect gift! Think about what each scientist studies and decide which gift would be right for each one. Write the names of the gifts on the scientists' packages. Each gift will only be used once.

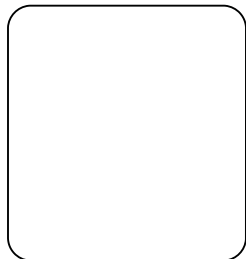
Name _____ Date _____

Gifts for Santa's Scientists



ecologist

Area of Study



#1

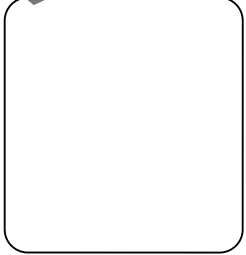
ornithologist

Area of Study



astronomer

Area of Study



ichthyologist

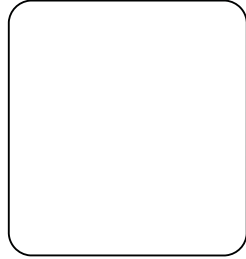
Area of Study



#2

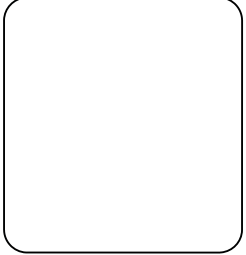
meteorologist

Area of Study



geologist

Area of Study



chemist

Area of Study

#3

entomologist

Area of Study

cytologist

Area of Study

botanist

Area of Study

#4

physicist

Area of Study

paleontologist

Area of Study

What Do Scientists Study?



Scientists

Areas of Study

Table with 2 columns: Scientists, Areas of Study. Rows include ecologist, ichthyologist, chemist, botanist, ornithologist, meteorologist, entomologist, physicist, astronomer, geologist, cytologist, paleontologist.

Independent Study Directions

Scientist Research Directions



- 1. Start with the first scientist on your page. Look up the scientist in a dictionary, encyclopedia, or on the Internet. Read enough to find out a general idea of the type of things that scientist studies.
2. Think about what that scientist studies and how you could explain it to someone else. What symbol could you draw to represent that area of study? For example, you might draw an object that the scientist studies or a tool they use on the job.
3. Write a short description of the scientist's area of study on your worksheet. Write the information in your own words without copying from your source. Then draw a symbol to go with the description.
4. Follow the same steps with each of the other two scientists.

Independent Study Directions

Scientist Research Directions



- 1. Start with the first scientist on your page. Look up the scientist in a dictionary, encyclopedia, or on the Internet. Read enough to find out a general idea of the type of things that scientist studies.
2. Think about what that scientist studies and how you could explain it to someone else. What symbol could you draw to represent that area of study? For example, you might draw an object that the scientist studies or a tool they use on the job.
3. Write a short description of the scientist's area of study on your worksheet. Write the information in your own words without copying from your source. Then draw a symbol to go with the description.
4. Follow the same steps with each of the other two scientists.

Scientist Expert Group Directions



1. Start with the first scientist on your page. Without talking, everyone look up the scientist in a dictionary, encyclopedia, or on the Internet. Read enough to find out a general idea of the type of things that scientist studies.
2. As a group, discuss what that scientist studies and how you could explain it to someone else. Discuss ideas for symbols that might represent that area of study. These might be objects that the scientist studies or tools they use on the job.
3. Write a short description of the scientist's area of study on your worksheet. Write the information in your own words without copying from your source. Then draw a symbol to go with the description.
4. Follow the same steps with each of the other two scientists. Make sure everyone is ready to move on before you start working on each new section of the page.

Scientist Expert Group Directions



1. Start with the first scientist on your page. Without talking, everyone look up the scientist in a dictionary, encyclopedia, or on the Internet. Read enough to find out a general idea of the type of things that scientist studies.
2. As a group, discuss what that scientist studies and how you could explain it to someone else. Discuss ideas for symbols that might represent that area of study. These might be objects that the scientist studies or tools they use on the job.
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What Do Scientists Study? Key

Scientists	Areas of Study
ecologist	environments
ichthyologist	fish
chemist	chemicals and substances
botanist	plants
ornithologist	birds
meteorologist	weather
entomologist	insects
physicist	matter and energy
astronomer	celestial bodies
geologist	rocks, minerals, earth
cytologist	cells
paleontologist	history of life on Earth

Answer Key



Name _____ Date _____

Special Gifts

