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Introduction

Use *Instant Science* to perk up your science program and give your students something fun to do and think about every day. This book contains age-appropriate natural science lessons for 50 weeks of the year. Each lesson includes five activities—a full week of instant science! As a bonus, each lesson contains an English component to supplement your regular curriculum.

Instant Science can be used in two ways; by week (work straight through the book) or by subject (consult the index).

Instant Science accommodates several needs. It provides . . .

- . . . fresh material for experienced teachers.
- . . . a ready resource for beginning and substitute teachers.

How to Use This Book

Building a Knowledge Base of Correct Information

Many of the activities in this book are designed to help students build a knowledge base by introducing them to scientific facts that will support their learning in the years to come. Recent research conducted by Howard Gardner (*The Unschooled Mind: How Children Think and How Schools Should Teach*, Basic Books, 1991) shows that children develop many misconceptions about the world around them simply because they do not have enough information. Although mastery of these concepts cannot be expected at the primary level, exposure to them will lay the groundwork for more effective scientific thinking later on.

Setting Up Portfolios

Portfolios are made to order for primary science. They give you an opportunity to view a student's collected work so that you can assess academic growth over a period of time. Simply staple together a week's work and allow the student to add a dated 'Reflection' on the top page. There is no need to fuss about filing—just put each student's work into individual folders or have students file the work themselves. When you want to take a look at the work, you can quickly sort a folder full of stapled packets into chronological order and evaluate a student's progress.

Planning for Reflections

When students reflect on their work, they take control of the learning process because they observe and appreciate their own progress. Weekly reflections help students become at ease with the process of learning. It is also rewarding to take time for an overall reflection every month or six weeks. Students are usually astounded by their own growth.

Accommodating Different Intelligences

If you have a dominant *linguistic* intelligence, you may find that you teach—and expect students to learn—by reading, writing and listening. It is helpful to remember that people learn in different ways:

- People with *spatial intelligence* need to see things. (Show lots of pictures and videos.)
- People with *logical-mathematical* intelligence like to collect and analyse data. (Point out the relationships among things.)
- People with *bodily-kinesthetic* intelligence need to touch things and do things. (Have lots of hands-on activities.)
- People with *musical intelligence* need music and rhythm. (Play music in the background and let them make up songs and rhythms to help themselves learn.)
- People with *interpersonal intelligence* need to interact with other people. (Use cooperative learning groups and let them discuss their ideas with others.)
- People with *intrapersonal* intelligence need time to think. (Let them do at least some things by themselves.)



Background

Help your students orient themselves in the universe with an expanded view of where they live, what their home is made of and how it looks from space.

Day 1—What’s Your Address?

Materials

- ‘What’s Your Address?’ form for each student (See below.)

Activity

Help students fill out the form. Discuss each entry, using maps and globes as needed.

Name _____

Street _____

City or Town _____

State _____

Country _____

Continent _____

Hemisphere _____

Planet _____

System _____

Galaxy _____



Day 2—The Earth Is Like an Orange

Materials

- several thick-skinned oranges (Save them for Day 4.)
- world globe

Activity

Pass some thick-skinned oranges around the class. Have students run their fingers over the skin (Earth's 'crust') and note the blossom and stem ends ('poles'). Ask them to close their eyes and imagine Earth as a round ball in space.

Show them a globe, pointing out Australia and your own state. Leave the globe in an accessible place for students to study.

Day 3—Inside the Earth

Materials

- two or three peaches—not too ripe
- world globe

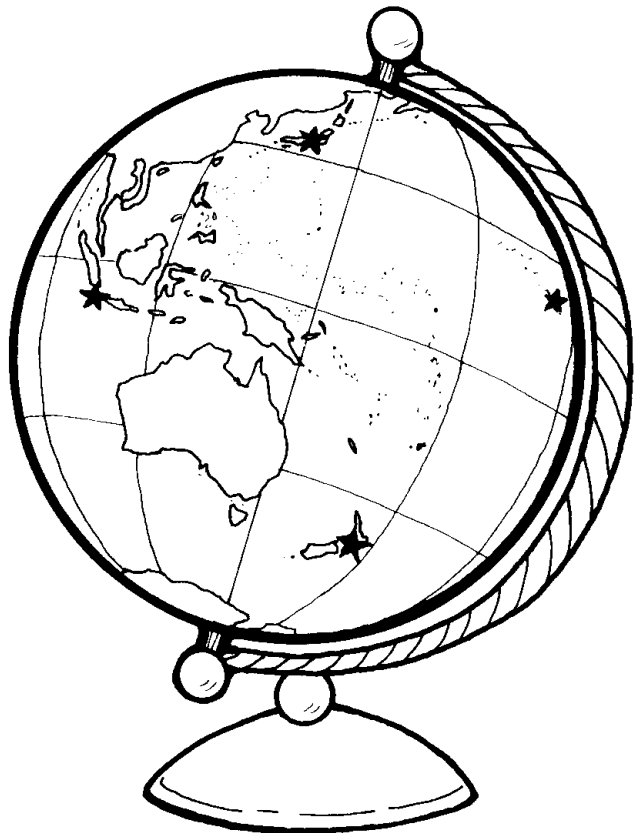
Activity

Cut one or more peaches in half, leaving in the pit.

Say to students:

The peach has a thin skin. It would be more like the Earth if the skin were thick like an orange. There is material called the pulp (the part of the peach we eat) beneath the skin and a pit at its centre. Earth has a centre, too. It is called the 'core'.

Earth's core is very hot. It is made of melted rock. It heats the rock in the layers above it until some of it melts, too. Once in awhile the melted rock comes bursting out. We call the melted rock 'lava' and the hole it comes out a 'volcano'.



Encourage questions and discussion.



Day 4—The Earth Is Wrapped in Air

Materials

- several thick-skinned oranges (from Day 2)
- a roll of cotton wool

Activity

Wrap each orange in a blanket of cotton wool. (You can use cotton balls, but they don't work as well.) Let students handle the wrapped oranges. Explain that air (atmosphere) is wrapped around the Earth and travels with the Earth through space. When we look up at the sky, we are looking up through Earth's blanket of air, which appears to us as the colour blue. When astronauts in space look back at the Earth or take pictures of it, Earth looks blue. That is because they are looking down at the blanket of air (our sky) from the outside.

Day 5—Review and Reflect

Materials

- a video showing pictures of Earth taken from space
- 'Review and Reflect' form (See below.)

Activity

Show the video. Review and discuss concepts introduced during the week. Help students complete the following form.

Review and Reflect

Name _____ Date _____

What I Learnt:

I live on the outside surface of the _____

It has a thick skin called the _____

Inside, it has a middle called a _____

The middle of it is very _____

The outside is wrapped in a blanket of _____

The most interesting thing I learned was _____

_____.