

标准英语分级读物·学生卷·第1级

花园中的数学

MATH IN THE GARDEN



原版美国阅读教程

内附全套教学指导及练习

用英文阅读，学百科知识

完美实现国家新课程标准要求

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权威
英语教材主编
刘道义
特别推荐

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责任编辑：孙蓓 封面设计：曹爱华

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最佳学习安排

训练正确阅读习惯，提高理解分析能力

- 第一步， 正式的学习开始之前，请先认真阅读封面封底，以了解本书的特点。
- 第二步， 在开始阅读某一本书时，首先阅读目录页，然后粗略翻阅全书各页，看一看照片和图表。根据以上粗读所获信息判断出本书的基本内容和主题。
- 第三步， 想一想你已经掌握了多少关于本书主题的知识。
- 第四步， 开始阅读。阅读的重点放在与主题相关的新知识上。哪些是你通过阅读本书获得的新知识，用简洁的方式做上标记。
- 第五步， 边读边标出你有切身体会的地方，你喜欢或支持的观点或做法。
- 第六步， 遇到当页注释中没有的生词，要尽量根据上下文猜出它的意思，而不要马上查词典，以免打断阅读。将这些生词标出来，读后查词典印证你的猜测。
- 第七步， 读完后，总结文章主要讲的是什么，并在文中找出具体内容支持你的判断。

写作

- 第八步， 完成阅读后，写出本书提要。
- 第九步， 分析本书文章的写作方法，按要求完成“教学指导与练习”中的写作练习。

口语讨论

- 第十步， 与同学们就本书主题展开讨论，并提出自己的观点和结论。

付诸行动

- 第十一步， 行动起来，完成“教学指导与练习”中设计的全部活动，包括科学实验和社会活动！

重 要 提 示

利用词汇注释巩固和扩充词汇量

为扩充学生词汇量，超出高中课本范围的词汇在读本各页中做了注释，并汇总在书后词汇表和索引中，以方便学习和记忆。

利用音标学习单词发音

为规范本读物的音标标注方法，并更充分地体现美式发音的特点，本读物采用标准的Jones国际音标和K.K音标，Jones在前，K.K在后，同时标注同一个单词。此两种音标为目前使用最多的音标系统，而K.K音标又能充分体现美式发音的特点。音标查证以商务印书馆的《牛津高阶英汉双解词典》（第四版）为准。

Math in the Garden

花园中的数学



By William McCay

王金玉 注

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Garden Talk

Have you ever eaten vegetables fresh from the garden? If so, you know how delicious they can be. Fresh-picked vegetables are also good for you, and they are fun to grow. This book will show you how to make a vegetable garden of your own.



A gift from your garden is special because you made it yourself!



Using math while you plan your garden means saving money when you grow it.

You will need many things to grow a vegetable garden. For example, you will need a sunny plot of ground, a shovel, seeds or **seedlings** (baby plants), and **fertilizer** to help your plants grow.

But you will need something else, too. You will need math! After all, you'll have to measure your garden, figure out how much space each plant needs, and create a garden **budget**. To do all that, you'll use a lot of math.

seedling ['si:dlɪŋ, 'sɪdlɪŋ] n. 秧苗

fertilizer ['fɜ:tɪlaɪzə, 'fɜ:tl,aɪzə] n. 肥料

budget ['bʌdʒɪt] n. 预算

Planning Your Garden

The first thing you need to do is choose a place for your garden. Remember that plants need sunlight to grow, so you need to find a sunny spot. Make sure tall trees or buildings won't block the sunlight your plants need. The best garden spots face south. This allows plants to get sunlight for most of the day.



Your garden will grow best if it faces south. You can use a compass to determine which direction is south.

block [blɒk, blæk] v. 遮挡

compass ['kæmpəs] n. 罗盘、指南针

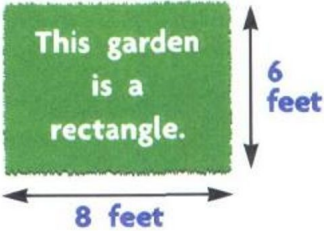
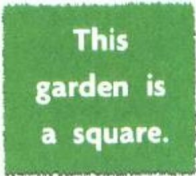
determine [dɪ'tɜːmɪn, dɪ'tɜːmɪn] v. 确定、测定

square [skweə, skwɛə] n. 正方形
rectangle ['rek.tæŋgl, 'rektæŋgl]
n. 长方形

area ['ɛəriə, 'ɛriə] n. 面积
square foot 平方英尺
multiply ['mʌltəplaɪ] v. 使相乘

How big should your garden be? If you've never had a garden before, try to keep things simple. Start with a garden that is about 6 feet wide by 8 feet long. That will give you plenty of room to grow many different kinds of plants, yet it won't be so big that your garden becomes too much work for you.

A good shape for your garden is a square or a rectangle.



+ - Solve This! × ÷

1 You will measure the sides of your garden in feet. But that doesn't tell how much space your garden takes up. You need to know the area, measured in square feet. To find the area of a square or rectangle, just

multiply the length by the width. For example, the area of a garden that is 6 feet wide and 6 feet long is 36 square feet. What is the area, in square feet, of a garden that has each of the following measurements?

Width	Length	Area
5 feet	7 feet	
6 feet	8 feet	
4 feet	6 feet	

Now it's time to decide which vegetables to grow in your garden. Eating fresh-picked vegetables is one of the rewards of being a gardener, so you should definitely choose vegetables that you and your family enjoy.

Most first-time gardeners find that tomatoes, lettuce, yellow or green squash, and red or green peppers are easy to grow. Other good vegetables to plant include green beans, peas, cucumbers, eggplants, and cabbage.



Most of these delicious vegetables can go right from the garden onto your plate!

reward [rɪ'wɔ:d, rɪ'wɔ:d] n. 报酬

definitely ['defɪnɪtli, 'defənɪtli]

ad. 明确地

lettuce ['letɪs, 'letɪs] n. 莴苣

squash [skwɒʃ, skwɑ:ʃ] n. 南瓜

pepper ['pepə, 'pepə] n. 胡椒

cucumber ['kjukəmbə, 'kjukʌmbə]

n. 黄瓜

Many insects are good for your garden. Without them, plants won't grow well. But other insects and tiny worms can damage your garden. They eat the leaves and other parts of plants.

Many gardeners protect their gardens from these garden pests by planting a **border** of marigolds. The marigolds look beautiful, but they're not just for decoration. Marigold flowers may keep some harmful bugs away.

It's a **FACT!**

Common garden pests include caterpillars, aphids (plant lice), and small worms that you can't see without a microscope. Insects that help your garden include lady bugs, praying mantises, bees, and butterflies.

worm [wɜ:m, wɜ:m] n. 寄生虫

border ['bɔ:də, 'bɔ:də] n. 边缘

marigold ['mæɪgəʊld, 'mæɪgəʊld] n. 万寿菊

decoration [dekə'reɪʃən, dekə'reɪʃən] n. 装饰

lady bug n. 瓢虫

pest [pest, pest] n. 害虫

caterpillar ['kætəpɪlə, 'kætəpɪlə] n. 毛虫

aphid ['eɪfɪd, 'eɪfɪd] n. 蚜虫

mantis ['mæntɪs] n. 螳螂



Yellow marigolds protect your plants and make your garden look pretty.

Your next job is to decide how many plants you will need. You already know how big your garden will be, so you must now figure out how much room each plant needs to grow.

One way to figure this out is to visit a garden store. Many people grow vegetables from seeds, and the seed packets you can buy will tell you how far apart to plant the seeds. Other people plant seedlings. Most seedlings you buy in a garden store have labels that tell you how far apart the plants should be. You can also ask someone in the store for help.

figure out 计算出

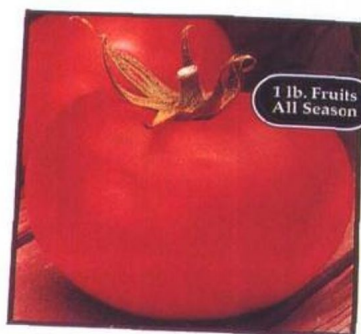
label ['leɪbl, 'leɪl] n. 标签



Seedlings give your garden a quick start—but they cost more than plant seeds.

NET WT.
100 mg.

TOMATO
Better Boy Hybrid



Don't buy your seeds or seedlings yet, though. Wait until your plans are complete—just in case you change your mind.

People who work in garden stores can tell you a lot about growing plants.



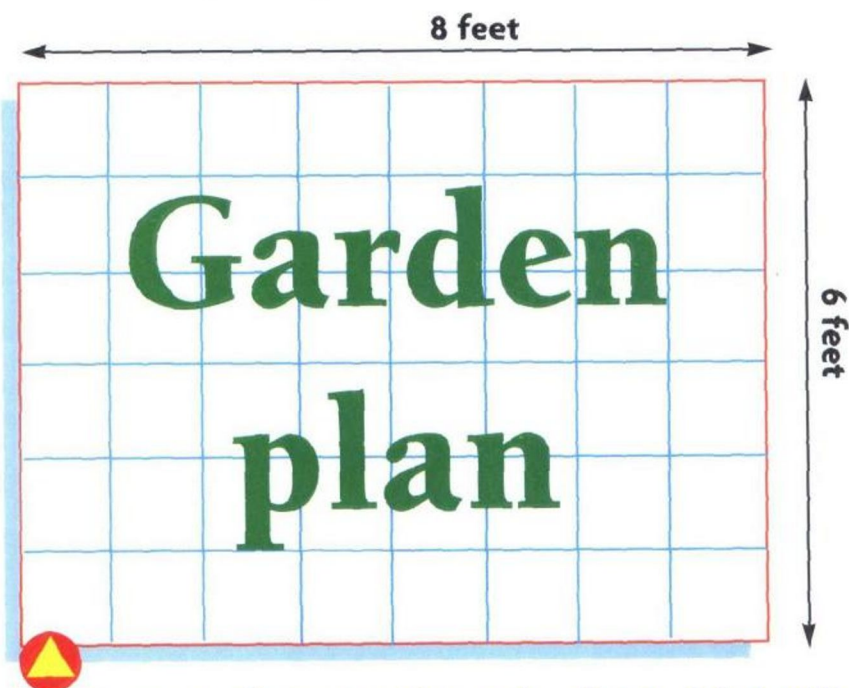
+ - Solve This! ✖ ÷

- 2** Let's say your garden is 6 feet wide by 8 feet long. You want to use $\frac{1}{2}$ of the area for tomato plants, $\frac{1}{4}$ for lettuce plants, $\frac{1}{8}$ for squash plants, and $\frac{1}{8}$ for green pepper plants. Each of those plants needs the following space:
- tomato: 2 square feet
 - squash: 3 square feet
 - lettuce: 1 square foot
 - green pepper: 1 square foot

How many seedlings will you need for each type of plant?
(Hint: First, figure out the total area of your garden.)

Now it's time to set up your garden. You can make a map to help you plan. Then you'll know exactly what to do when you start digging your garden in the springtime.

To make the map, use a piece of graph paper. Mark one square on the graph paper for every square foot in your garden.



Here is a map of a rectangular garden that is 6 feet wide and 8 feet long (48 square feet). Each square on the map represents one square foot in the garden.

set up 创立,建立

graph [grɑ:f, græf] n. 图表

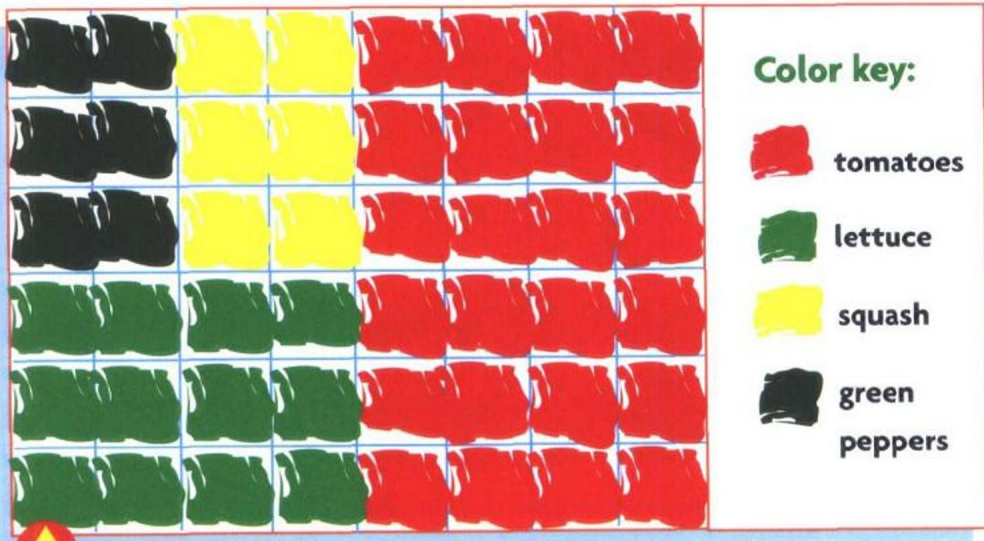


Growing Tip

Seed packets will tell you how high each plant grows. Make sure to put the tallest plants in the back of your garden, and the short ones in the front.

As you make your map, answer the following questions:

- How much of your garden do you want to use for each type of plant?
- Where in the garden will you put each type of plant?
- How far apart will you space each type of plant, and how many seedlings will you need?



This map shows 24 square feet for tomatoes, 12 square feet for lettuce, and 6 square feet each for squash and green peppers.

Getting Ready to Plant

In the spring, when the weather starts to get warm, it's time to get to work. You'll need to grab a shovel and dig up your garden. It's a big job, so find a helper if you can. Dig your garden when the ground isn't too wet.

In digging your garden, first get rid of all the grass and **weeds**. Pull them up and shake off the good dirt. Then dig up the soil to make it nice and soft. Dig down at least twelve inches, and turn over the soil as you dig. The soil that was on the bottom will now be on the top. It will be loose and soft.



Getting a garden ready for planting is a lot of work!

grab [græb] v. 抓取

shovel ['ʃʌvl, 'ʃʌvl] n. 铲子

weed [wi:d, wid] n. 杂草

shake off 抖落

Help make your garden better for planting by mixing two things into the soil: **peat moss** and fertilizer. You'll need to go to the garden store to buy these things. They come in large packages. Fertilizer is measured in pounds. If your garden is about 6 feet wide and 8 feet long, you will need about 1 pound of fertilizer. Peat moss is measured in **cubic feet**. Your garden will need about 1 cubic foot of peat moss.

peat moss 泥炭沼

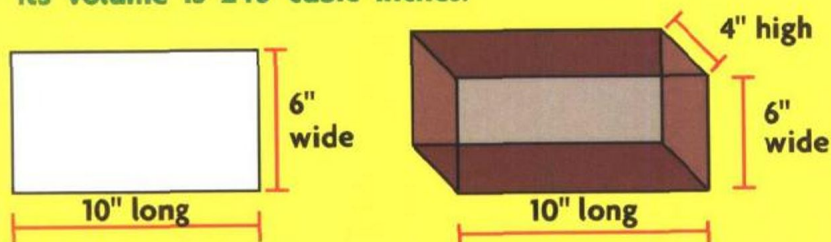
cubic foot 立方尺

volume ['vɒljʊ:m, 'vɒljəm]

n. 容积、体积

+ - Solve This! × ÷

- 3** What's the difference between square feet and cubic feet? Picture a rectangle. We know the area of a rectangle equals its length times its width. Now picture a shoe box. The volume of a shoe box equals its length times its width times its height. If a shoe box is 6 inches wide, 10 inches long, and 4 inches high, its volume is 240 cubic inches.



Give the volume for each of the following:

- a box that is 4 inches long, 2 inches wide, and 6 inches high
- a room that is 10 feet long, 8 feet wide, and 9 feet high
- a package of peat moss that is 4 feet long, 2 feet wide, and 3 feet high

At last, you're ready to plant your garden! You've decided what vegetables to plant. You know how many plants you need and where in your garden you'll plant them. Now it's time to make a shopping list and go back to the garden store to buy your seeds or seedlings. But before you go, you need to know how much money you can spend.

Talk to the other members in your family. Together, decide how much you want to spend on plants for your garden. This is called making a budget for your garden.



If you're going to buy plants and seeds, you have to pay for them.