Teacher Guide

Our resource has been created for ease of use by both TEACHERS and STUDENTS alike.

Introduction

This resource provides ready-to-use information and activities for remedial students in grades five to eight. Written to grade using simplified language and vocabulary, science concepts are presented in a way that makes them more accessible to students and easier to understand. Comprised of reading passages, student activities and overhead transparencies, our resource can be used effectively for whole-class, small group and independent work.

How Is Our Resource Organized?

STUDENT HANDOUTS

Reading passages and **activities** *(in the form of reproducible worksheets)* make up the majority of our resource. The reading passages present important grade-appropriate information and concepts related to the topic. Embedded in each passage are one or more questions that ensure students understand what they have read.

For each reading passage there are BEFORE YOU READ activities and AFTER YOU READ activities.

- **The BEFORE YOU READ activities prepare students for reading by setting a purpose for reading. They stimulate background knowledge and experience, and guide students to make connections between what they know and what they will learn. Important concepts and vocabulary are also presented.**
- **The AFTER YOU READ activities check students' comprehension of the concepts presented in the reading passage and extend their learning. Students are asked to give thoughtful consideration of the reading passage through creative and evaluative short-answer questions, research, and extension activities.**

Hands-on activities are included to further develop students' thinking skills and understanding of the concepts. The **Assessment Rubric** (*page 4*) is a useful tool for evaluating students' responses to many of the activities in our resource. The **Comprehension Quiz** (*page 48*) can be used for either a follow-up review or assessment at the completion of the unit.

PICTURE CUES

Our resource contains three main types of pages, each with a different purpose and use. A **Picture Cue** at the top of each page shows, at a glance, what the page is for.

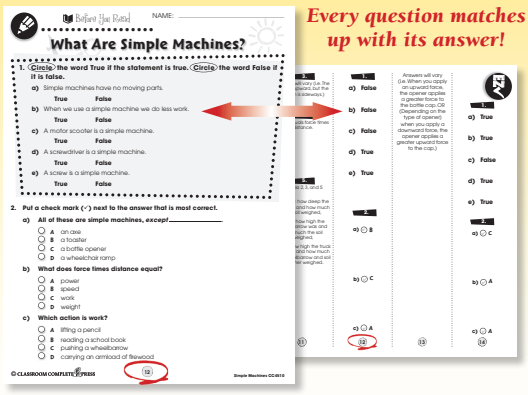
Teacher Guide
- Information and tools for the teacher

Student Handout
- Reproducible worksheets and activities

Easy Marking™ Answer Key
- Answers for student activities

EASY MARKING™ ANSWER KEY

Marking students' worksheets is fast and easy with this **Answer Key**. Answers are listed in columns – just line up the column with its corresponding worksheet, as shown, and see how every question matches up with its answer!

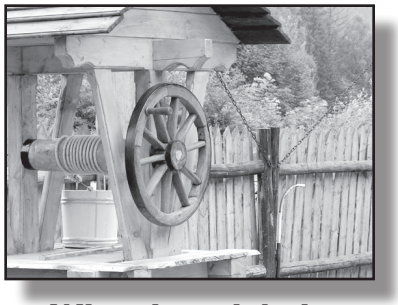


NAME: _____

Reading Passage

What Are Simple Machines?

A **machine** is something that makes work easier by changing the force you apply to do work. A machine can change the amount of force you apply, and it can also change the direction of the force. A **simple machine** is a machine with only one kind of movement.



Wheel and Axle

There are six kinds of simple machines: **lever, wheel and axle, pulley, inclined plane, wedge,** and **screw.** Look at the pictures of the six simple machines. It's easy to see how most of these work and how they change the force. We will look at each of these machines later in this book.

Inclined Place

Pulley

It is important to understand that simple machines make work easier, but they don't change the *amount* of work you have to do. (That's the bad news.) What machines change is the **effort** you have to put out. (That's the good news.)

For example, you can use a kind of lever to pull a nail out of a board. You could never pull a nail out with your fingers. You might have to push the lever down ten inches to pull the nail up one inch. The nail comes right out because the pull on the nail is ten times the force of your push on the lever.

Wedge

Screw

Lever

How does a bottle opener change the force you apply to the handle of the opener?

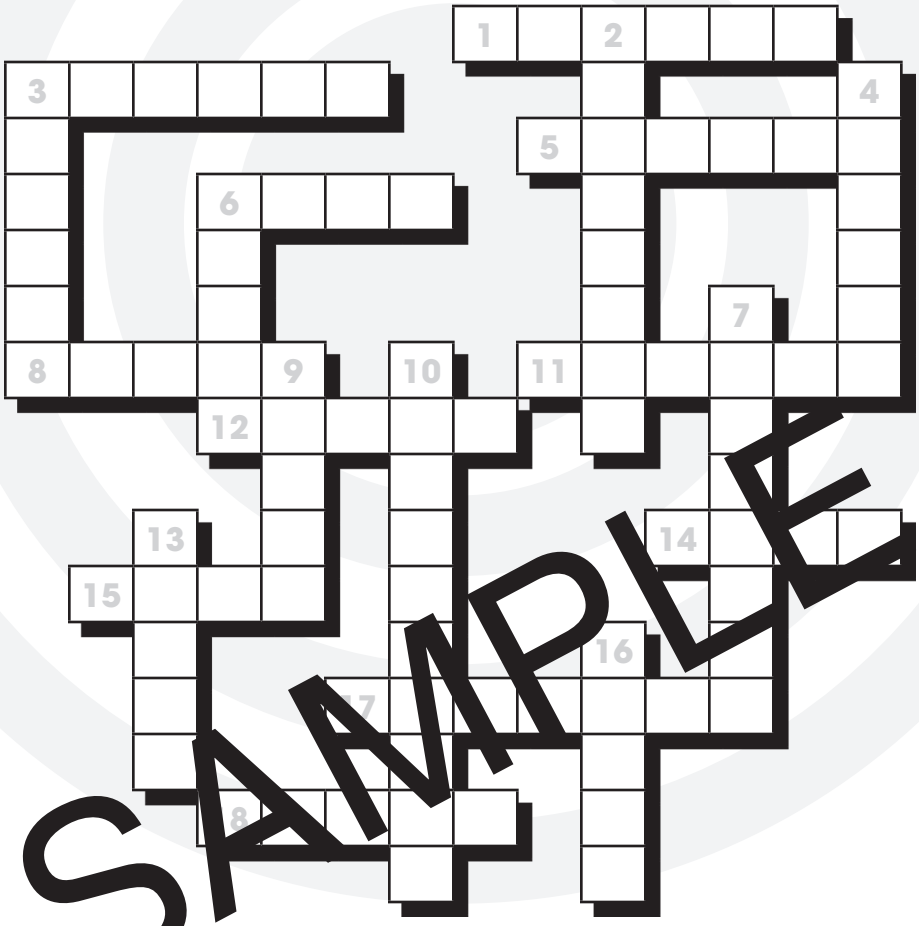
_____

_____

Later, we will learn more about what you lose and what you gain when you use a simple machine.

NAME: _____

Crossword Puzzle!



Across

1. The force you apply to a simple machine is the _____ force.

3. With a rope and a wheel, you can make a _____.

5. A machine with only one kind of movement is a _____ machine.

6. Force times distance.

8. A spiral staircase is a kind of _____.

11. A change from one place to another.

12. You can make one with a board and a fulcrum.

14. One joule per second.

15. Wheel and _____.

17. Something to do work with less effort.

18. A push or a pull.

Down

2. The force that slows down something that is sliding.

3. Ramps are inclined _____.

4. How force is measured in the metric system.

6. _____ and axle.

7. How far a lever moves the load is the resistance _____.

9. The simple machine that looks like a piece of cake.

10. The load on a lever is the _____ force.

13. To apply a force is to _____ a force.

16. What levers do on their fulcrums.

Pulleys and Wheel and Axles

Cran

Pulley

Pulley

Ships wheel

Steering wheel

Wheel & Axle