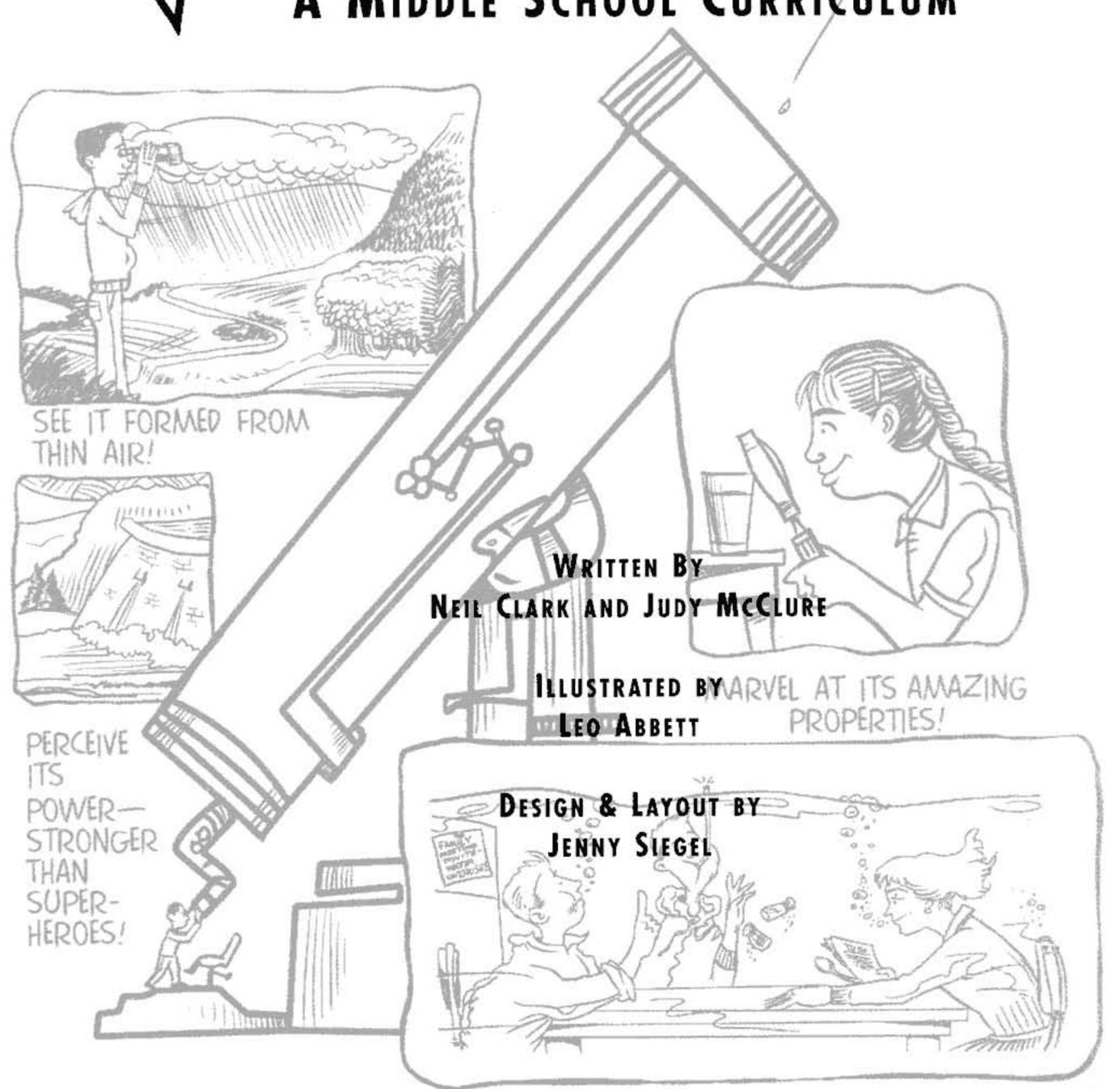


CLASSROOM ACTIVITIES FOR A MIDDLE SCHOOL CURRICULUM



MIDDLE SCHOOL CURRICULUM



OBSERVE ENTIRE FAMILIES AFFECTED BY THIS COMPOUND!

ACKNOWLEDGEMENTS

We would like to acknowledge the following teachers who piloted these activities in their classrooms. Their suggestions on implementing the curriculum were invaluable to us.

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TEACHING WATER IN MIDDLE SCHOOL

As long as there have been teachers, students have been asking, "Why are we learning this?"

We hope the lessons in *Water Watchers* answer this question themselves. In a culture that emphasizes fitness, well-being and longevity, water resources are a key element of public health. They are also a cornerstone of economic activity and security. By the time students have done an activity or two in "Everybody's Water" and "Valuing Water," these points should be abundantly clear. From there, questions about how water reaches consumers, how water suppliers plan and develop water resources, how resources are protected and what constitutes safe drinking water all have context.

Although there are many applications to physical, earth and life science in *Water Watchers*, this is an interdisciplinary curriculum. The science concepts in water resources are applied to the benefit of the community. The connection between science and social studies, between public health and decision-making, could hardly be more vivid. You will also find language arts, math, and art in several activities. Water lends itself handsomely to the goal of interdisciplinary studies, as we trust *Water Watchers* will demonstrate.

Water Watchers is designed with an active approach to learning. Some of these activities are messy, (keep the paper towels handy) but we hope by working with water students will come away with a deeper understanding of its importance. Water Watchers is intended to help students understand the dynamics of supplying water and the role that decision making and community involvement contribute to that process.

TEACHER'S NOTE: USING WATER WATCHERS

This curriculum is divided into six main lessons, each lesson containing two or three specific activities. The earlier lessons focus on the availability of water, on how much we use, how it is delivered and how it is valued. That theme takes on another dimension in later activities: water quality. What does it mean for drinking water to be safe? How is safety measured, and what steps are important in assuring clean drinking water?

What do teachers need to know to teach Water Watchers? You needn't be a water scientist or policy expert; knowing how to structure activities in a middle school classroom is far more important. If advanced questions arise, feel free to call the MWRA School Program for help. We are available for teacher workshops, to help you assemble materials or practice the activities, and we regularly visit classrooms in the MWRA service area to enhance students' experiences with water issues.

Each activity includes teacher and student pages. The teacher pages should give you all the information you need to teach the activity. The background sections in the teacher pages should enable you to answer student questions and guide the inquiries.

Many of the activities are structured so that students work in groups. You can determine what size group will work best for your teaching style. The time for each activity is listed as sessions. We estimate a session to be about 45 minutes. Some of the activities include "reflective" questions. These questions are meant to give students some time to think further about what they have learned. You may want to include reflective questions at the end of other activities in this curriculum.

The pockets in this manual contain some items that we hope will be useful to you. You will find a guide that links the activities to the goals of the Massachusetts Science Frameworks. We have also included a copy of "Water and Germs" which should enhance Lessons 5 and 6. You are welcome to copy any materials from this manual.

YOUR FEEDBACK

In many ways, these activities are only starting points. If you devise extensions or deeper applications, we would like to hear about them. A number of these activities have benefitted from the creativity of teachers. We see this curriculum as an ongoing project, always subject to expansion and improvement. Please share your ideas with us.

Finally, it is quite valuable to learn how students react to classroom activities, what difficulties they had, what insights they gained. Please tell us what went well or what didn't. Let us know what concepts came alive as a result of your water unit. That helps us develop our own program and will contribute to future editions of Water Watchers.

Call us at 617-788-4662 with your comments.

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