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Vision therapy manuals for adults and children

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Vision therapy manuals for adults and children

Abstract

This adult Vision Therapy pamphlet is written for patients, parents, and educators. This pamphlet is intended to enhance the public's awareness and understanding of the various aspects of Vision Therapy. We have comprised an in-depth description of Vision Therapy, explained certain visual skills, discussed visual hygiene, and included information about Vision Therapy for children, adults, and athletes. This Children's Red/Green activity book is designed to educate a child from ages three to ten about various techniques and aspects of Vision Therapy. It is a story about a little boy who goes through Vision Therapy successfully. It is to be printed in red and is designed to be a fun anti-suppression activity if used with red/green glasses and a green pen. It is filled with activities such as dot to dots, mazes, coloring, and find it pages.

Degree Type

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VISION THERAPY MANUALS FOR

ADULTS AND CHILDREN

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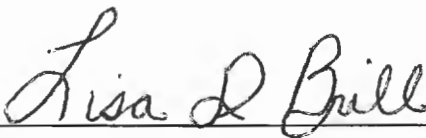
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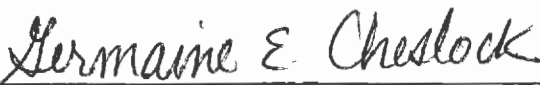
SANDRA K. LANDIS, O.D.

**VISION THERAPY MANUALS FOR
ADULTS AND CHILDREN**

Thesis Submitted By



Lisa D. Brill



Germaine E. Cheslock



Mindy E. Sterner

Accepted By



Sandra K. Landis, O.D.

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About the Authors

Lisa D. Brill is a graduate of University of Colorado at Denver with a Bachelor of Arts. She is a member of the Student Optometric Association, Phi Theta Upsilon, College of Optometrists in Vision Development, Colorado Optometric Association, and the Student Optometric Association Contact Lens Section. She will be graduating from Pacific University as a Doctor of Optometry in May of 1989.

Germaine E. Cheslock is a graduate of Pacific University with a Bachelor of Science in Visual Science. She also attended Oregon State University. She is a member of the Student Optometric Association, Phi Theta Upsilon, and the Student Optometric Association Contact Lens and Sports Vision Sections. She will be graduating from Pacific University as a Doctor of Optometry in May of 1989.

Mindy E. Sterner is a graduate of Pacific University with a Bachelor of Science in Visual Science. She also attended Eastern Washington University. She is a member of the Student Optometric Association, Phi Theta Upsilon, College of Optometrists in Vision Development, Beta Sigma Kappa, and the Student Optometric Association Contact Lens Section. She will be graduating from Pacific University as a Doctor of Optometry in May of 1989.

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UNDERSTANDING VISION

THERAPY

I. Introduction

Vision Therapy is the art and science of helping people improve their visual skills. This training is usually performed by a Behavioral or Developmental Optometrist. The therapist uses a combination of optometry, psychology, neurology, biology, child development and other related fields to design a unique program for each individual.

II. Vision Is More Than Seeing 20/20

Almost everyone is born with the ability to "see". Vision, however, is the ability to make sense of what we see. Good vision is not just seeing 20/20, but involves a broad spectrum of skills. It may help to breakdown vision into categories.

The first category, **visual acuity**, is concerned with how well a person performs on the "Snellen Test". There may be several reasons why a person's vision is not 20/20 or better. A refractive problem like nearsightedness, farsightedness, or astigmatism may exist in which glasses or contact lenses are needed. An eye disease may be present. Or the patient may be having a perceptual problem called amblyopia (lazy eye). In amblyopia, one eye is using its center of vision and

the other is not. The brain becomes confused when it tries to combine the different images presented by each eye. This confusion is eliminated by ignoring the information gathered from the eye that is not using its center of vision.

The next area involves visual skills such as eye movements, accommodation, and binocularity. These skills are overlooked in the classic Snellen Test.

Eye movements consist of how well the eyes track a moving target, and move from one target to another. By relaxing or stimulating **accommodation** the person is able to change their focus. **Binocularity** is the ability to use both eyes as a team. To better understand **visual skills**, imagine that the eyes are like two slide projectors, side by side. In order for the brain to make sense of what the eyes tell it, the two slide projectors must each be focused, and then pointed identically so that the two images are superimposed.

The last category, visual/perceptual motor development, may also be at the root of a person's visual difficulty and will be overlooked by a Snellen test. It involves **visual perception**, or the ability to make sense out of what is seen, and **visual motor skills**, or the ability to make appropriate movements based on visual information.

In summary, some of the problems Vision Therapy can help are:

1. An eye that turns out or in (strabismus).
2. A lazy eye (amblyopia).
3. Eye movement control.
4. Focusing problems (accommodation).
5. Coordination and teamwork of the two eyes (binocularity, vergences).
6. Depth perception (three-dimensional viewing).
7. Hand/eye coordination.
8. Right/left confusion (bilaterality).
9. Visual perceptual skills (visual-motor, figure/ground, visualization, and visual closure).

Our vision enables us to obtain meaning and understanding from the world around us. It has been estimated that 80-90% of the information we take in is through our eyes. How well a child learns to see will affect his/her entire development and personality.

III. Vision is Learned

Vision, or the ability to make sense of what we see, starts from the day we are born. An orderly sequence of learning steps occurs during the development of vision.

The environment and our genes are factors that contribute to these programmed steps. If either factor interferes with development, then adaptations that are destructive to the development of visual skills and to our processing of information may result. The basic premise of Vision Therapy is that vision is learned and can therefore be modified by relearning visual skills.

IV. How Vision Therapy Works

Vision Therapy consists of regular sessions in the optometrist's office. These visits will be supplemented by activities done at home and are best done with a home helper. The severity of the visual difficulty, as well as the cooperation by the patient, will determine the length of the therapy program, and the type of procedures and activities done.

A common misconception is that children will grow out of their eye problems. This belief is simply not true. Untreated visual problems will only continue to interfere with the child's development.

There are three general components that may be used to improve a person's visual skills.

1. A spectacle prescription.

This prescription can be used to correct a refractive problem (e.g. nearsightedness) or may be used to change focusing skills, eye pointing, or eye teaming. This prescription may be worn full-time or only for certain activities, such as reading.

2. Visual skills efficiency.

The therapist will concentrate on improving such skills as eye movements, focusing, and eye teaming. A variety of equipment will be utilized for this training including lenses, prisms, and moving targets.

3. Visual/Perceptual/Motor.

The patient learns to use visual information to direct their body. This helps quicken the processing of visual information. Such things as balance boards, flashing lights, and mini trampolines may be used.

Office Visits

It is the therapist's job to design a plan to suit each patient's needs. During the office visits the therapist will monitor the patient's progress and teach new activities to practice at home. This teaching process is very important because the patient must not only be able to perform an

activity, but also be able to "feel" that it is done correctly. For example, when basketball, it is essential to "feel" what is correct to shoot the ball through the basketball hoop.

In Vision Therapy patients are asked to make decisions, and to attend to their visual experiences. They must notice, discriminate, and interpret what is happening to their vision within a controlled setting. It is only through practice that this awareness is attained.

Home Activities and Motivation

It is during the home practice of activities that progress is made. To the person in visual training, finding the time to do their "homework" is often hard to do. It is not always a favorite way to spend free time. But home exercise is mandatory for the success of the Vision Therapy program. The higher the motivation level of the patient, the greater the degree of achievement.

In a training program goals are set and a patient must be willing to expend both time and effort to accomplish these goals. Some patients are easily motivated by their own improvement. They are able to work on the exercise, learn how it helps them, and feel pride when the goal is completed. Other patients respond better to a system of rewards, especially young people. The reward, for example, may be a prize given by the therapist, a favorite meal made by the parents, or going to a movie. The reward shows the

patient that others are concerned about their progress and are proud of their accomplishments. Punishment for not reaching a goal, or practicing home activities is not as successful when trying to instill patient motivation.

Home Maintenance Programs

When the in-office therapy program has come to an end, it is often necessary for patients to periodically monitor their visual systems. This is to make sure that visual skills learned during Vision Therapy are still being utilized.

V. Areas of Vision Therapy

Children

Vision develops in infants in the same fashion as motor coordination develops. The saying, "you must learn to walk before you can run", is similar to children who have difficulty reading because they have never learned to move their eyes together. If a child begins school before visual skills are developed to a certain level, problems may arise. A destructive visual adaptation can occur and the child may be classified as learning disabled.

Other common labels for children with learning disabilities that are related to unidentified vision problems include: underachiever, hyperactive, and dyslexic.

If your child/student is experiencing a visual problem, it may not be apparent to you even though you spend a lot of time with him/her. Children cannot tell you if their eyes are not functioning properly because they do not know what a properly functioning visual system feels like. If a child sees double or is unable to perceive depth, the symptom may not be reported because the child thinks everyone sees that way. It takes a trained observer to detect visual abnormalities.

Signs that may indicate a visual abnormality:

1. Child is distracted easily.
2. Avoids near tasks (coloring or drawing, etc.)
3. Poor comprehension.
4. Frustration with school (does not complete homework).
5. Exaggerated head or body movements while reading.
6. Loses place and skips lines while reading.
7. Close reading distance or tires quickly when reading.
8. Poor physical coordination.
9. Poor visual attention.
10. Closing or covering one eye when reading.
11. Experiencing blur at any distance.
12. Head tilt.
13. Rubs eyes frequently.

Poor visual skills contribute to learning difficulties. The identification and treatment of these difficulties can lead to a greater learning potential and better processing of visual information.

Adults

Vision Therapy is not only for children. Adults who have been living with vision problems for most of their lives may be helped by Vision Therapy. Common changes experienced by many adults include improved reading rate and comprehension, reduced eye fatigue, and relief from motion sickness.

Stroke and Accident Patients

Stroke and accident victims may benefit from a Vision Therapy program. Damage to the brain may affect visual centers or other areas that are connected to these centers. In this way visual processing can be disturbed. Because the the human brain is capable of learning at any age, visual skills and perceptions may be relearned.

Sports Vision

Few people realize the importance of visual skills to an athlete's ability. When participating in any sport, visual skills are required to locate, follow and anticipate objects. We also

use our eyes to direct the rest of our bodies. Visual therapy can be a great benefit for any athlete.

Activities that Sports Visual Training can improve:

1. Central and peripheral awareness
2. Space judgement
3. Concentration
4. Balance
5. Head control
6. Speed of recognition
7. Tracking skills

VI. Visual Hygiene

Visual hygiene involves preventative measures to help reduce visual stress when viewing under near working conditions. Human beings were not designed to sit for long periods of time and focus on a near task. Consider the data processor, accountant, or lawyer who spends hours doing prolonged near work. This continual near stress produces a vicious cycle of adaptation. This may eventually result in headaches, eye strain or many other symptoms. If relaxing breaks are not taken during close-up work, our productivity as well as vision may begin to decline. Some suggestions to keep one's eyes happy and comfortable include:

1. Breathe-- People tend to reduce the depth of their breathing when doing tasks which require visual attention such as reading, working on the computer, etc. Shallow breathing can result in eyes that tire easily. Maintaining visual concentration is aided by deep, rhythmic breathing.

2. Blink-- Many people also slow down the rate at which they blink during near visual tasks. This can lead to tired, burning, itchy, red eyes, especially for contact lens wearers. Try to blink at least once every 7-10 seconds when concentrating on a near task. To become more aware of your blinking pattern take 10 full blinks each time you do a familiar task (look at the clock, answer the phone, etc). This conscious effort will lead to a subconscious habit of regular blinking.

3. Lighting-- Proper lighting is important for effortless close vision. The best lighting is obtained when a reading lamp is combined with general room lighting. The reading lamp should be behind the person so it will shine over their shoulder onto the reading material. Good lighting can reduce fatigue and improve visual effectiveness.

4. Proper working distance-- If possible, near work should be done no closer than the distance from your elbow to thumb tip. This distance is different for each person. Stress on the visual system is reduced when the near work is moved away from your eyes.

5. Television-- Visual stress is reduced as one moves away from the TV. Six to eight feet is considered a minimum distance from your eyes to a television set. The lighting in the TV room should be moderate. Watching a TV in a dark room can cause visual stress.

6. Seating and posture-- The visual system will operate best when a person is seated comfortably with the lower back supported. Seating should allow both feet to be flat on the ground. Proper posture directly reduces visual stress and also allows deep, full breathing.

7. Rest breaks-- While doing sustained near work periodic breaks are needed to relax the visual system. It is best to look very far into the distance to completely relax the visual system. Go to a window or step outside, look far away, blink your eyes several times, take some deep breaths, and do some of the rotation exercises described below. Take breaks every 30-45 minutes for at least five to ten minutes. These breaks may double the amount of time you are able to work effectively.

8. Rotations-- Eye and neck muscles can become tense and tired after doing near work for extended periods. During your rest breaks relax your eyes and neck by rotating them. Move your eyes in a slow circular rotation and feel your eye muscles stretch and relax. Rotate three or four times, both

clockwise and counterclockwise. Remember to breathe. Now relax your neck by tipping your head and rotating all the way around 3 or 4 times in each direction. Both these stretches may cause a slightly uncomfortable feeling at first. After a couple days, the stretch break will result in a refreshed feeling.

9. Massage-- Briefly massaging the forehead, cheeks, and bridge of the nose can help tired eyes and keep one working at peak efficiency. Close your eyes and use the fingertips of both hands to gently relax tense facial muscles. A two or three minute massage will work wonders.

VII. Closing

If your child is having visual difficulties or has been diagnosed with a visual problem you may take comfort in that he/she is only one of many. In a study done of more than 160,000 elementary school children, it was shown that 20% of those children entering the first grade had visual problems of some kind. Midway through the third grade these children were retested and it was found that 40% now had visual problems. By the fifth grade the percentages had risen to 53%. Why is this happening? Because the human visual system was not designed for the continual near work that children in the United States experience through mandatory

education. In countries where educational opportunities do not exist, these developmental problems are rarely seen.

Vision problems do not begin and end with children. Many people never experience these problems until college or even later. Computers are here to stay in the workplace and the type of concentration they demand, can create visual stress or unmask a problem that had been undetected before.

This handbook was published to explain the premise of Vision Therapy to patients, parents, educators and other professionals. It is our belief that many people could benefit from some form of Vision Therapy. Vision Therapy can be a highly effective, exciting, and relatively inexpensive route towards more efficient and less symptomatic vision.

VIII. For Further Information

For further information regarding Vision Therapy call an optometrist in your area or contact your state's Optometric Association.

References

The Effects of Vision on Learning and School Performance, a pamphlet produced by Children's Vision Committee of the Oregon Optometric Association, copyright 1986.

An Insight to Sports by Wayne F. Martin O.D., Seattle: SportsVision, Inc., 1984.

The Positive Impact of Vision Care on Juvenile Delinquency, a videotape produced by Southern California College of Optometry and Optometric Extension Program, copyright 1987.

VISION THERAPY FOR JEREMY

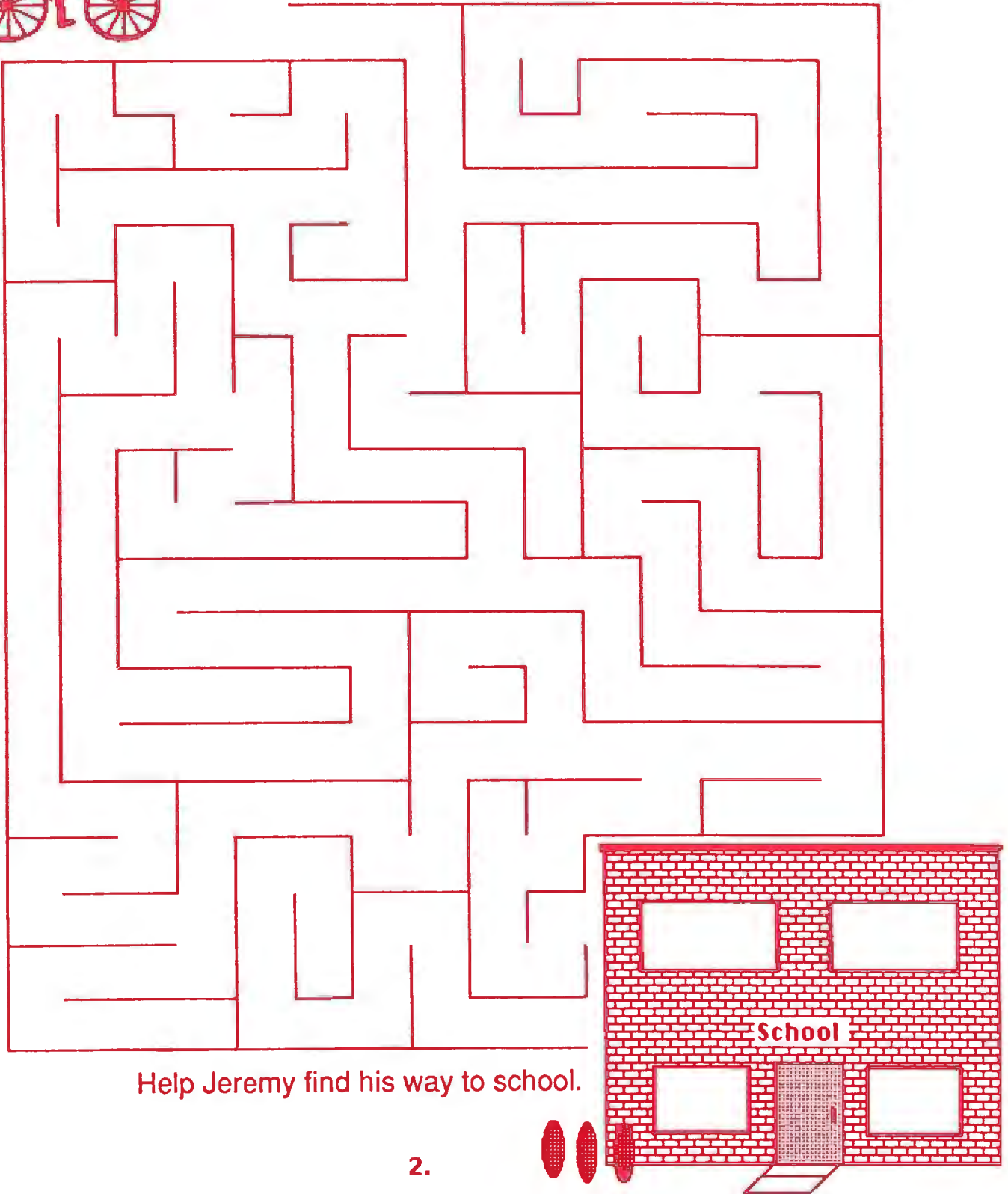


Jeremy was mostly a happy little boy.





He liked to do many things,
such as ride his bike.

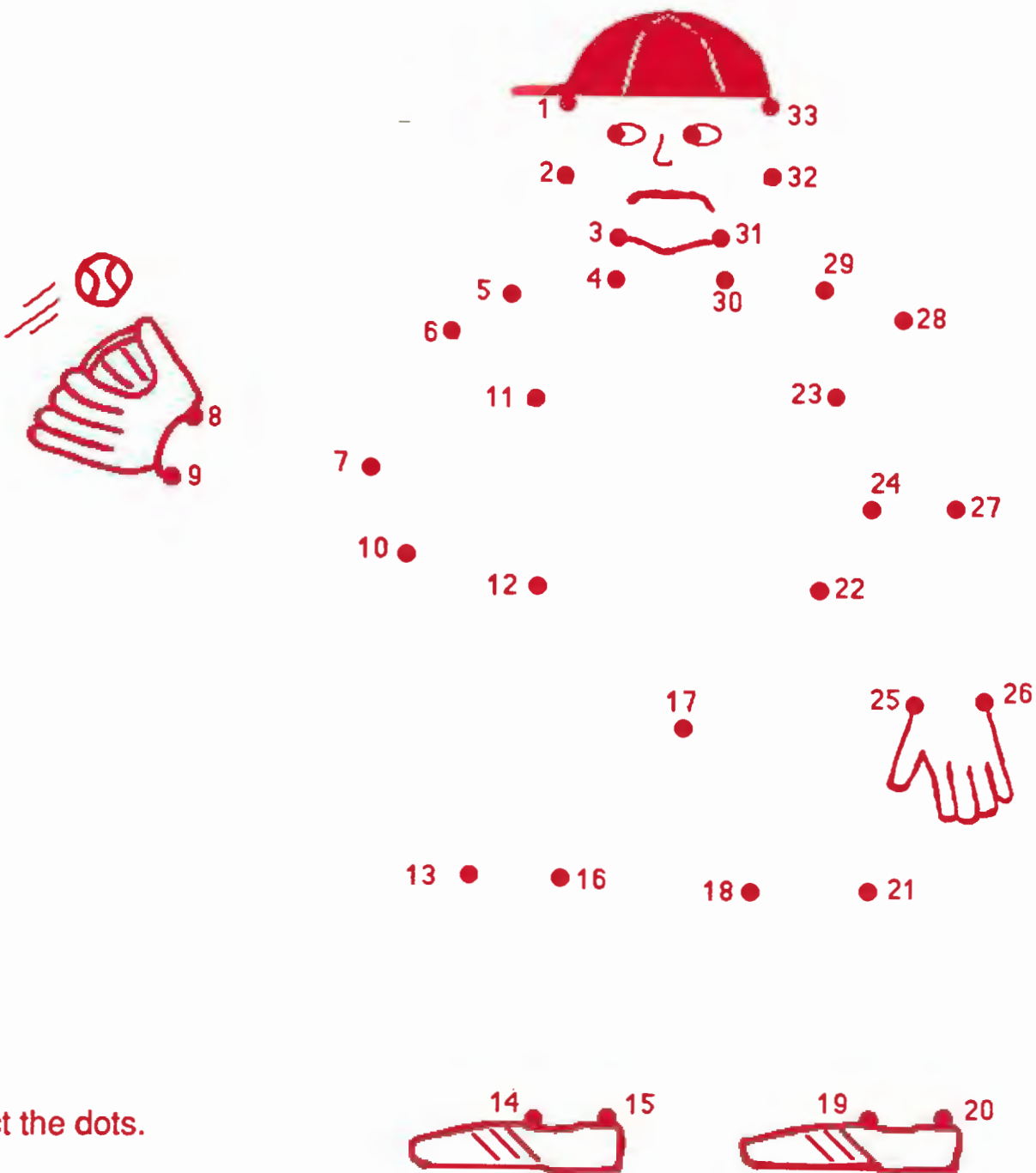


Help Jeremy find his way to school.

2.



However, there were two things he hated to do: play baseball and read books. Nobody wanted Jeremy on their baseball team because he could never catch the ball.



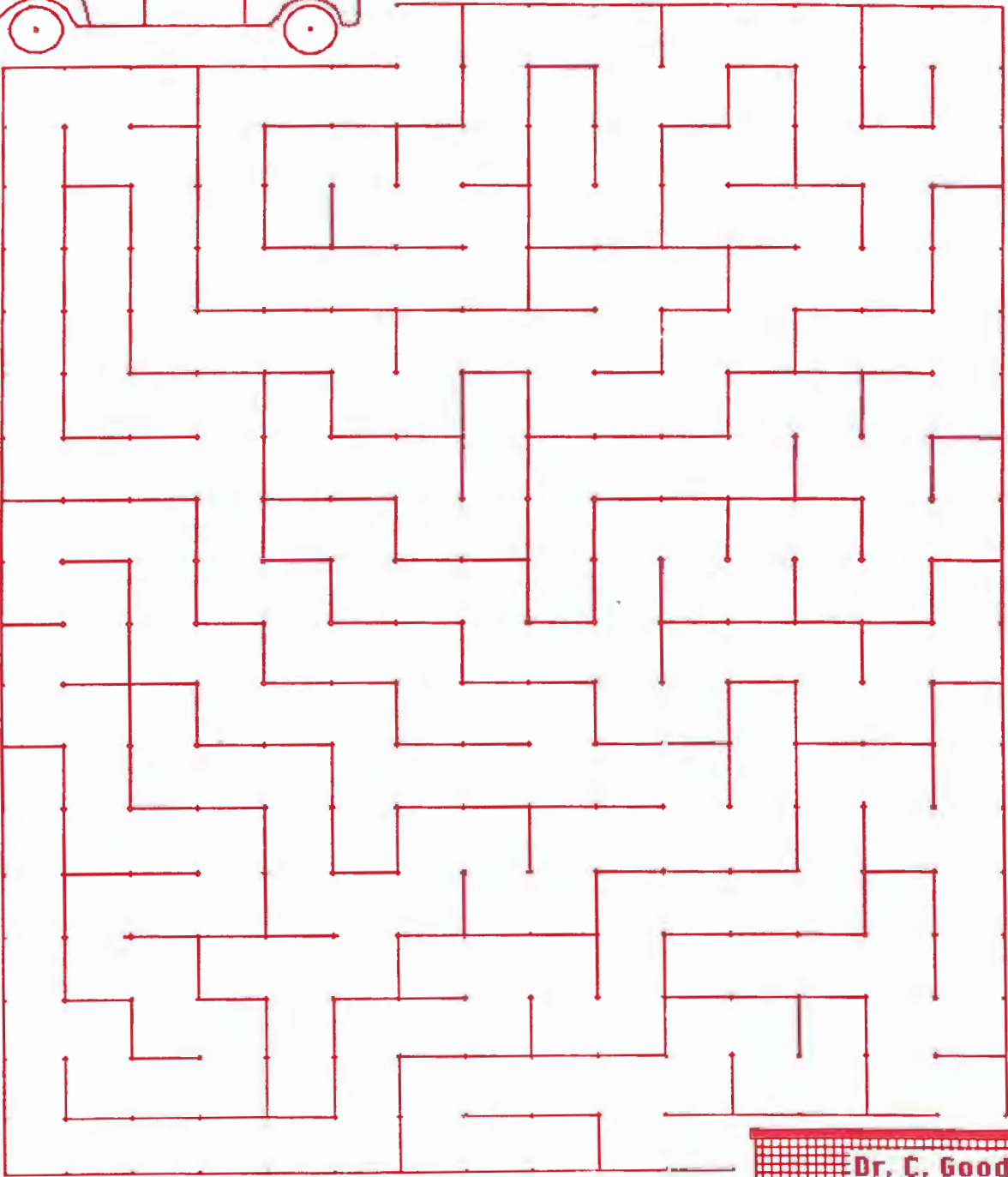
Connect the dots.

Did Jeremy catch the ball?

And when the teacher called on him to read aloud, the other kids would laugh because he always lost his place.



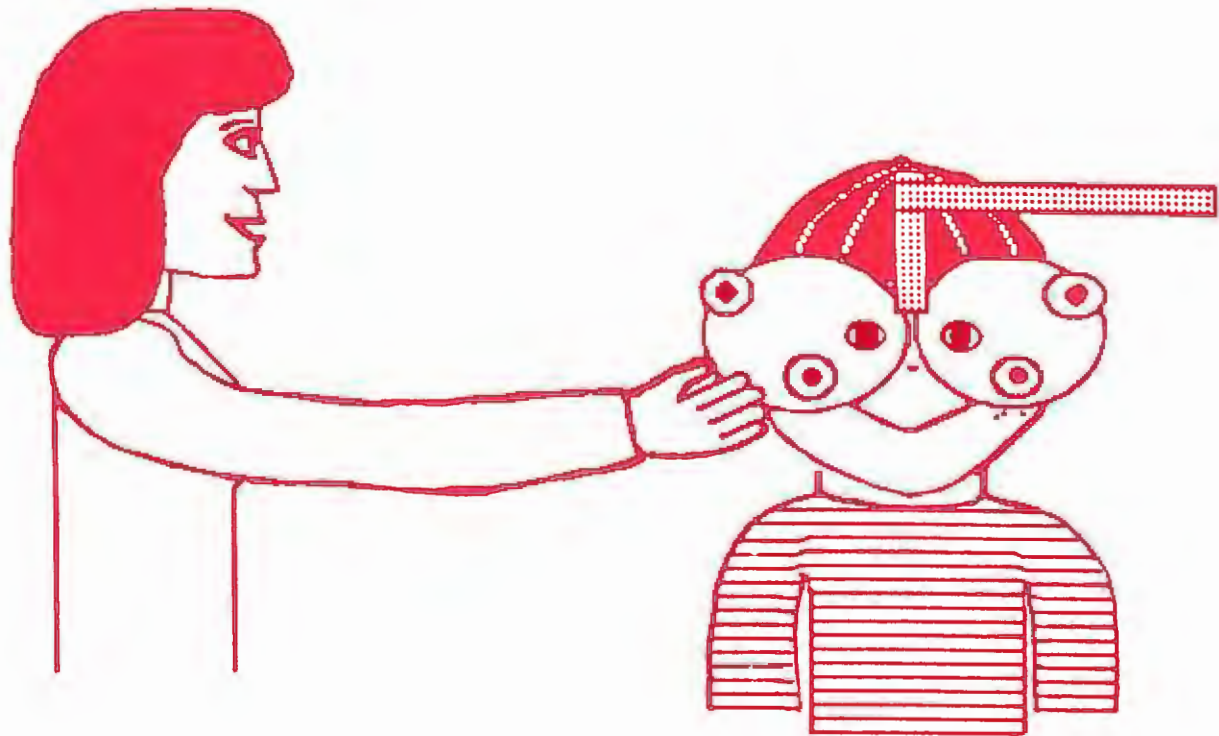
One day Jeremy was having trouble with his homework. His mother decided to take him to the optometrist to see if glasses would help.



Help Jeremy find the optometrist's office.



Jeremy was a little nervous at first, but
Dr. C. Good was very nice and the eye
exam was not scary at all.

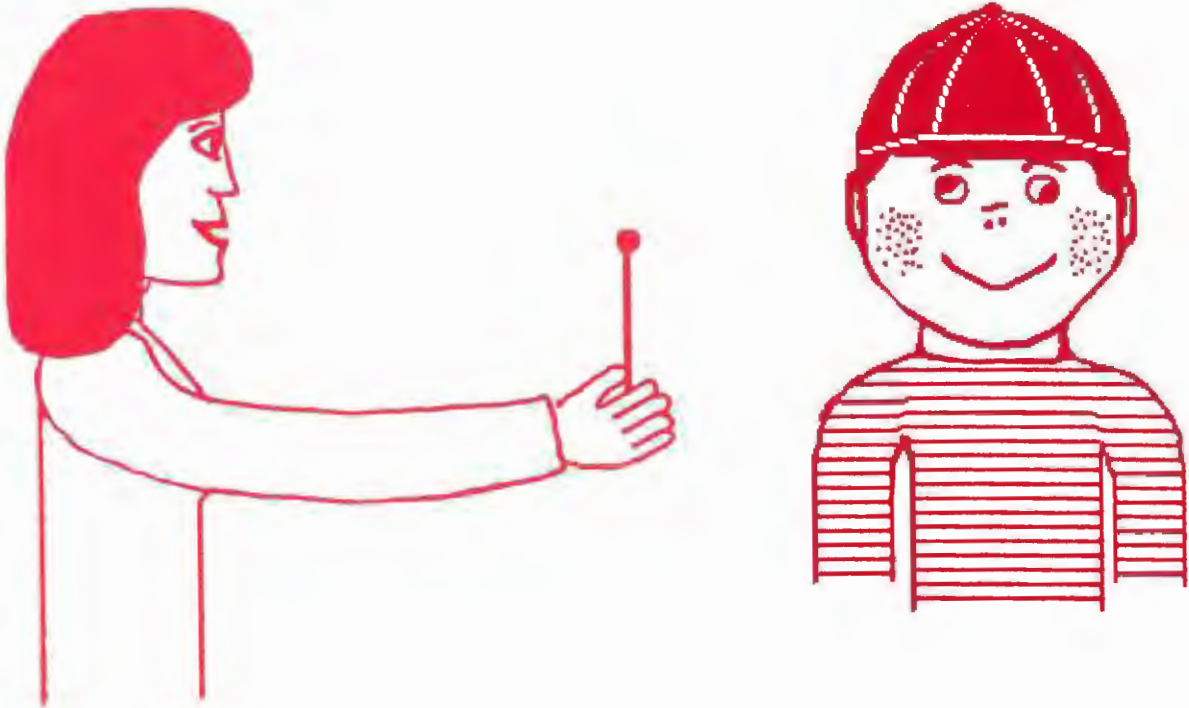


The optometrist found that Jeremy did not need glasses.



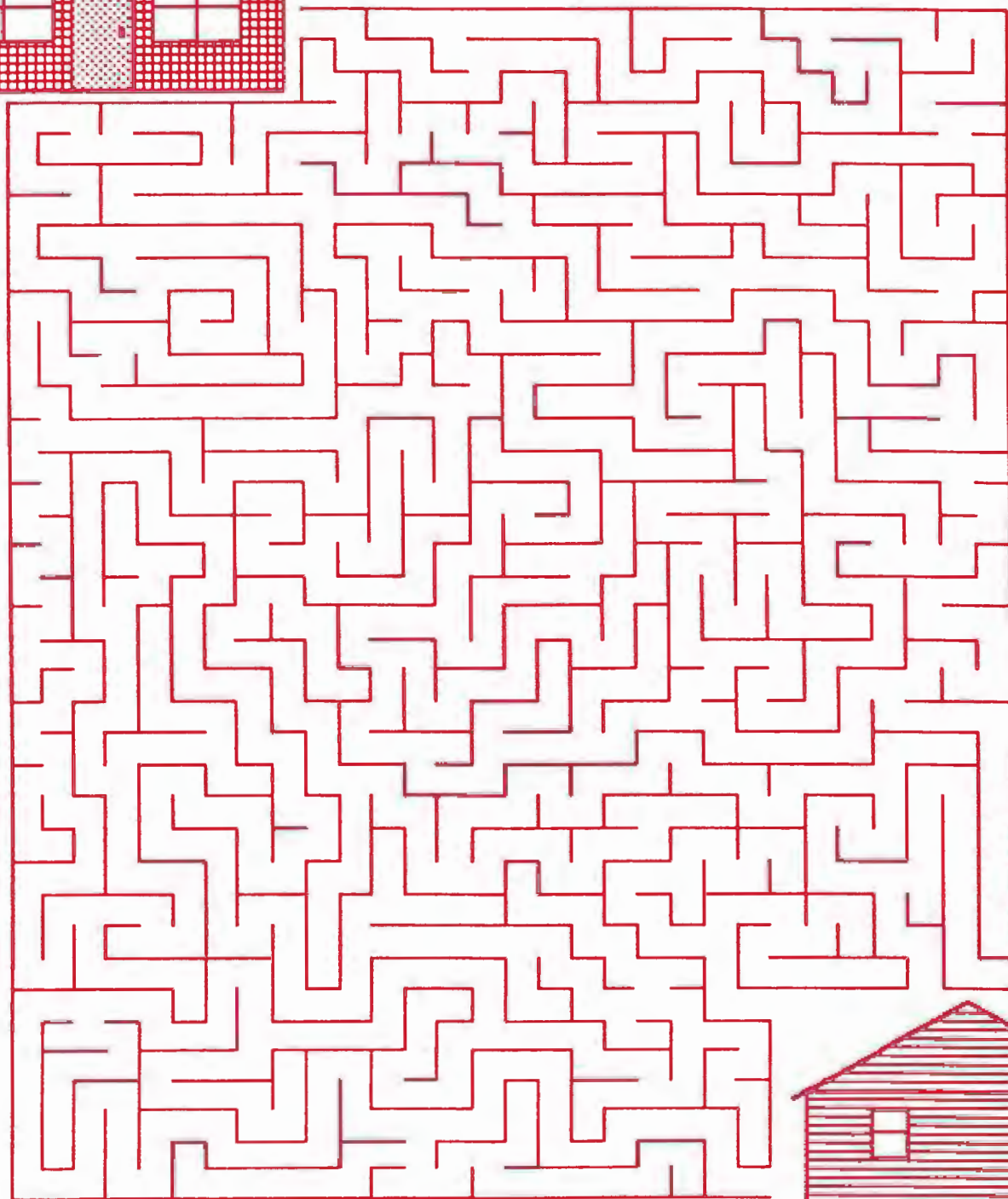
Circle all the people that are wearing glasses.

She did find that Jeremy was not using his eyes together as a team. This was why he lost his place while reading and had trouble catching the baseball.



Did Jeremy's eyes follow the bead?

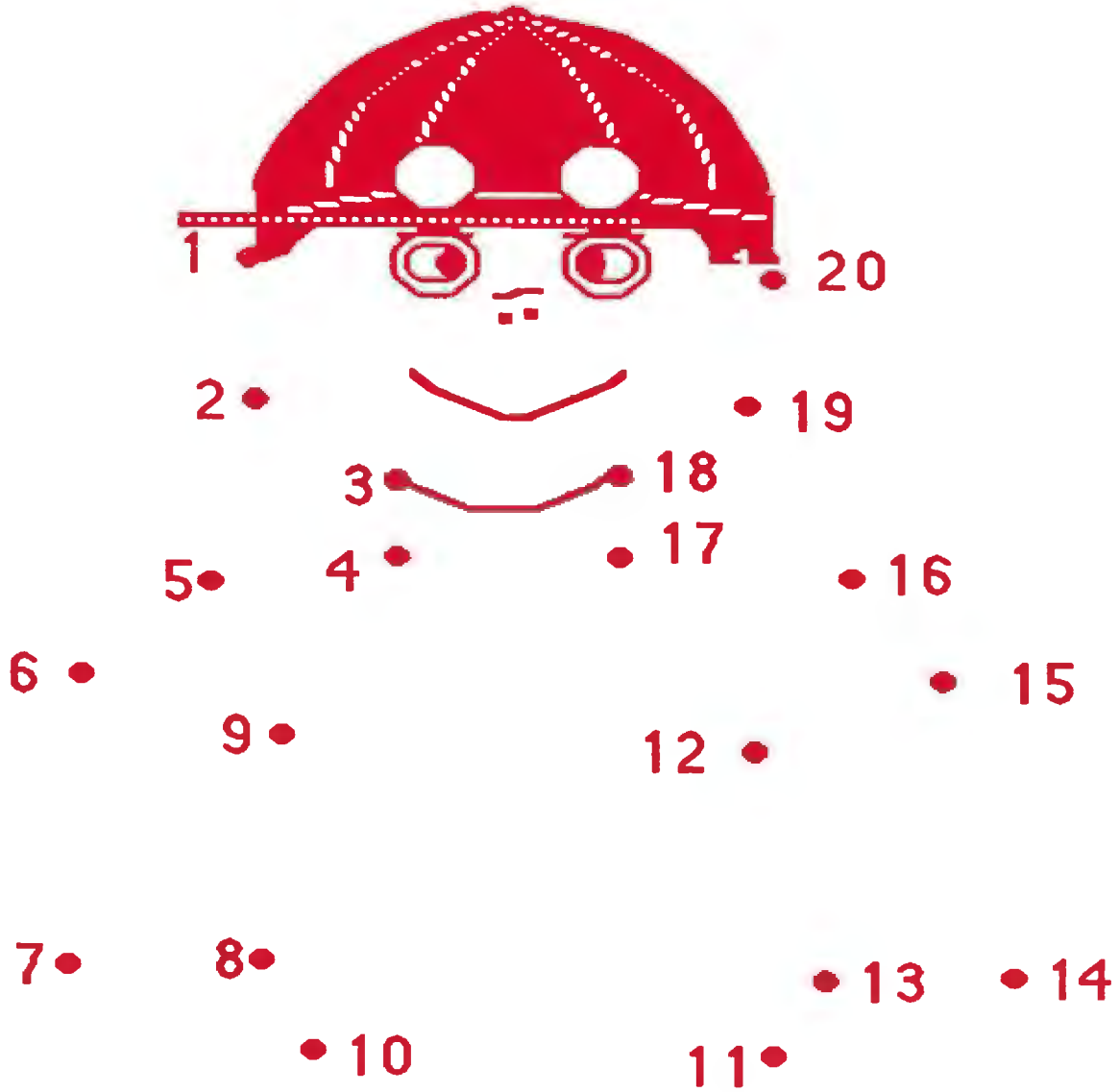
Dr. C. Good suggested that Jeremy come back once a week for Vision Therapy. She would teach him some games to help his eyes work together as a team.



Help Jeremy find his way home.

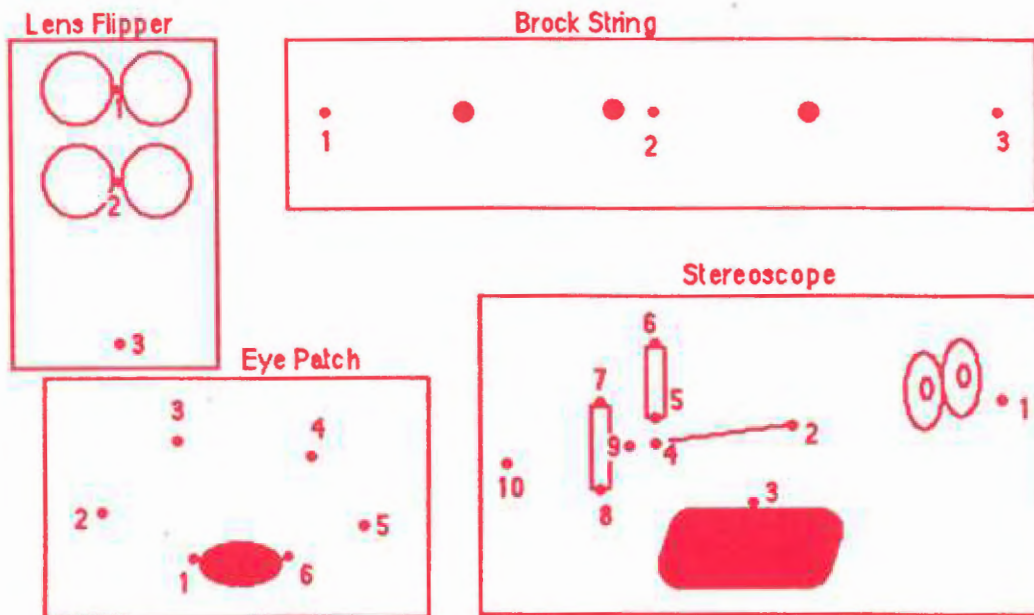


The very next day, Jeremy had his first visit. Some activities were easy and some were kind of hard.

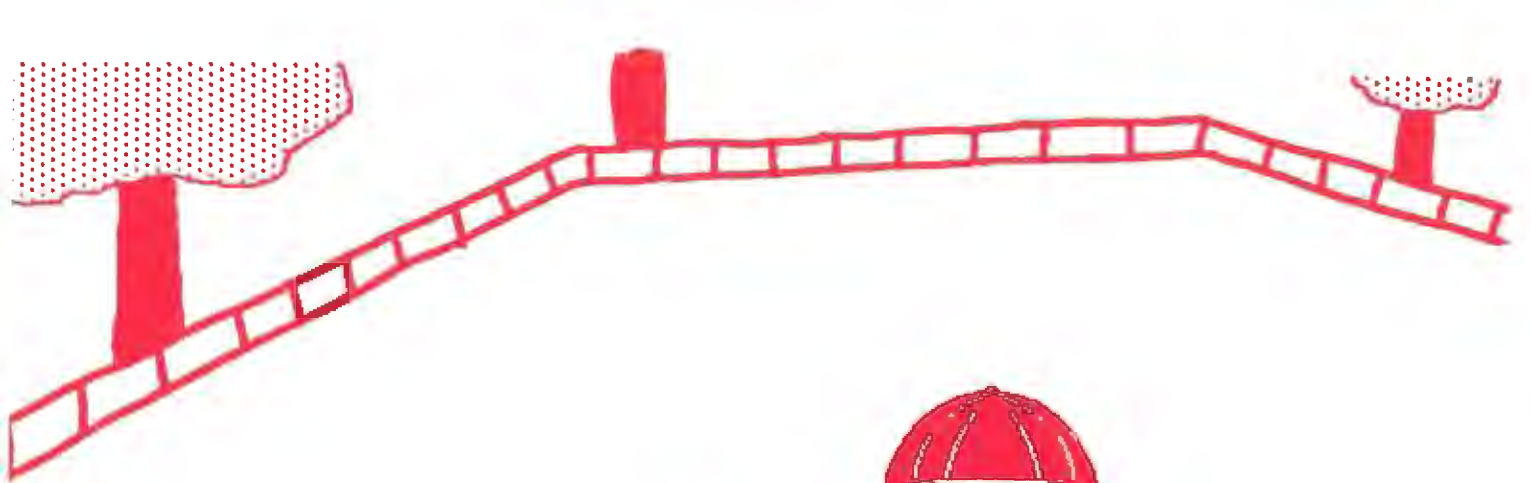


Connect the dots to draw Jeremy's head and shoulders.

Jeremy got to take some of the games home to practice. He hoped to be much better at these before his next visit.



Connect the dots to draw Jeremy's VT equipment.



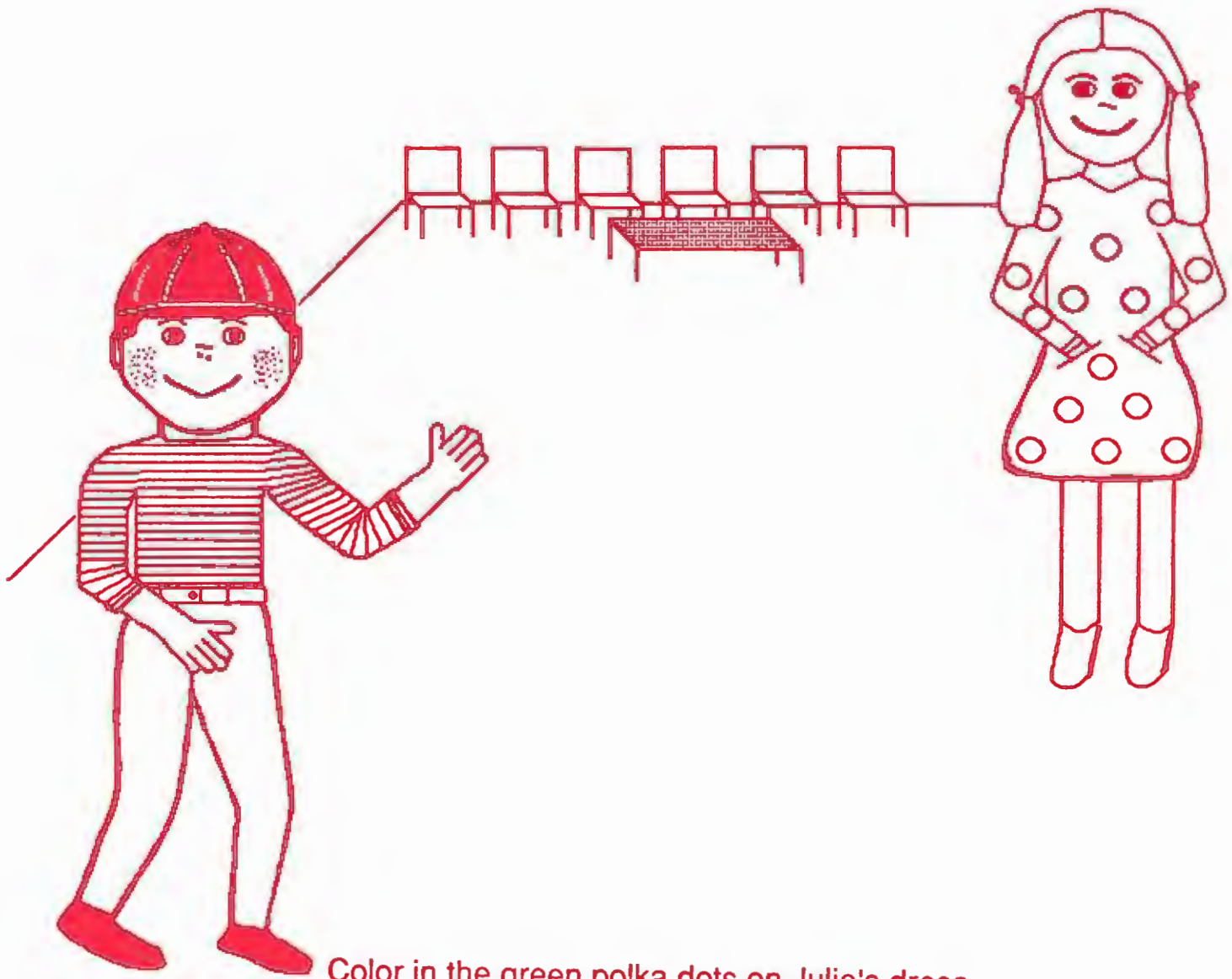
A few weeks passed and Jeremy was noticing some great improvements. He almost never missed catching the baseball, and he was able to read without losing his place.

Draw grass on the baseball field.

Even though Jeremy was very happy with his improvements, he often wondered if he was the only kid in the whole world who needed Vision Therapy.

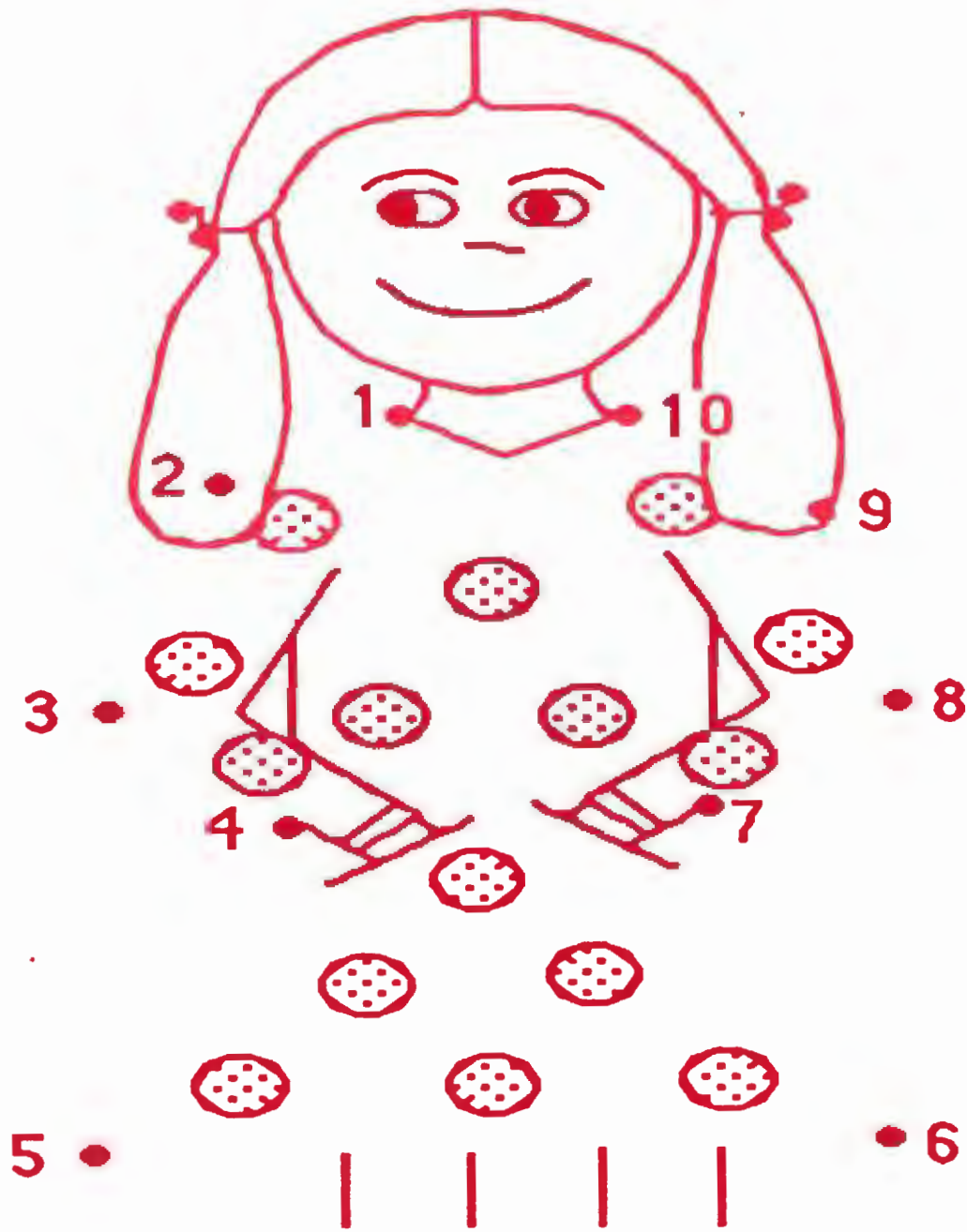


One day on his last visit to Dr. C. Good, his question was answered. There was Julie, his good friend, standing in the waiting room.



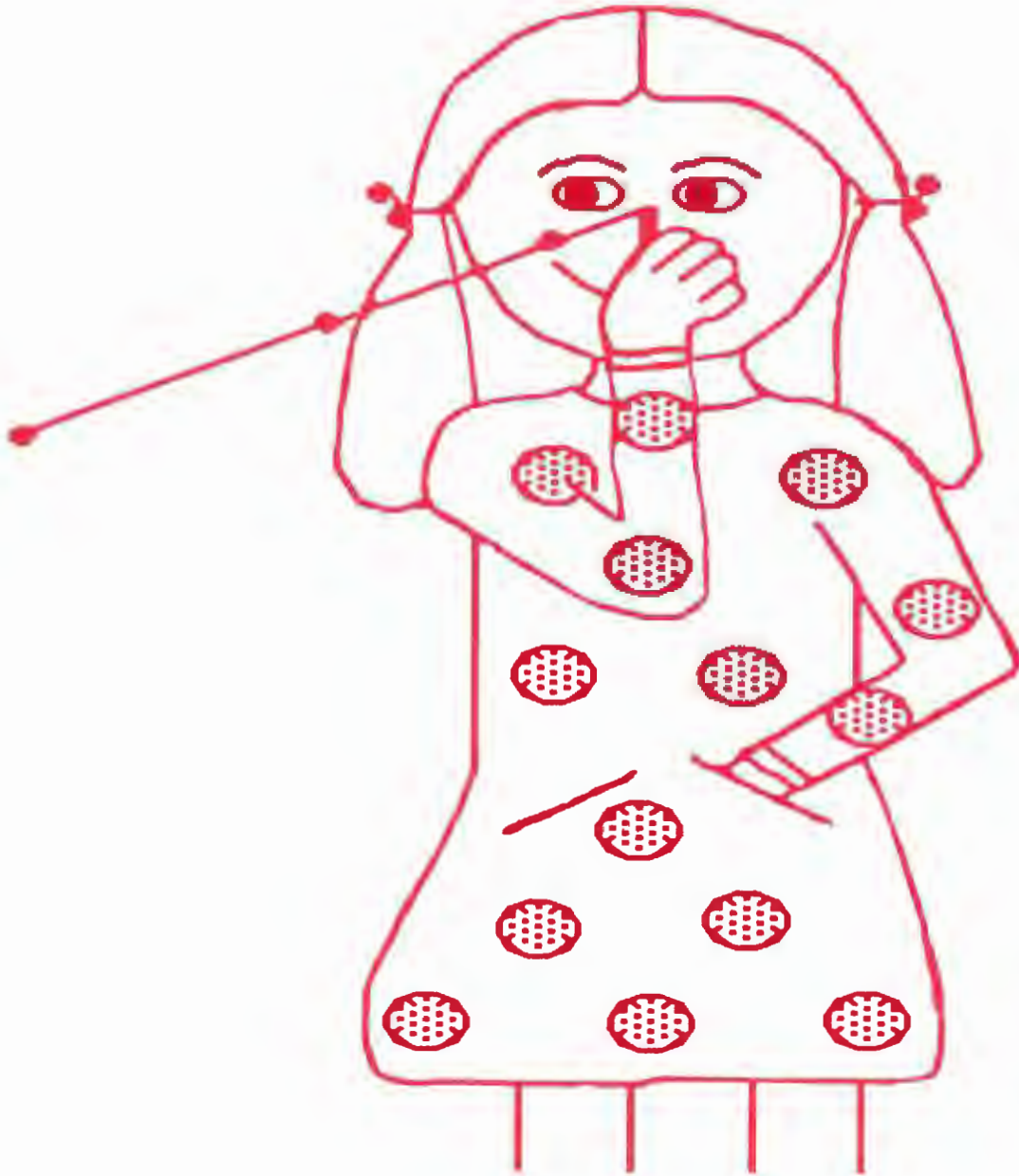
Color in the green polka dots on Julie's dress.

Jeremy remembered that he had seen one of her eyes pointing out before.



Connect the dots in Julie's dress.

Dr. C. Good was teaching Julie how to keep her eyes straight. Julie liked Vision Therapy as much as Jeremy.



The next day at school, something special happened. Jeremy was picked first for the baseball team!



Connect the dots to make Jeremy's smile.

The End