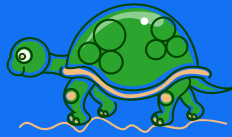
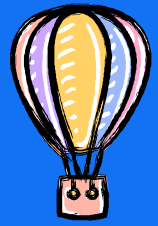


Peer



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Learning



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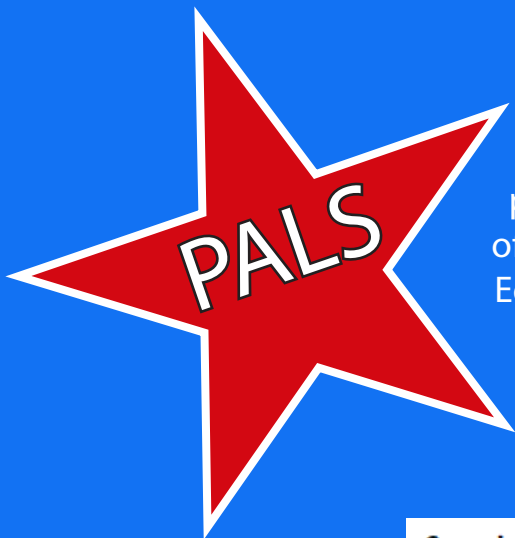
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Strategies

Math Methods for First Grade

Lynn S. Fuchs, Douglas Fuchs,
Laura Yazdian, Sarah Powell, Kathy Karns



Support for the development of this manual was provided in part by Grant #324V980001 from the Office of Special Education Programs in the U.S. Department of Education, and Core Grant # HD15052 from the National Institute of Child Health and Human Development.

Dear Educator,

Thank you for your interest in the First Grade Math PALS intervention program developed at Vanderbilt University. We are pleased to offer you this excerpt to review.

These pages from the First Grade Math PALS manual are provided as a courtesy to allow you to preview a representative sampling of the Math PALS intervention program for First Grade students or students reading at a First Grade proficiency level. This excerpt includes the following:

1. Table of Contents
2. Introduction
3. Lesson 1 / Day 1
4. Lesson 1 / Day 2
5. Lesson 1 / Day 3
6. Game Board – Lesson 1 / Day 2
7. Manipulatives
 - a. Materials List
 - b. PALS Rules
 - c. Student Assignment Chart
 - d. Smiley Sheet

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If you have questions, please contact Lynn Davies at lynn.a.davies@vanderbilt.edu or call 615-343-4782

Regards,

Lynn Davies
Program Manager
Vanderbilt University
110 Magnolia Circle, Suite 418
Nashville, TN 37203

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PEER ASSISTED LEARNING STRATEGIES

First Grade Math PALS



**TEACHER MANUAL
2011 Revised Edition***

**Lynn S. Fuchs, Douglas Fuchs,
Laura Yazdian, Sarah Powell, & Kathy Karns**

Contributors to the 2011 Revised Edition:

Lauren Deason

Beth Perkins

Amanda Reece



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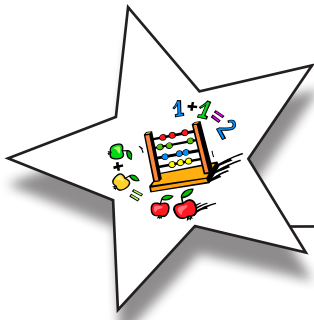
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INTRODUCTION

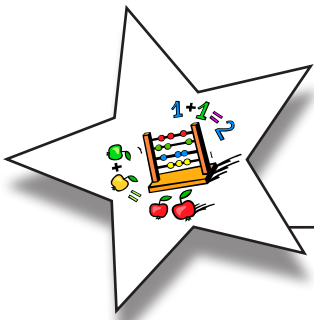


INTRODUCTION

Welcome to Peer-Assisted Learning Strategies (PALS) Math! We are excited that you have chosen to implement PALS. Repeated scientific evaluations of PALS Reading and PALS Math indicate that high-achieving, average-achieving, and low-achieving students, as well as students with learning disabilities, make greater progress in PALS classrooms than their counterparts in non-PALS classrooms.

PALS Reading and PALS Math were approved by the U.S. Department of Education's Program Effectiveness Panel as an effective educational practice. Additionally, PALS Math is listed among the best evidence-supported math programs on the Johns Hopkins University website, Best Evidence Encyclopedia (BEE).

PALS was initially based on Classwide Peer Tutoring (CWPT), developed at Juniper Gardens Children's Project in Kansas City in the late 1970s. Like CWPT, PALS is structured to increase the time students are engaged in academic tasks and to facilitate immediate corrective feedback between peers. PALS Math activities extend beyond CWPT's math facts to address key calculation, concepts, and applications representing the curriculum at Kindergarten, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5, and Grade 6. The activities are designed to be effective, efficient, and user-friendly.



HOW TO USE THIS MANUAL

This manual provides all the information you need to implement Math PALS!

For PALS to run smoothly and result in better achievement outcomes, it is essential that you teach your students each and every principle covered in this manual. Teachers rely on different strategies for using this manual. For example, some teachers study the script and prepare an outline; then, they use that outline to deliver the training in their own words. Other teachers, however, after studying the script, still rely heavily on the wording of the script to deliver the lessons. In either case, it is necessary to **study** the script before delivery; without sufficient study, reading the script seems stilted and is not effective. In all cases, you should deviate from the script to elaborate concepts your students do not seem to understand.

IN THIS MANUAL

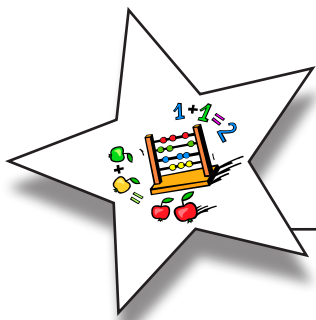
This manual contains:

- Teacher Lessons
- Game Board Templates
- Manipulatives Templates
- Challenge Game Board Templates

The **Teacher Lessons** are designed to guide the delivery of each lesson. As mentioned above, it is essential that teachers teach all the principles outlined in each lesson. Each new lesson (i.e., Day 1) has a script. For Day 2 and Day 3 of each lesson, the teacher should provide instruction as necessary. An *Announcement* is provided within the Teacher Lesson to provide suggestions for teacher instruction on Day 2 of each lesson.

The **Game Boards** are the worksheets that the pair shares when working on a PALS lesson. Some lessons require additional manipulatives. See page 11 for additional information.

To extend some of the lessons, **Challenge Game Boards** are included in the back of the manual.



OVERVIEW

In First Grade, Math PALS is typically conducted **three** times each week for **18 weeks**. Each session lasts about **20-25 minutes**. During each session, all students in the class are paired and work together on a game board.

SKILLS

The following skill areas are available in First Grade Math PALS:

- Number recognition
- Comparing numbers
- Addition and subtraction
- Place Value
- Missing Addends

ACTIVITIES

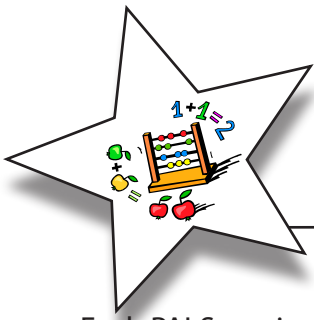
Math PALS comprises two major activities:

TEACHER LESSON

- On Day 1 of each week, the teacher teaches the students how to use the game board. The teacher demonstrates the role of the tutor (Coach) and the tutee (Player). The teacher also reviews any important mathematical concepts.
- The lesson lasts approximately 10-15 minutes.

PAIR PRACTICE

- Students take turns as Coach and Player. The higher-performing student is the first Coach, and the lower-performing student is the first Player. Students switch roles throughout the lesson when signaled by a flag on the game board.
- The teacher monitors pairs and provides feedback when necessary.



MATERIALS

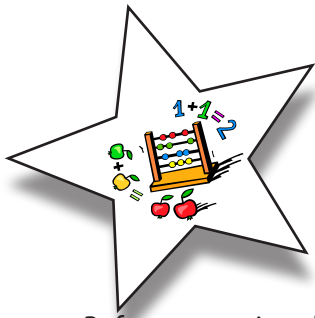
Each PALS session requires a **Game board** for each pair.

What number? 	2	5	1	3	0	4
	3	4	0	7	8	
Show how many. 	6	0	10	3	10	7
	2	5	0	8	3	
	0	7	10	9	10	4
	10	5	0	2	8	
Lesson 1 Day 2						

The Coach's prompts are on the left-hand side. The Player works on the right-hand side. The flag signals students to switch roles (i.e., the Coach becomes the Player, and the Player becomes the Coach). The smiley face signals the Player to mark one smiley face on the Smiley Sheet.

Each PALS session also requires a **Smiley Sheet** for each pair, which is used as a motivation strategy throughout the PALS lesson.

Smiley Sheet								
Day 1			Day 2			Day 3		



MATERIALS LIST

Before preparing the manipulatives, the number of student pairs should be determined. The number of student pairs will determine the number of manipulatives you will make.

*A template is provided in this manual.

***Student Assignment Chart**

This chart is used to write the names of the student pairs. You need a new assignment chart every few weeks.

***PALS Rules - Lessons 1-18**

A copy of the PALS rules should be made to hang in the classroom. It might be helpful to laminate the Rules poster.

***Teacher Posters - Lessons 1-18**

During each teacher-directed lesson, you need a copy of the student game boards to model the activity. These game boards can be enlarged on a 11" by 17" sheet of paper, or they can be projected via document camera.

***Smiley Sheet - Lessons 1-18**

Each week, student pairs use a new Smiley Sheet. Each week, you need enough copies of the Smiley Sheet for each pair. Some teachers laminate the Smiley Sheet for use week after week.

- Example: 10 student pairs \times 18 weeks of PALS = 180 Smiley Sheet copies

Student Folders

All of the PALS materials for each pair are kept in a two-pocket folder. The left-hand side of the folder should be marked "New" and the right-hand side of the folder should be marked "Old." The folder will be filled on the "New" side with the new game boards and Smiley Sheet at the beginning of each week. Once the students have finished each game board, they will place it on the "Old" side of the folder. Each pair in the classroom will need their own folder. Folders can be purchased at any office supply store.

- Example: 10 student pairs = 10 folders

***Teacher Number Line - Lessons 4, 5, 6**

The Teacher Number Line can be used during teacher-directed lessons. It is used specifically in three lessons, but it may be helpful to use with other lessons. This number line can also be enlarged and laminated.

***Student Number Line - Lessons 4, 5**

Each student pair needs a Number Line. The number line is used specifically in two lessons, but students may find it helpful to use it with other lessons. It may also be helpful to copy the number line on card stock or laminate it. Students use the 0-20 number line. Other number lines are included (0-50, 0-100) if students are using the Challenge Game Boards with larger number increments.

- Example: 10 student pairs = 10 student (0-10) number lines

Clothespins - Lessons 4, 5

Each student pair needs a clothespin to be used with the number line listed below. Clothespins can be purchased at the local grocery store.

- Example: 10 student pairs = 10 clothespins

***Spinners - Lesson 5**

Each student pair needs a spinner. It might be helpful to copy the spinner on card stock or laminate it. Spinners can be purchased at local teacher supply stores or an arts and crafts store.

- Example: 10 student pairs = 10 spinners

Wooden Chip - Lesson 6

Each student pair needs a wooden chip (approximately 1-inch diameter) with a ">" sign drawn on one side and a "=" sign drawn on the other side. Wooden chips can be purchased at arts and crafts store.

- Example: 10 student pairs = 10 wooden chips

Paper plate - Lesson 6

The teacher will use a paper plate with a ">" sign drawn on one side and a "=" sign drawn on the other side. Paper plates can be purchased at the local grocery store.

Beans - Lessons 7, 8, 9, 11

Each student pair needs a plastic bag with about 12-15 beans. These beans are used with the Bean Sheet and Bean Pot and Circle Sheet listed below. Kidney beans are a good-size bean for students to use and can be purchased from a local grocery store. You also need to purchase small plastic bags to put the beans in. These can also be purchased at a local grocery store.

- Example: 10 student pairs \times 15 beans = 150 beans, 10 baggies

***Bean Pot and Circle Sheet - Lessons 7, 8, 9**

Each student pair needs a copy of the Bean Pot and Circle Sheet. It might be helpful to copy the paper on card stock or laminate it.

- Example: 10 student pairs = 10 Bean Pot and Circle Sheets

***Bean Place Value Sheet - Lesson 11**

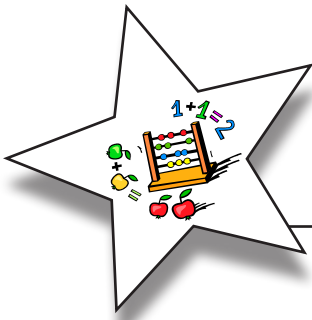
Each pair needs a copy of the Bean Sheet. It might be helpful to copy the paper on card stock or laminate it.

- Example: 10 student pairs = 10 Bean Place Value Sheets



SCHEDULING

1. Schedule a time for Math PALS to occur three times each week, approximately 25 minutes per session (e.g., Tuesdays, Thursdays, and Fridays from 9:35-10:00 am).
2. Each week, conduct PALS on the same days and at the same time.
3. Schedule PALS when all students are routinely present. Avoid periods when students are out of class for special activities.



PAIRING STUDENTS

For PALS, pair each student with a partner. Use assessment information that is routinely available to you as the basis for formulating pairs.

1. Rank order your students in terms of their overall mathematics skill. Write the name of your strongest math student at the top of the list (i.e., Student 1), then write the name of your second-best math student (i.e., Student 2) and so on, ending with the weakest math student at the bottom (i.e., Student 20).
2. Pair your highest math student with your lowest math student; pair your second-highest math student with your second-lowest math student; and so on.

	First Coach	Second Coach
Pair 1	Student #1	Student #20
Pair 2	Student #2	Student #19
Pair 3	Student #3	Student #18
Pair 4	Student #4	Student #17
Pair 5	Student #5	Student #16
Pair 6	Student #6	Student #15
Pair 7	Student #7	Student #14
Pair 8	Student #8	Student #13
Pair 9	Student #9	Student #12
Pair 10	Student #10	Student #11

Student #1 is the highest-performing student.
Student #20 is the lowest-performing student.

3. Reassign pairs every 4-6 lesson.

HANDLING ABSENTEES AND UNEVEN NUMBERS OF STUDENTS

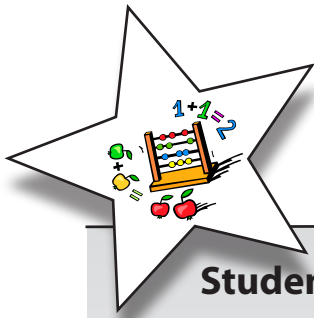
Sometimes students are absent or classrooms have uneven numbers of students. Before each PALS session, ask students if any partners are missing. If so, try to place odd students into pairs that make sense. If you need to create a triad, use these procedures.

1. If two students are firm on the lesson's skill and one student is weak on the lesson's skill, designate the stronger students both as "first Coaches" and the weaker student as the "second Coach." While two students are both Coaches, have them take turns, problem-by-problem, fulfilling this role.
2. If only one student is firm on the lesson's skill and the two remaining students are weak on the lesson's skill, designate the stronger student as "first Coach" and the remaining two students as "second Coaches." While two students are both Players, have the Coach fulfill his/her coaching role with both Players (i.e., correction and helping procedures), but have Players take turns.

MOVING STUDENTS TO AND FROM PARTNERS

Keep PALS folders in one place in the classroom where students can find materials quickly.

In the classroom, post the Student Assignment Chart with the names of the Coaches and Players. Ask the Players to stand, get their pencil. Ask the Coaches to stand and get their folder. Encourage students to sit next to their partner. You may prefer to have Players stand behind their partners until you make seating arrangements.



LESSON 1

Day 1

Students Learn

- PALS Rules

MATERIALS

- ☆ PALS Rules Poster

GUIDING GRAPHICS



Use
Poster

Today I'm going to tell you about a new activity called PALS (write PALS on the board). **What does the word pal mean?**

STUDENTS: - pals are friends
- pals are people you do things with
- a pal is someone you talk to and share things with
- pals are nice to each other

Good. We'll begin our PALS activities in a few days. Everyone will have a special partner just for PALS. You and your PALS partner will work together to learn math. What will you and your PALS partner work on?

STUDENTS: Learning math.



PALS Rules

(Display PALS Rules poster. We suggest that you hang the Rules poster in a permanent place in your classroom.)

In PALS, you will also learn how to work together with your partner. To be a good partner, you need to do three things. We call these three things our PALS Rules.

The first PALS rule is to talk only to your partner and talk only about math (refer to PALS Rules Poster #1). **Why do you think it's important to talk only to your partner and only about math?**

STUDENTS: - so you can concentrate on your work and stay on task
- so you don't get distracted by other things
- so you don't bother others working around you

Good job. Now, if I was talking to my partner about recess and also talking with a student across the room, would I be a good PALS partner or bad PALS partner? Why?

STUDENTS: - bad PALS partners
- you were not talking about math
- you were talking to and distracting other students

Good. Now if I was talking about math and talking only to my partner, would I be a good PALS partner or bad PALS partner? Why?

STUDENTS: - good PALS partner!
- you were talking only about math and you were doing your work
- you did not talk to other students but only to your own PALS partner

You're doing a great job listening and answering my questions!

The second PALS rule is to use a soft PALS voice (refer to PALS Rules Poster #2). **We have different kinds of voices. When we're outside, it's OK to use a loud voice. But when you answer a question in class, you use a softer, quieter voice than outside. Still, you speak loudly enough for the class to hear you. But when we do PALS we don't want the whole class to hear us. With everyone talking at the same time, that would be too loud.**

So, we need to have special PALS voices like this. (Demonstrate a very soft voice. Then demonstrate different level voices and have class decide if it's an outside, in class or PALS voice.) **Why do you think it's important to use a soft voice?**

STUDENTS: - so you don't distract others around you
- because yelling is rude and not helpful

The third PALS rule is to be nice and helpful to your partner (refer to PALS Rules Poster #3). **During PALS, you and your partner are a team. It's very important that you work well together. You should be nice to your PALS partner. What does it mean to be nice?**

STUDENTS: - be polite to your partner
- don't get angry with your partner
- listen and pay attention to your partner

Very good. You should also be helpful to your partner. What does it mean to be helpful?

STUDENTS: - help your partner if they are having trouble
- if both of you need help, raise your hand for the teacher
- help your partner understand questions if they need help

Good job. Do you like it when I tell you that you're doing a good job? We all like to know when we're doing well. So, it's important to let your partner know when he or she is doing a good job. This is part of being a nice and helpful PALS partner. Say something like, "Good job!" or "Nice work!" What other ways can you tell your partners they're doing well?

STUDENTS: - good job
- great work
- keep up the good work

Good job. Now, if I was not helping my partner and making fun of him, would we be good PALS partners or bad PALS partners? Why?

STUDENTS: - bad PALS partners
- you were not nice to each other
- you made fun of one another
- you were not helpful to your partner

Very nice. If I was helping my partner and telling him that he's doing a good job, would we be good PALS partners or bad PALS partners? Why?

STUDENTS: - good PALS partners
- you were being nice and using nice words
- you were being helpful to one another
- you were encouraging each other

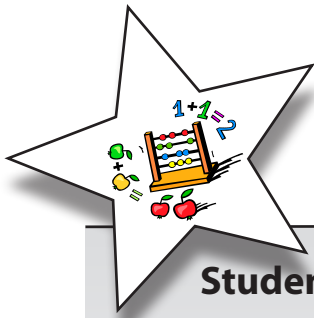
Does anyone have any questions about being a good PALS partner?

STUDENTS: (Ask questions if needed.)

Good work. Let's review the three PALS rules. (Refer to PALS Rules Poster.) **What are the three PALS rules?**

STUDENTS: - Talk only to your partner and talk only about math.
- Use a soft "PALS" voice.
- Be nice and helpful.

Nice work for today. We'll talk more about this next time.



LESSON 1

Day 2

Students Learn

- Role of Coach
- Role of Player
- How to use game board
- Correction procedure

MATERIALS

- ☆ PALS Rules Poster
- ☆ Lesson 1 Day 2 Game Board Poster
- ☆ Smiley Sheet Poster

GUIDING GRAPHICS



Use
Poster



Use
Game Board

Today, we're going to learn more about PALS. What do you work on with your PALS partner?

STUDENTS: Math



PALS Rules

That's right. When you and your PALS partner are working together to learn math, it's very important that you work well together. What are the PALS rules?

STUDENTS: - Talk only to your partner and only about math.
- Use a soft "PALS" voice.
- Be nice and helpful.

Good. There are two jobs in PALS: Coach and Player. Both of these jobs are very important.

If you are the Coach, your job is just like the Coach of a football team. You need to help your partner in every way possible so that he will be good at math.

If you are the Player, you need to listen carefully to the Coach's directions and try your best. During PALS, you and your partner will take turns doing both jobs. When you're not the Coach, you'll be the Player.



Lesson 1
Day 2

Look up here. (Show Lesson 1 Day 2 poster). **When we do PALS, we'll use game boards like these. When you're the Coach, you'll ask questions and the Player will answer. These are the Coach's questions.** (Point to Coach's questions.) **Let me show you what I mean.**

I'll be the Coach and you'll all be the Players. The Coach points to the number like this and asks, "What number?" Watch how I point carefully with the tip of my finger. I want to be sure my partner can see the number. "What number?"

STUDENTS: 2

Good. Next the Coach says, "Show me how many." The Player holds up 2 fingers and counts, "1, 2". (Demonstrate.) **"Show how many!"**

STUDENTS: Count fingers and says, "1, 2."

Nice job. Let's continue.

Practice 2, 5, 1, 3, then 0.

Make sure students start from one and count aloud each finger.

For the number zero we hold up a fist (demonstrate) **but no fingers. Why is that?**

STUDENTS: - zero means none
- zero means nothing

That's right. Zero means none. So, we hold up no fingers. We hold up a fist like this. (Demonstrate.)

During PALS you and your partner are a team. If your partner makes a mistake, you should help in a nice way.

On this game board, when your partner misses a number, say, “Stop. You missed that one.” Then, you count up to that number and hold up the correct number of fingers as you count. Then you let the Player have a turn to do the number correctly, like you just showed him.

There are different mistakes the Player can make. Sometimes your partner may say the correct number but hold up the wrong number of fingers, like this: (say 4 and count out 3 fingers). If your partner holds up the wrong number of fingers, say “Stop. You missed that one. That number is 4: 1, 2, 3, 4 (extend a finger with each number).” Then let the Player take a turn to do the number correctly, like you just showed him.

Some times your partner may say the incorrect number but hold up the correct number of fingers, like this: (say 3 and count 4 fingers). If your partner says the wrong number, say “Stop. You missed that one. That number is 4: 1, 2, 3, 4 (extend a finger with each number).” Then the Coach lets the Player try again.

Sometimes your partner may not even say the number at all. She might just stare at the number and say nothing, or say “I don’t know.” In that case, the Coach still needs to help. The Coach says, “Stop. You missed that one. The number is 4: 1, 2, 3, 4.” Then the Coach says, “What number?” and gives the Player another chance.

Now let’s try some more. I’ll be the Coach. All you will be my Players.

Do the second and third row together. Make sure all students are participating. Use praise appropriately. Listen for opportunities to model correction procedures. Stop when you come to the first smiley face at the end of the third row.



Smiley Sheet

Great work. This smiley face on your game board is something special. It tells the Player to mark a smiley face on the Smiley Sheet. (Hold up smiley Sheet Poster.) All of you will have a Smiley Sheet your team uses with each game board. Remember, you both get to be the Player each day. So, you both will get to mark smiley faces.

It works like this. The Player finds the Day 2 box on the Smiley Sheet because your game board says Day 2 in the corner. (Point to Day 2 in the corner of the poster.) Your game board will always tell you whether it’s Day 1 or 2 or 3. Look in the bottom left-hand corner of the paper (point). Then, when you come to a smiley face on your game board, the Player takes a pencil and marks a smiley face in the Day 2 box.

There is a second way to earn smiley faces. During PALS, I'll walk around the room and mark smiley faces for good PALS work. For example, if I see you being kind and helpful, I'll mark a smiley face. If I see you trying hard and doing good math work, I'll mark a smiley face.

Now, I'm going to choose someone who's done a good job as Player to come mark the smiley face. (Have a student mark a smiley face in the Day 2 box on the Smiley Sheet Poster.) **What do you do when you come to a smiley face?**

STUDENTS: You stop, and the Player marks a smiley face.

Right. Look, there's another picture here. (Point to flag.) **This flag tells PALS partners to change jobs. Whenever you see this flag, the Coach becomes the Player, and the Player becomes the Coach. Let's do that. We'll change jobs. You'll be the Coach and I'll be the Player.**

Work the next two rows with you as the Player and the students as the Coach. Pick one student to come to the front of the class and point to the numbers. Make mistakes in both numeral names and number of fingers. Help students with correction procedures as needed. Remind them to praise you occasionally.

Look, another smiley face. (Point to smiley face.) **Since I am the Player, I will mark a smiley face in the Day 2 box on the Smiley Sheet.** (Mark smiley face.)

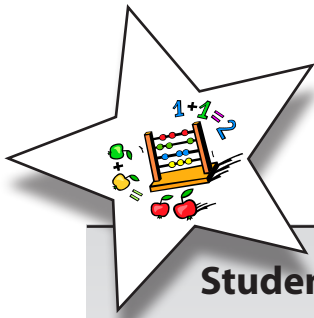
Look, another flag. What do we do when we come to a flag?

STUDENTS: The Coach becomes the Player and the Player becomes the Coach.

Yes! The flag tells partners to change jobs. Let's do that. I'll be the Coach and you'll be the Players.

Work last two rows. Help students with correction procedures as needed.

Great job. You all did a nice job being both Coach and Player. I know you will be ready to do this activity with your partner next time we do PALS.



LESSON 1

Day 3

Students Learn

- Role of Coach
- Role of Player
- How to use game board
- Correction procedure

MATERIALS

- ☆ PALS Rules Poster
- ☆ Lesson 1 Day 3 Game Board Poster
- ☆ Smiley Sheet Poster
- ☆ Lesson 1 Folder (for each pair)

GUIDING GRAPHICS



Use
Poster



Use
Game Board



Pairs Work
Together



PALS Rules

Today, we're going to practice PALS again. What are our three PALS rules?

STUDENTS: - Talk only to your partner and talk only about math.
- Use a soft "PALS" voice.
- Be nice and helpful.



Lesson 1
Day 3

Good. We're going to work on a similar game board we used last time. What two things does the Coach say?

STUDENTS: - What number?
- Show how many.

Great. What does the Player do?

STUDENTS: Says the number and holds up that many fingers and counts.

Who can remember what we do if the number is zero?

STUDENTS: -You hold up a fist.
-You don't hold up any fingers.

That's right. Zero means none; so, we hold up a fist with no fingers.
(Demonstrate.) **Let's see if all of you can show me what to do if the number is zero.**

STUDENTS: (Hold up fist.)

Let's look at today's game board. I'll be the Coach and you'll be my Players.
"What number?"

STUDENTS: 4.

"Show how many?"

STUDENTS: Hold up 4 fingers and counts, 1, 2, 3, 4.

Good. "What number?"

STUDENTS: 10.

Now, with 10, we do something different. We use all our fingers. We think of 10 as a bundle of fingers. When we come to 10, we quickly "flash" all of our fingers and say "10." (Demonstrate.) **Let's see if all of you can show me what to do if the number is 10?**

STUDENTS: (Flash 10 by showing all of their fingers and then say "10.")

How do you show the number 10?

STUDENTS: - We use all of our fingers.
- We flash a bundle of 10 and say "10."

Good. It is also important to remember to help your partner if she makes a mistake. Let's pretend your partner made a mistake on this one. (Point to 4 on poster.) **Let's say for the number 4, your partner said 5. How might you correct your partner?**

STUDENTS: Stop. You missed that one. That number is 4: 1, 2, 3, 4 (extend a finger with each number).

Practice as many examples as necessary until students can do this independently.

I am now going to choose some PALS partners to come up to the front of the class and show us how to do the activity.

Choose students that you think can model correct procedure.

Now, you're ready to do work with your PALS partner. First, I'll tell you who your PALS partner is. Then I'll tell you if you'll be the Coach first or the Player first and where you and your partner should sit.

If you're the Coach first, I'll call your name and ask you to come to the front of the class to get your PALS folder. Players, you get a pencil.

It's important to remember not to write on the folders or game boards unless I tell you to. When we're done with PALS today, I'll collect your folders. Next time we work on PALS, you may get a different folder.

Tell the students the name of their partner using the Student Assignment Chart. Tell one partner to be Coach first and the other to be Player first. Tell each pair where to sit. Call the Coaches to the front of the class and hand them their PALS folder. Remind Players to get a pencil. When all pairs are seated, begin instructions.

First, Coaches open your folder. On one side of your folder, it says "New." (Demonstrate.) On the other side, it says "Old." (Demonstrate.) The materials you need for the day will be on the "New" side. You will put your finished work on the "Old" side.

Coaches, go to the "New" side. Take out the Smiley Sheet and the Day 3 game board. These are the materials you need for today. The game board says "Day 3" right here. (Point to "Day 3" on poster.) Place these materials between you and your partner.

Players, remember when you come to a smiley face on your game board, mark a smiley face on your Smiley Sheet in the Day 3 box. Be sure to switch roles when you come to a flag. If you finish the game board before PALS time is over, you and your partner may start again at the top of the game board. You may begin.



Lesson 1
Day 3

Walk around the room and help pairs do the PALS activity correctly. Give smiley faces for good PALS behavior. (e.g., making appropriate corrections, adhering to PALS rules, following PALS procedures.) Allow them to practice together for the rest of the PALS session. When you see that most of the students have come to the flag, you may want to remind them to switch jobs.

You're finished with your PALS Day 3 game board. So, put the game board on the "Old" side of your folder. Place the Smiley Sheet on the "New" side of your folder for next time.



GAME BOARDS

What
number?

?


Show
how
many.



2 5 1 3 0 4

3 4 0 7 8  

6 0 10 3 10 7

2 5 0 8 3  

0 7 10 9 10 4

10 5 0 2 8  

What
number?

?

Show
how
many.



4 10 1 7 0 10

0 2 3 10 6  

3 0 10 7 10 4

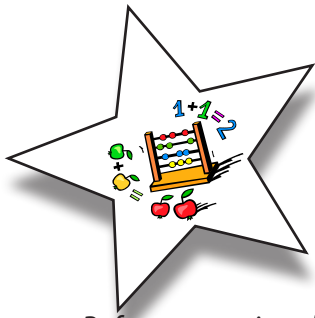
9 6 0 8 5  

0 7 10 1 10 8

10 9 0 6 3  



MANIPULATIVES



MATERIALS LIST

Before preparing the manipulatives, the number of student pairs should be determined. The number of student pairs will determine the number of manipulatives you will make.

*A template is provided in this manual.

***Student Assignment Chart**

This chart is used to write the names of the student pairs. You need a new assignment chart every few weeks.

***PALS Rules - Lessons 1-18**

A copy of the PALS rules should be made to hang in the classroom. It might be helpful to laminate the Rules poster.

***Teacher Posters - Lessons 1-18**

During each teacher-directed lesson, you need a copy of the student game boards to model the activity. These game boards can be enlarged on a 11" by 17" sheet of paper, or they can be projected via document camera.

***Smiley Sheet - Lessons 1-18**

Each week, student pairs use a new Smiley Sheet. Each week, you need enough copies of the Smiley Sheet for each pair. Some teachers laminate the Smiley Sheet for use week after week.

- Example: 10 student pairs \times 18 weeks of PALS = 180 Smiley Sheet copies

Student Folders

All of the PALS materials for each pair are kept in a two-pocket folder. The left-hand side of the folder should be marked "New" and the right-hand side of the folder should be marked "Old." The folder will be filled on the "New" side with the new game boards and Smiley Sheet at the beginning of each week. Once the students have finished each game board, they will place it on the "Old" side of the folder. Each pair in the classroom will need their own folder. Folders can be purchased at any office supply store.

- Example: 10 student pairs = 10 folders

***Teacher Number Line - Lessons 4, 5, 6**

The Teacher Number Line can be used during teacher-directed lessons. It is used specifically in three lessons, but it may be helpful to use with other lessons. This number line can also be enlarged and laminated.

***Student Number Line - Lessons 4, 5**

Each student pair needs a Number Line. The number line is used specifically in two lessons, but students may find it helpful to use it with other lessons. It may also be helpful to copy the number line on card stock or laminate it. Students use the 0-20 number line. Other number lines are included (0-50, 0-100) if students are using the Challenge Game Boards with larger number increments.

- Example: 10 student pairs = 10 student (0-10) number lines

Clothespins - Lessons 4, 5

Each student pair needs a clothespin to be used with the number line listed below. Clothespins can be purchased at the local grocery store.

- Example: 10 student pairs = 10 clothespins

***Spinners - Lesson 5**

Each student pair needs a spinner. It might be helpful to copy the spinner on card stock or laminate it. Spinners can be purchased at local teacher supply stores or an arts and crafts store.

- Example: 10 student pairs = 10 spinners

Wooden Chip - Lesson 6

Each student pair needs a wooden chip (approximately 1-inch diameter) with a ">" sign drawn on one side and a "=" sign drawn on the other side. Wooden chips can be purchased at arts and crafts store.

- Example: 10 student pairs = 10 wooden chips

Paper plate - Lesson 6

The teacher will use a paper plate with a ">" sign drawn on one side and a "=" sign drawn on the other side. Paper plates can be purchased at the local grocery store.

Beans - Lessons 7, 8, 9, 11

Each student pair needs a plastic bag with about 12-15 beans. These beans are used with the Bean Sheet and Bean Pot and Circle Sheet listed below. Kidney beans are a good-size bean for students to use and can be purchased from a local grocery store. You also need to purchase small plastic bags to put the beans in. These can also be purchased at a local grocery store.

- Example: 10 student pairs \times 15 beans = 150 beans, 10 baggies

***Bean Pot and Circle Sheet - Lessons 7, 8, 9**

Each student pair needs a copy of the Bean Pot and Circle Sheet. It might be helpful to copy the paper on card stock or laminate it.

- Example: 10 student pairs = 10 Bean Pot and Circle Sheets

***Bean Place Value Sheet - Lesson 11**

Each pair needs a copy of the Bean Sheet. It might be helpful to copy the paper on card stock or laminate it.

- Example: 10 student pairs = 10 Bean Place Value Sheets

PALS RULES

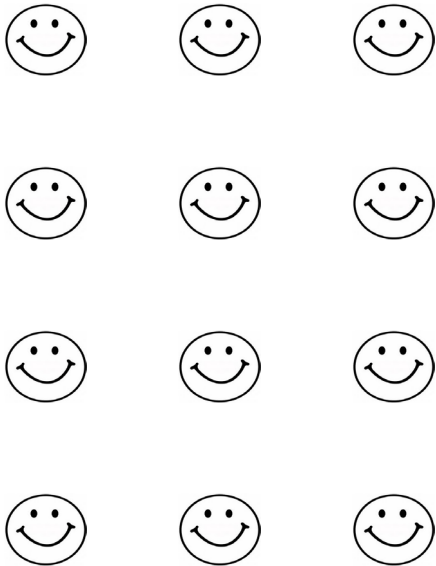
1. Talk only to your partner, and talk only about math.

2. Use a soft PALS voice.

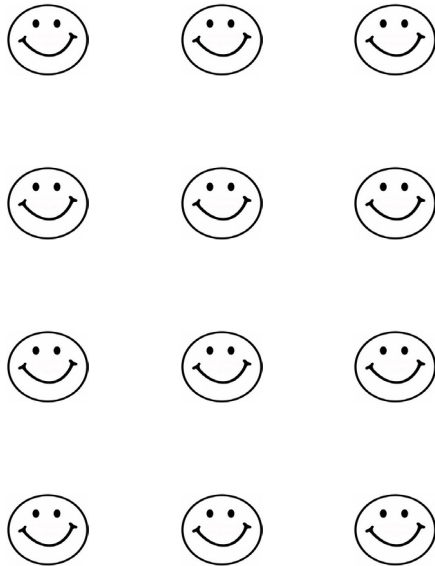
3. Be nice and helpful.

Smiley Sheet

Day 1



Day 2



Day 3

