CHRISTMAS PARTY PLANNER

5 MISSIONS

3 LEVELS

MATH PROJECT · GRADES 3-5

47 PAGES

My name _____

MISSION 2

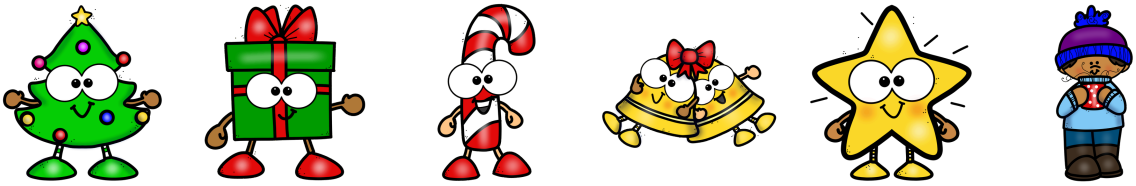
The Menu

Find the packs. Find the cost.

46 guests are coming (Mission 1). Divide the need by the pack, round up for packs, then multiply by the price.

Food	A pack has	Price of a pack	I need	Packs	Cost
Cookie tray 2 for each guest	12 cookies	6.00			
Cocoa jug 1 for each guest	8 cups	9.00			
Gingerbread box 1 for each guest	6 pieces	5.00			
Candy bag 2 for each guest	25 pieces	5.00			
				☆ Menu total	

Christmas Math Project: Start Here



The job

Each child is the planner for the Pine Hill Winter Party, an invented school party. A role letter (page 4) starts the story. Five missions follow, each a data table the child fills in. The star number from each mission goes onto a tracker, then onto a budget page, then into a two-page party plan booklet the child assembles. Print and write, or type into the fillable fields.

What's inside

- **Get ready**: the role letter (page 4), the price board (page 5), the planner's tracker (page 6), estimate first (page 7) and what the leftover means (page 8).
- **Five missions at three levels**: guest list, menu, seating plan, shopping cart, schedule. Circle missions are pages 9-13, square pages 14-18, triangle pages 19-23. The shape is the only level marker.
- **Put it together**: the budget (page 24) and the party plan booklet (pages 25-26).
- **Extra practice**: two deals, make change, share it, design a tree, six party problems and my own shopping list (pages 27-32).
- **Wrap up**: tell about my party, a reflection and a self-check (pages 33-35).
- **For adults**: this page, a teacher guide (page 3), two filled examples by an invented student (pages 36-37), a seven-page answer key (pages 38-44), a family letter (page 45), a certificate (page 46) and credits (page 47).

How to run it

Hand out the role letter, the price board and the tracker first. Give each child the level shape that fits, and keep the same shape all the way through: the missions are a chain, because Mission 1 gives the guest count that Missions 2, 3 and 4 use. Children can change level between projects, not in the middle of one.

About the money

Every price, guest count and time is invented for practice and is not what anything costs. Prices are plain numbers like 2.50 and the page headers say dollars. Children line up the decimal points. Skills: adding and subtracting whole numbers and decimals to hundredths, multiplying and dividing whole numbers, rounding up when a pack or a table is not full, rounding to the nearest ten or whole dollar, and elapsed time to the minute.

A five-day plan

- **Day 1**: pages 4-7 and Mission 1. **Day 2**: the leftover lesson (page 8) and Mission 2. **Day 3**: Missions 3 and 4.
- **Day 4**: Mission 5, the budget and the booklet. **Day 5**: extra practice, the report and the self-check. Send the family letter (page 45) home any time.

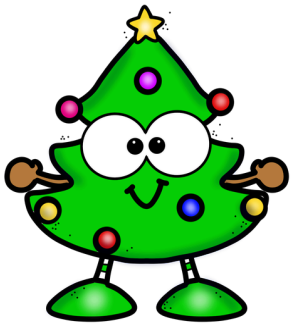
Not every family celebrates Christmas. If you like, let children plan a winter, birthday or class party with the same pages. You need pencils and crayons. Print single-sided.

PREVIEW

My name _____

Read the letter. Make your promise.

You are the Party Planner!



The Pine Hill Winter Party

Dear Party Planner,

Our winter party is coming up and we need a planner. That is you! Make the guest list, pick the menu, plan the seats, shop for decorations and write the schedule. Your budget is on your Mission 1 page. Stay inside it!

Thank you,

The Party Committee

Your five missions


1. Guests


2. Menu


3. Seats


4. Shop


5. Times

My planner promise

- ☐ I will read each mission carefully.
- ☐ I will check my math.
- ☐ I will stay inside my budget.

Planner _____ **My shape** ☐ ● ☐ ■ ☐ ▲

Draw the party table.

PREVIEW

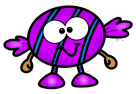
My name _____

Read the price board. Answer.

These prices are made up for practice. Prices are in dollars. Food is sold in packs.

Menu

price for one pack

	**Cookie tray** 12 cookies	6.00
	**Cocoa jug** 8 cups	9.00
	**Gingerbread box** 6 pieces	5.00
	**Holiday cake** 10 slices	12.75
	**Candy cane box** 10 canes	3.50
	**Candy bag** 25 pieces	5.00

Tables to rent

8	**Round table** seats 8 guests, rent one	4.00
10	**Long table** seats 10 guests, rent one	6.50
12	**Large table** seats 12 guests, rent one	8.75

Decorations

price for one

	**String of lights** each	6.00
	**Ornament** each	1.25
	**Tree star** each	4.00
	**Bells** each set	2.00
	**Holly bundle** each	2.50
	**Stocking** each	3.25
	**Candle** each	1.75
	**Gift box** each	5.00
	**Small tree** each	24.00

The cheapest decoration is the _____

A small tree costs this much more than a string of lights _____

PREVIEW

My name _____

Divide. Then think about the leftover.

A leftover can mean three different things. Tick the one that fits the story.

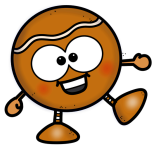


46 guests sit at tables that seat 8. How many tables do we need?

46 / 8 = _____ r _____ The leftover means:

☐ **Round up** ☐ **Use the whole number** ☐ **The leftover is the answer**

Answer _____



50 cookies are shared so each of 12 guests gets the same number. How many cookies does each guest get?

50 / 12 = _____ r _____ The leftover means:

☐ **Round up** ☐ **Use the whole number** ☐ **The leftover is the answer**

Answer _____



A box holds 10 candy canes. We need 83. How many boxes do we buy?

83 / 10 = _____ r _____ The leftover means:

☐ **Round up** ☐ **Use the whole number** ☐ **The leftover is the answer**

Answer _____



29 ornaments are shared equally among 4 tables. How many ornaments are left over?

29 / 4 = _____ r _____ The leftover means:

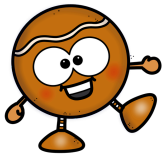
☐ **Round up** ☐ **Use the whole number** ☐ **The leftover is the answer**

Answer _____

Make up your own leftover story.

PREVIEW

My name _____



MISSION 2
The Menu



Find the packs. Find the cost.

46 guests are coming (Mission 1). Divide the need by the pack, round up for packs, then multiply by the price.

Food	A pack has	Price of a pack	I need	Packs	Cost
 **Cookie tray** 2 for each guest	12 cookies	6.00			
 **Cocoa jug** 1 for each guest	8 cups	9.00			
 **Gingerbread box** 1 for each guest	6 pieces	5.00			
 **Candy bag** 2 for each guest	25 pieces	5.00			
				★ Menu total	

★ Star number. Copy it onto your tracker (page 6).

There are 46 guests coming. Which food costs the most for the whole party? How much more is that than the food that costs the least?

Costs the most: _____ **More by** _____ **dollars**

Show your work.

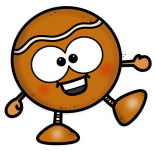
PREVIEW

My name _____



MISSION 5

The Party Schedule



Plan the party times.

The party starts at 1:00 in the afternoon. Fill in each end time or how long. Each activity starts when the one before ends.

Activity	Starts	Ends	How long
Welcome and cocoa	1:00	1:15	
Make ornaments	1:15		30 min
Snack time	1:45	2:05	
Games and songs	2:05		45 min
Clean up	2:50	3:00	
★ The whole party	1:00		

★ Star number. Copy it onto your tracker (page 6).

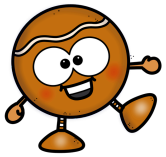
The whole party is 120 minutes. That is how many hours and minutes? Then: set-up starts 45 minutes before the party starts. What time does set-up start?

_____ hours _____ minutes Set-up starts at _____

Show your work.

PREVIEW

My name _____



MISSION 2
The Menu



Find the packs. Find the cost.

152 guests are coming (Mission 1). Divide the need by the pack, round up for packs, then multiply by the price.

Food	A pack has	Price of a pack	I need	Packs	Cost
Cookie tray 2 for each guest	12 cookies	6.00			
Cocoa jug 1 for each guest	8 cups	9.00			
Holiday cake 1 for each guest	10 slices	12.75			
Candy cane box 2 for each guest	10 canes	3.50			
				★ Menu total	

★ Star number. Copy it onto your tracker (page 6).

There are 152 guests coming. Which food costs the most for the whole party? How much more is that than the food that costs the least?

Costs the most: _____ **More by** _____ **dollars**

Show your work.

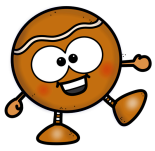
PREVIEW

My name _____



MISSION 5

The Party Schedule



Plan the party times.

The party starts at 12:40 in the afternoon. Fill in each end time or how long. Each activity starts when the one before ends.

Activity	Starts	Ends	How long
Welcome and cocoa	12:40	1:05	
Make ornaments	1:05		40 min
Snack time	1:45	2:20	
Games and songs	2:20		50 min
Clean up	3:10	3:30	
★ The whole party	12:40		

★ Star number. Copy it onto your tracker (page 6).

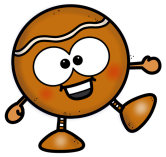
The whole party is 170 minutes. That is how many hours and minutes? Then: set-up starts 50 minutes before the party starts. What time does set-up start?

_____ hours _____ minutes Set-up starts at _____

Show your work.

PREVIEW

My name _____



MISSION 2
The Menu



Find the packs. Find the cost.

416 guests are coming (Mission 1). Divide the need by the pack, round up for packs, then multiply by the price.

Food	A pack has	Price of a pack	I need	Packs	Cost
Cocoa jug 1 for each guest	8 cups	9.00			
Holiday cake 1 for each guest	10 slices	12.75			
Candy cane box 2 for each guest	10 canes	3.50			
Gingerbread box 2 for each guest	6 pieces	5.00			
				★ Menu total	

★ Star number. Copy it onto your tracker (page 6).

There are 416 guests coming. Which food costs the most for the whole party? How much more is that than the food that costs the least?

Costs the most: _____ **More by** _____ **dollars**

Show your work.

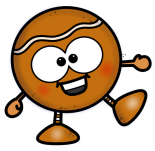
PREVIEW

My name _____



MISSION 5

The Party Schedule



Plan the party times.

The party starts at 11:35 in the morning. Fill in each end time or how long. Each activity starts when the one before ends.

Activity	Starts	Ends	How long
Welcome and cocoa	11:35	12:25	
Make ornaments	12:25		65 min
Snack time	1:30	2:10	
Games and songs	2:10		85 min
Clean up	3:35	4:10	
★ The whole party	11:35		

★ Star number. Copy it onto your tracker (page 6).

The whole party is 275 minutes. That is how many hours and minutes? Then: set-up starts 80 minutes before the party starts. What time does set-up start?

_____ hours _____ minutes Set-up starts at _____

Show your work.

PREVIEW

My name _____

Copy your numbers. Build your booklet.



The Pine Hill Winter Party

PARTY PLAN

by the planner



Party name _____

Planner _____

Guests coming

_____

Tables

_____

My budget, dollars

_____

Money left, dollars

_____

Draw the party table. Put the guests and the food on it.

PREVIEW

My name _____

I pay with a bill. Find the change.

Count up from the cost to the bill, or subtract.

Item	Bill	Change
 **String of lights**	costs 6.00 dollars	**I pay 10.00**
 **Tree star**	costs 4.00 dollars	**I pay 5.00**
 **Stocking**	costs 3.25 dollars	**I pay 5.00**
 **2 x candle**	costs 3.50 dollars	**I pay 5.00**
 **Holly bundle**	costs 2.50 dollars	**I pay 5.00**
 **Small tree**	costs 24.00 dollars	**I pay 30.00**

Show your work.

PREVIEW

My name _____

Design a tree. Do not spend more than the budget.

My tree budget **20.00** dollars

	Item	Price	How many	Cost
	String of lights	6.00		
	Ornament	1.25		
	Tree star	4.00		
	Bells	2.00		
	Stocking	3.25		

I spent _____ Money left _____

Draw my tree plan.

PREVIEW

My name _____

Tell about my party.



My Party Report



My party is called _____

Guests _____ I spent _____

I have this much left _____

I picked these foods and decorations because

A choice I made to save money

Math I used. Circle each one.

add subtract multiply divide round

Draw my party.

PREVIEW

My name _____

Check your work. Tick each box.

- [ ] I wrote my name on every page.
- [ ] I lined up the decimal points when I added.
- [ ] I multiplied price times how many.
- [ ] I rounded up when a pack or a table was not full.
- [ ] I checked that my total is not more than my budget.
- [ ] I wrote dollars or minutes next to my answers.
- [ ] I showed my work.





My best math was _____

Next time I will _____

PREVIEW

Answer Key (1 of 7)

Mission 1: The Guest List (pages 9, 14, 19)

● Circle

Group	Invited	Can not come	Coming
Room 4	12	2	10
Room 5	14	1	13
Room 6	11	3	8
Families	15	0	15
All guests	52	6	46

Name tags: 46 / 10 = 4 r 6, so round up: **5 packs**. Budget printed on the page: 350.00.

■ Square

Group	Invited	Can not come	Coming
Grade 3	48	6	42
Grade 4	36	4	32
Grade 5	52	9	43
Families	40	5	35
All guests	176	24	152

Name tags: 152 / 25 = 6 r 2, so round up: **7 packs**. Budget printed on the page: 1,000.00.

▲ Triangle

Group	Invited	Can not come	Coming
Grade 3	128	14	114
Grade 4	96	11	85
Grade 5	144	23	121
Families	112	16	96
All guests	480	64	416

Name tags: 416 / 50 = 8 r 16, so round up: **9 packs**. Budget printed on the page: 3,000.00.

Tracker, budget and booklet (pages 6, 24, 25-26)

Number	● Circle	■ Square	▲ Triangle
Guests coming	46	152	416
Menu total	162.00	639.50	1,992.50
Table rental	28.00	117.00	323.75
Decorations total	101.00	181.50	606.00
Party total	291.00	938.00	2,922.25
Budget	350.00	1,000.00	3,000.00
Money left	59.00	62.00	77.75
Tables	7	18	37
Party length, minutes	120	170	275

The booklet copies these numbers. Every level is in budget. Check that the child's party total is the sum of the three costs and that money left = budget - party total.

PREVIEW

Answer Key (3 of 7)

Mission 3: The Seating Plan (pages 11, 16, 21)

● Circle

Group	Coming	Tables (round up)	Empty seats
Room 4	10	10 / 8 = 1 r 2, so 2	6
Room 5	13	13 / 8 = 1 r 5, so 2	3
Room 6	8	8 / 8 = 1 r 0, so 1	0
Families	15	15 / 8 = 1 r 7, so 2	1
All guests	46	7	10

Rental: 7 x 4.00 = **28.00**. Stage: 5 x 10 = 50 chairs, enough, extra by **4**.

■ Square

Group	Coming	Tables (round up)	Empty seats
Grade 3	42	42 / 10 = 4 r 2, so 5	8
Grade 4	32	32 / 10 = 3 r 2, so 4	8
Grade 5	43	43 / 10 = 4 r 3, so 5	7
Families	35	35 / 10 = 3 r 5, so 4	5
All guests	152	18	28

Rental: 18 x 6.50 = **117.00**. Stage: 12 x 14 = 168 chairs, enough, extra by **16**.

▲ Triangle

Group	Coming	Tables (round up)	Empty seats
Grade 3	114	114 / 12 = 9 r 6, so 10	6
Grade 4	85	85 / 12 = 7 r 1, so 8	11
Grade 5	121	121 / 12 = 10 r 1, so 11	11
Families	96	96 / 12 = 8 r 0, so 8	0
All guests	416	37	28

Rental: 37 x 8.75 = **323.75**. Stage: 15 x 26 = 390 chairs, not enough, short by **26**.

PREVIEW

Answer Key (6 of 7)

Estimate first (page 7)

Item	Price	Rounded	How many	Guess
String of lights	6.00	6	x 2	12
Tree star	4.00	4	x 3	12
Stocking	3.25	3	x 4	12
Gift box	5.00	5	x 3	15
Holly bundle	2.50	3	x 5	15
Small tree	24.00	24	x 1	24

Guess total 90: not more than 100, circle NO. Exact cost 88.50. A half rounds up.

Compare two deals (page 27)

Item	Shop A	Shop B	Better deal
ornaments, 8	8 x 1.25 = 10.00	2 x 4.50 = 9.00	B, save 1.00
strings of lights, 4	4 x 6.00 = 24.00	2 x 10.50 = 21.00	B, save 3.00
tree stars, 6	6 x 4.00 = 24.00	2 x 13.00 = 26.00	A, save 2.00

Make change (page 28)

Item	Bill	Change
String of lights costs 6.00	pay 10.00	4.00
Tree star costs 4.00	pay 5.00	1.00
Stocking costs 3.25	pay 5.00	1.75
Candle x 2 costs 3.50	pay 5.00	1.50
Holly bundle costs 2.50	pay 5.00	2.50
Small tree costs 24.00	pay 30.00	6.00

PREVIEW

Our Christmas Math Project



Date: _____

Dear family of _____,

This week your child is the planner for a pretend holiday party. With an invented price list and a budget, they work out the guest list, how much food to buy, how many tables to rent, a shopping receipt and a party schedule. The prices and the party are made up for practice, and nothing has to be bought. Not every family celebrates Christmas, and the same math works for any party.

Try it at home

Ask your child to tell you how they stayed inside their budget. Write their words on the lines.

_____

Talk about it

- When food comes in packs, why do we round up the number of packs?
- When we shop, how can we guess the total before we get to the register?
- How can we tell which of two deals costs less?

Plan a pretend snack for our family. Write the foods, the prices and the total.

From _____ Questions? _____

PREVIEW