



BEING THRIFTY IS SO NIFTY

Math Topic: Budgeting

By Darri Stephens

ABOUT THE AUTHOR

Darri Stephens is a 3rd-grade teacher at Robinson Elementary School in Manhattan Beach, CA.

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MATH TOPIC: Budgeting

GRADE LEVEL: 3-5

TIME ALLOTMENT: 55-75 minutes

OVERVIEW:

Have you ever had to buy a lot of different items at one time and then run out of money before you bought them all? If you had started with a budget, you could have followed a plan so you would have had enough money to finish shopping. By budgeting, we can make sure we don't run out of money even when unexpected expenses occur. In this lesson, students draw from the experiences of the CYBERCHASE kids in "Balancing Act" and learn the importance of planning ahead — especially where limited funds come into play! This lesson can be used in conjunction with the CYBERCHASE *Snelfu Snafu Workshop Activity Kit* and the *Donut Dinero* lesson plan.

SUBJECT MATTER: Mathematics, Social Studies

LEARNING OBJECTIVES: Students will be able to:

- Describe the concept and importance of budgeting.
- Use tables and charts to help budget time and money.
- Create a financial budget challenged by several constraints.
- Adjust budgets accordingly to meet specified goals.

STANDARDS: From the National Council of Teachers of Mathematics Standards, grades 3-5, available online at <http://standards.nctm.org/document/chapter5/index.htm>.

NCTM Standards: Representation

The primary NCTM Content Standard for this lesson is Representation. In grades 3-5 all students should:

- Use representations to model and interpret physical, social, and mathematical phenomena.

MEDIA COMPONENTS:

Video

CYBERCHASE Episode #401: "Balancing Act"

Web Sites

(For the Cross-Curricular Extensions)

CYBERCHASE

http://pbskids.org/cyberchase/parentsteachers/lessons_print.html

Under CYBERCHASE'S *Know Your Dough Financial Literacy Campaign*, there is a printable activity packet called *The Snelfu Snafu Workshop Activity Kit*. This workshop contains activities designed to give kids practice saving and spending money wisely.

Ae4rv's Lemonade Stand

www.ae4rv.com/games/lemonade.htm

Students test their skills at creating a budget that allows them to make a profit at a lemonade stand.



Sense and Dollars

<http://senseanddollars.thinkport.org>

This site, produced by Maryland Public Television, provides several activities and games that revolve around spending, earning, and saving money.



MATERIALS:

For the class

- Chart paper and marker or blackboard and chalk

Worksheets for each student

- “My Afterschool Activities”
- “My Afterschool Five-Hour Plan”
- “Movie Budget Table”
- “Motherboard’s Mouth-Watering Menu” (alternatively use a Menu from local restaurant)
- “Mealtime Budgeting”

PREP FOR TEACHERS:

Prior to teaching this lesson, you will need to:

- Load the Flash player plug-in, available at <http://www.macromedia.com/downloads>, onto each classroom computer.
- Create copies of student handouts.
- **CUE** the videotape to when you hear Digit say, “I love show business!” You will see Digit talking to Dody the dodo surrounded by film equipment.
- Bookmark the websites noted for Cross-Curricular Activities.
- When using media, provide students with a **FOCUS FOR MEDIA INTERACTION**, a specific task to complete and/or information to identify during or after viewing of video segments, websites or other multimedia elements.

INTRODUCTORY ACTIVITY:

1. Ask students: “What are some times when it is important to plan ahead?” (*When shopping for a party, for a test at school, for an approaching rain storm, etc.*) Create a brainstorming list about what they do that helps them plan ahead. (*Make a list, use a calendar, create a schedule, etc.*). Explain that tables or charts are another way to get organized when it’s time to plan ahead
2. Now ask students to think about what they do when they get home from school. Brainstorm: What are some things they *must* do? What are the things they *would like* to do? Give each student a “My Afterschool Activities” worksheet. Give students about five minutes to fill in their worksheet.
3. Now tell them that they are in a situation where they arrive home around 4 PM and have to go to bed at 9 PM. Ask: How many hours do you have to do your activities? (*Five.*) Tell them to look at the activities and estimated times they just filled in — is five hours enough to do everything? If not, what could they change to meet their activity goals? (*Change the amounts*)



of time, drop some activities, etc.) Hand out the “My Afterschool Five-Hour Plan” worksheets. Tell students to prioritize their activities to fill the five hours.

4. Ask students to share their plans and to explain their thinking. Explain that personal choice is a key component in planning ahead, and a table helps organize the options. They have just used a table to make choices about how to spend their time, based on time available and their needs and wants. This is a kind of *budget*. Ask: Can you think of another example of when we use a budget? (*With saving and spending money.*)
5. Ask students what they would do if someone offered them a surprise trip to the movies that would use about two of the five hours they have just budgeted. How could they use their table to make choices now? (*They could choose which activities they could drop in order to go, without dropping the activities they must do.*) Emphasize that by planning ahead and making a budget, one can make changes to the overall plan and still meet specific goals.

LEARNING ACTIVITY:

1. Explain to students that they will be learning about how to use a budget — a plan that helps people spend money over time so they can meet their spending needs without running out. To start, they will watch video clips from the PBS series, CYBERCHASE. **INSERT** the CYBERCHASE episode, “Balancing Act,” into your VCR.
2. Explain to students that the CYBERCHASE kids have been asked to produce a movie, “Welcome to Froggnorts.” Yet as fun as the task may be, movie productions cost money and the kids only have 600 Snelfus (cybermoney) to get the job done. Brainstorm some possible movie expenses (*actors’ fees, film costs, props, costumes, location fees, food, lighting, etc.*) Explain that on Day 1, the kids spend half of all of the money they have — 300 Snelfus gone and they still have three more days of shooting left! The kids have figured out that they need a plan — a budget for their expenses so that they don’t run out of money before the movie is finished. To get started, they make a table to map out their plan. Hand out the blank Movie Budgeting Tables.
3. Provide students with a **FOCUS FOR MEDIA INTERACTION** by asking them to figure out how much money the kids can spend each day to finish the film without running out of money. **PLAY** the video until Matt says, “But how can I make a movie for only 100 snelfus a day? Huh? Huh?” **STOP** the video. Have students write the amount of money the kids can spend each day in the “Movie Budgeting Table” *Total* boxes for the three days. Ask: How do you think they should budget their money? Listen to responses. (*Answers will vary.*)
4. Provide students with a **FOCUS FOR MEDIA INTERACTION:** by asking them to observe how much money the Cybersquad allots for each category. **FAST FORWARD** to when Dody the dodo is holding the movie clapboard and announces Day 2 by saying, “Second day of shooting, we’re ready to start, but we’re watching what we spend now, check out the chart!” **PLAY** the video. As students watch, have them fill in their charts to match what the Cybersquad does. **STOP** the video when Jackie says, “Fill in Days 3 and 4 the same way, Digit.”



This is what the charts should look like:

Day 1		Day 2	Day 3	Day 4
Spent 300 Snelfus in just one day!	CREW	60	60	60
	FOOD	10	10	10
	FILM	30	30	30
	Total	100	100	100
Bank (any savings):				

Discuss with students what decisions they would have made had they been in the Cybersquad's place.

- Explain that Day 2 of shooting was a success. The kids spent 60 Snelfus on the crew, 10 Snelfus on food, but only spent 26 Snelfus on film (instead of 30) and came in under budget: 96 total instead of the 100 budgeted.

Ask students how much money they can "put in the bank" after Day 2. (*Four Snelfus.*) Discuss: What are some advantages of putting these extra Snelfus into savings? (*Gives the kids some flexibility should unexpected expenses arise.*) Have students change the appropriate amounts on their tables, and record the four leftover Snelfus in the Bank.

The Cybersquad's revised budget after day 2:

Day 1		Day 2	Day 3	Day 4
Spent 300 Snelfus in just one day!	CREW	60	60	60
	FOOD	10	10	10
	FILM	26	30	30
	Total	96	100	100
Bank (any savings): 4				

Emphasize that a budget — a plan — allows you to make changes to your spending and still figure out how to reach your goal.

- Unfortunately, Day 3's shooting was a tad expensive. Digit needed more film than that was planned for. Provide your students with a **FOCUS FOR MEDIA INTERACTION** by asking them to figure out how the kids' budget can be adjusted once again. **FAST FORWARD** to the part when Jackie looks at the chart after Day 3 and says, "Okay guys, listen up. Here are today's expenses." **PLAY** the video until Matt says, "Oh man, we're over budget!" **PAUSE** the video. Ask: How can the budget be adjusted once again? (*Use some of the Snelfus saved from Day 2.*) How much is still in the bank? (*Two Snelfus.*) Have students adjust the Snelfus on their Movie Budget Table.

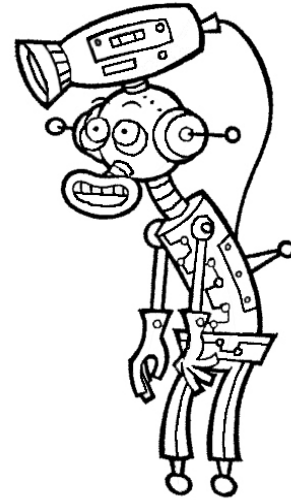
The Cybersquad's revised budget after day 3:

Day 1		Day 2	Day 3	Day 4
Spent 300 Snelfus in just one day!	CREW	60	60	60
	FOOD	10	10	10
	FILM	26	32	30
	Total	96	102	100
Bank (any savings): 2				



Provide students with a **FOCUS FOR MEDIA INTERACTION** by asking them to compare their solution to Jackie's solution. **CONTINUE PLAYING** the video until Matt says, "You know what, Jacks? Your budget idea just might save us!" At this point you can ask students to double-check their budgets again – a good idea especially when dealing with money. Were the students' solutions similar to the Jackie's? How so? (Yes; she suggested using some of the saved Snelfus from Day 2 and she subsequently made the necessary adjustments to the budget.)

7. Unfortunately, on Day 4, the final day of shooting, more unexpected expenses come up! Hacker has taken control and demanded that the kids reshoot the movie's ending. Provide your students with a **FOCUS FOR MEDIA INTERACTION** by asking them to figure out how these demands will affect the budget. **FAST FORWARD** to Day 4 when Dody has the movie clapboard and says, "Fourth day of shooting, it should be a hoot, we have enough money to finish the shoot." Continue to **PLAY** the video until Matt says, "So we need to spend less on something else. But what?" **PAUSE** video.



Ask students to predict how the kids might solve this budget dilemma. (Fire some of the crew, skip lunch, pretend to film, etc.) Have them use their ideas to fill in their tables. Provide students with a **FOCUS FOR MEDIA INTERACTION**: Ask them to check to see if their ideas were similar to the kids' solution. **PLAY** the video until Jackie adjusts the chart and says, "...keeps our total at a hundred, and we have two left over from yesterday!" **STOP** the video. Have students compare their solutions with the Cybersquad's, which looks like this:

Day 1		Day 2	Day 3	Day 4
Spent 300 Snelfus in just one day!	CREW	60	60	50
	FOOD	10	10	10
	FILM	26	32	40
	Total	96	102	100
Bank (any savings): 2				

8. Discuss with students the challenges that arise when maintaining a budget. (Having to adjust as costs and circumstances change.) How did the budget help manage expenses in light of these challenges? (With changing circumstances, a budget permits you to make changes while keeping your goals in sight.) When is it a good idea to use a budget? (When planning how to spend one's allowance; when planning a new business venture; when planning ahead for holiday gift buying, etc.)
9. Summarize by reiterating the following:
 - Always be ready for unexpected expenses.
 - Because a budget is easily adjusted, you can find ways to spend without running out of money.
 - A budget allows you to keep your goals within reach.
 - Budgets make it easier to think about ways to cut unnecessary spending.
 - It is important to save whenever possible so you can be ready for unexpected expenses.
 - A budget helps you plan ahead!



CULMINATING ACTIVITY:

1. Hand out copies of "Motherboard's Mouth-Watering Menu." (Alternatively, hand out menus from a popular local restaurant.) Tell students that they have a budget of \$20 to buy dinner for themselves — AND their brother. P.S. The brother loves to eat quite a bit, and each of them is starving because the lunch at school was gross. Ask them what they would like to order that will satisfy their two hungry stomachs. Give students a few minutes to study the menu.
2. Hand out copies of "Mealtime Budgeting." Tell students to use their budget to plan two meals, each of which should consist of *at least* one main dish, one beverage, and one dessert. Give students time to budget their meals.
3. (Optional) After about five minutes, inform students that there is a slight problem: Their budget has to include a tip for the server. Tell them that they should leave \$2 as a tip. Give them a few minutes to adjust their budgets.
4. (Optional) Interrupt students again with another slight problem: They forgot to save \$3 for parking (or bus fare). Ask students to make adjustments.
5. Discuss students' budgetary plans. How did they stay within the \$20 budget and still eat a complete meal? Challenge students to decide whose budget gave them "the most bang for their buck."
6. End the lesson with a discussion about when students might use a budget in their own lives.

CROSS-CURRICULAR EXTENSIONS:

- **Language Arts**

Have students create fables based on the epigram: *A penny saved is a penny earned*. Write a fictitious piece that "teaches" or encourages the reader to create budgets so that s/he will be able to keep financial goals within reach (even when unexpected expenses occur!).

Have students create and write about their own budget. Go to CYBERCHASE'S *Know Your Dough Financial Literacy Campaign* in the "For Parents & Teachers" section of the CYBERCHASE site, http://pbskids.org/cyberchase/parentsteachers/lessons_print.html.

Print out the page, *My Savings Plan*. Ask: What do you hope to buy one day? Then, have them write a story that describes how they saved, and what their experience was like as they reached their goal.

- **Math**

Create a fictitious banking system within your classroom. Give each student a "grown-up" check register/account balance sheet (many banks are willing to donate free check registers for student use) and a fictitious starting balance.



Explain that with a grown-up lifestyle comes grown-up responsibilities. Their goal should be not to overdraw their accounts. Each day, have kids choose from a lot of folded slips of papers containing messages such as:

- Earn an extra \$12 walking a neighbor's dog.
- Pay the monthly electric bill of \$22.
- Earn \$15 babysitting a baby cousin.
- Your child needs new sneakers for either \$75 or \$45.
- Pay \$25 per week for school lunches for four weeks.
- Receive paycheck of \$75.
- You have the option to buy a magazine subscription for only \$10.
- Pay \$50 for an emergency visit to the doctor's office.

Students have to enter these deposits or payments in their registers/balance sheet, being careful to add and subtract correctly. Emphasize that sometimes emergencies can happen and sometimes hard choices have to be made. What are some strategies to avoid overspending? Who can build up the largest savings account?

ALTERNATIVE: A more challenging budgeting activity, *Check It Out!*, can be found at Sense and Dollars: <http://senseanddollars.thinkport.org> This activity revolves around a realistic household budget based on an annual income and challenged with plausible monthly expenses.

Create and play the board game, *Gollywood Squares*, found in Cyberchase's *Know Your Dough Financial Literacy Campaign* in the "For Parents & Teachers" section of the CYBERCHASE site, http://pbskids.org/cyberchase/parentsteachers/lessons_print.html. Make smart money choices when it comes to spending and saving money in order to be the first to buy four autographs.



See if you can make a profit with a thirst-quenching business at www.ae4rv.com/games/lemonade.htm. Download the demo version of the Lemonade Stand game to classroom computers and try to make a profit by budgeting supply costs, advertising costs, and lemonade prices in order to maximize your profit.

- **Social Studies**

Why are kids' allowances higher nowadays than their parents' allowances might have been? Go to the Time Warp page at Sense and Dollars, http://senseanddollars.thinkport.org/spending/time_warp.html. Compare how the value of a dollar has changed over time. Discuss how budgets for an item (like a car) today might differ from budgets made a decade ago.

COMMUNITY CONNECTIONS:

Invite a guest from a local community group or PTA to speak with the class about how their group uses a budget to fund their projects. As a class, come up with a plan to help raise money for the group and budget purchases to help reach a goal.



YOUR STUDENTS AND BUDGETING

What we can assume 8- and 9-year-olds already know about BUDGETING MONEY:

Kids know money! They love to buy things. When they receive money from gifts, chores, or allowances, it is *their money* and they can do what they want with it.

Most kids spend money on impulse — that is, they see something and they have the money, so they buy it. Kids keep an informal record of their transactions by physically looking at the amount of money they have in hand and asking, “Do I have enough money to buy something else? Or should I just save what I have?”

A child might “put a little aside” each week for a particular desire, like a CD, and spend the rest. This simple notion of setting aside a designated amount at regular intervals is at the heart of budgeting, and perhaps a child’s earliest understanding of what making a “budget” entails.

What confuses kids about BUDGETING MONEY:

Kids rarely keep track of how they spend their money. And they do not yet grasp the importance of using a budget as a tool to manage their money over time. Before they can do this, they need to keep track of where they are spending their money now. Keeping a list of expenses for a day or two can yield some surprising results!

Kids also have little experience recognizing the fixed and variable categories of their expenses. In school, when faced with a word problem tied to money and expenses, the categories are already labeled. But to a grade 3-5 student, being able to identify two or three general categories — Entertainment, Food, and Transportation, for example — is essential to understanding how to set up a budget.

There are a series of questions that need to be answered in order to create a budget. This is not an easy task for kids. How much money do I have? How much do I put into each category? Was the amount too much? Too little? If so, do I have to shift money from one category to another to enable me to get what I want?

Kids also need to understand that a budget is a plan of how they *think* they will use the money they have. And the plan can be changed easily, as they consider the consequences of how the money is allocated. When kids do make changes, they forget that if they make a change to one category, they have to make a change to another category to adjust the balance. The idea that a change in one category impacts another category is new to them, as it involves a higher level of thinking — algebraic thinking — which is new to kids of this age.

It is important to remind kids to compare how much they *really* spent in each category with their budget and what they *thought* they would spend in each category. Without this comparison, they won’t know if their budget worked — helped them get what they wanted without overspending.





Name _____

MY AFTERSCHOOL ACTIVITIES

List the various activities you do between the end of school and when you go to bed. Next, estimate the amount of time you spend on each activity.

ACTIVITY	ESTIMATED TIME (minutes) SPENT ON ACTIVITY

Use the back if you need more space to write.

Name _____



MY AFTERSCHOOL FIVE-HOUR PLAN

With only five hours of time, how would you prioritize your activities and budget your time?

	ACTIVITY	ESTIMATED TIME (minutes) SPENT ON ACTIVITY
1		
2		
3		
4		
5		
6		
7		
8		
9		
	Total Time Spent:	

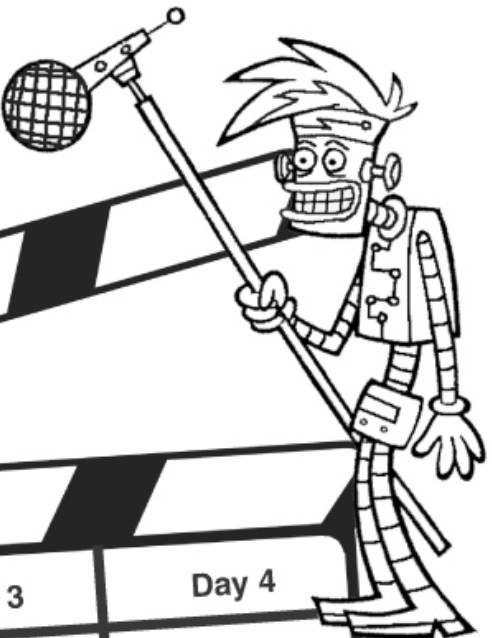
Use back if you need more space to write.





Name _____

MOVIE BUDGETING TABLE



		Day 1	Day 2	Day 3	Day 4
Spent 300 Snelfus in just one day!	CREW				
	FOOD				
	FILM				
	Total				
BANK (any savings)					



Name _____

MEALTIME BUDGETING

Remember, plan ahead! You don't want to be washing dishes because you don't have enough money to pay the bill!



		WHAT WE ORDERED	PRICE
MY CHOICES	Main Dish:		
	Drink:		
	Dessert:		
MY BROTHER'S CHOICES	Main Dish:		
	Drink:		
	Dessert:		
		Total	