



# Furnishing Your Bedroom

Your parents have given you a budget of \$1,000.00 to redo your bedroom. First, you must choose one piece of furniture to purchase. There are options for your bed, desk, and bureau. You must choose one piece from each group. Your parents say you must buy the bookshelf and rug. Review the furniture options, the measurements, and the prices below. Circle the items you will purchase.

desks



beds



Bed option 1  
3 ft. wide, 6 ft. long  
\$157.00



Bureau  
2 ft. wide  
\$

## Drawing a Floorplan

Version 1, page 5

Your next step is to create a floorplan of your room. It will help you decide what is the best way to arrange your furniture.

Each square on the floorplan is equal to one square foot. The closet, windows, and door are shown on the floor plan.

Your task is to draw the furniture you would like to purchase on the scaled map. You must include the location of:

- your bed
- your desk
- your bureau
- bookcase
- rug

Your furnishings must be drawn to scale. Use the measurements from the information page to help you. No furniture can be put in front of windows or doors.

Once you are happy with where you have placed your furnishings, shade or color them. Add a label for each item you draw.





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## beds



Bed option 1  
3 ft. wide, 6 ft. long  
\$157.00



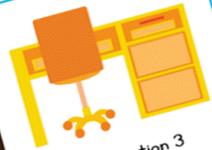
Bed option 2  
5 ft. wide, 6 ft. long  
\$234.00



Desk option 1  
3 ft. wide, 2 ft. deep  
\$159.00



Desk option 2  
4 ft. wide, 1 1/2 ft. deep  
\$206.00



Desk option 3  
3 1/2 ft. wide, 2 ft. deep  
\$185.00

## rug

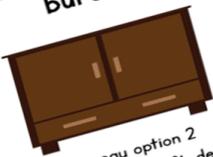


8 1/2 ft. wide, 10 ft. long  
\$78.00

## bureau



Bureau option 1  
2 ft. wide, 2 ft. deep  
\$161.00



Bureau option 2  
4 1/2 ft. wide, 1/2 ft. deep  
\$210.00



Bureau option 3  
3 ft. wide, 1 ft. deep  
\$193.00

## bookcase



3 ft. wide, 2 ft. deep  
\$99.00

# For the Teacher

**Design, Create, Dream** is a Project Based Learning packet that will provide your students a variety of engaging and fun math challenges using the theme of redecorating a bedroom. Your students will practice the following math standards:

- 3.OA.C.7 Fluently multiply and divide within 100.
- 3.OA.D.8 Solve 2-step problems using the four operations.
- 3.NBT.A.1 Use place value understanding to round whole numbers to the nearest 10 or 100.
- 3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on properties of operations and/or the relationship between add/sub.
- 3.MD.A.1 Tell time, write time to the nearest minutes, and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes.
- 3.MD.B.3 Draw a scaled picture graph and bar graph to represent data with several categories. Solve problems using the data.
- 3.MD.B.4 Generate measurement data by measuring lengths using rulers marked with wholes, halves, and fourths of an inch. Show data by making a line plot, where the horizontal scale is marked off in appropriate units.
- 3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.
- 3.MD.C.6 Measure areas by counting unit squares.
- 3.MD.C.7 Relate area to the operations of multiplication and addition.
- 3.MD.D.8 Solve real world and mathematical problems involving perimeter.

## Directions:

1. Decide if your class will complete the project as a whole group, in small groups or independently.
2. Copy packets and provide students with materials necessary to complete the packet.
3. Students should complete the project over several days.
4. Preview the activity with your students.
5. Challenge activities can be assigned or can be optional.
6. Students will complete the self-evaluation reflection rubric.
7. Allow students an opportunity to share their completed projects.

# Design, Create, Dream

Your parents have agreed that it is time to redecorate your bedroom. They are allowing you to take a big part in the design and the work it will take to transform your bedroom into a super exciting space just for you!

## Here are your tasks:

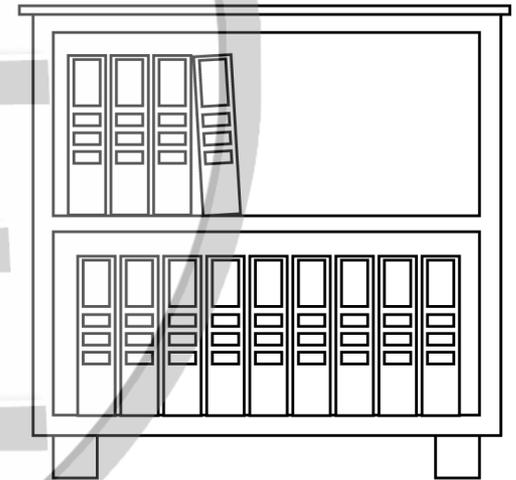
- Read through the entire packet before beginning.
- Read the informational slide about the work of interior designers.
- Work within a budget to furnish, paint, and accessorize your room.
- Compare size and pricing for furniture.
- Place furnishings in the room using a scaled floorplan.
- Read and answer measurement and data word problems.
- Create a bar graph from data provided.
- (Optional) Complete the challenge pages.
- Complete the self-reflection and evaluation rubric.

# Design, Create, Dream

Name: \_\_\_\_\_

Have you ever heard of an interior designer? It is someone who plans, coordinates, and manages design projects inside homes or businesses, such as restaurants and doctors' offices. Interior designers go to school to learn how to work with clients and to best utilize different interior spaces. Once hired for a job, they work with clients to create and carry out a design plan. Clients share their preferences for style and how they need to use the space. Then, the interior designer manages the job from start to finish.

For this task, you are the interior designer assigned to redecorate your bedroom. You will begin by studying the measurements of the space. Your parents have given you a budget of \$1000.00 to spend on furnishings, paint, and accessories. You will be responsible for making decisions about purchases and furniture placement in your bedroom. You will also calculate the cost for painting a feature wall. Finally, you will select accessories for your bedroom while staying within the budget you have been given.



So, put on your design hat and get started on your creative adventure.

# Finding Perimeter of the Footprint

Version 1, page 1

Your first task is to determine the size and layout of the footprint of your bedroom. The footprint is the space of your room as seen from a bird's eye view (looking down into your room). Knowing the area and perimeter will help you create a plan for furniture and carpet placement. Use this information and the diagram below to answer the questions.

1. Find the length of each wall. Show how you determined the length.

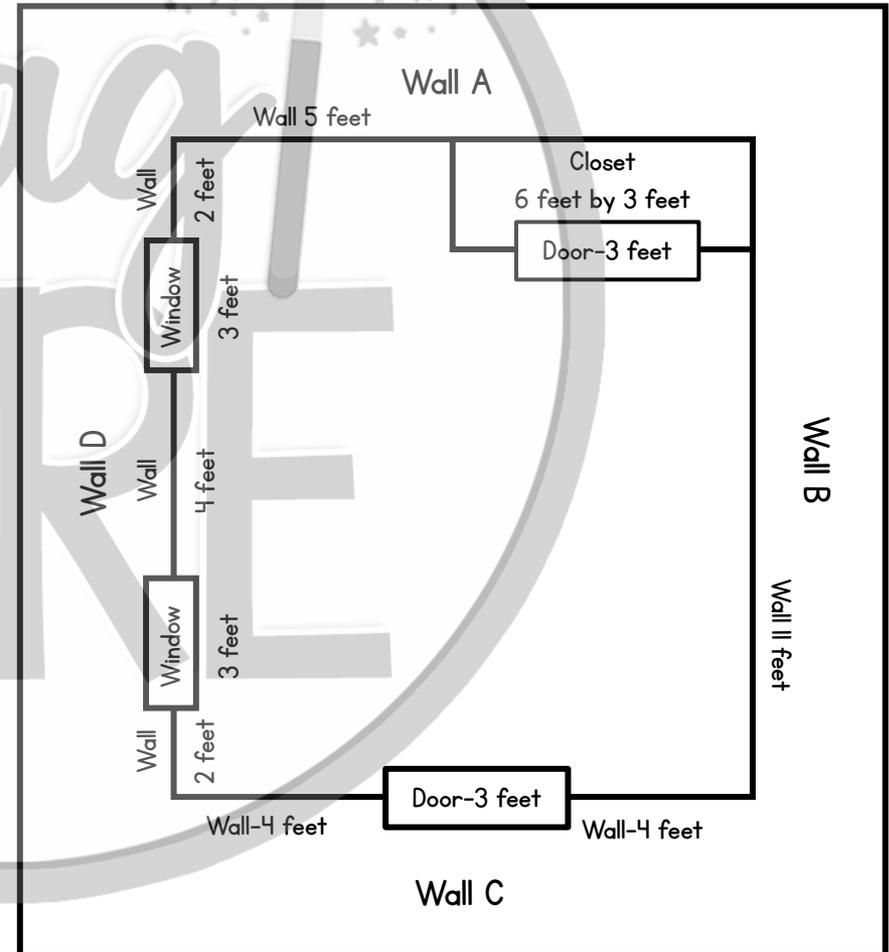
Wall A

Wall B

Wall C

Wall D

2. Calculate the perimeter of the room.

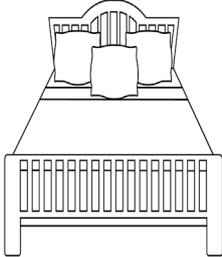


# Furnishing Your Bedroom

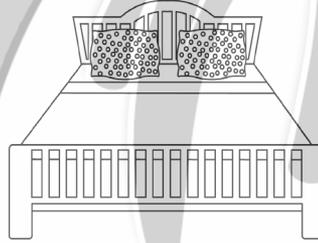
Version 1, page 3

Your parents have given you a budget of \$1,000.00 to redo your bedroom. First, you must decide which pieces of furniture to purchase. There are options for your bed, desk, and bureau. You must select one piece from each group. Your parents say you must buy the bookshelf and rug. Review the furniture options, the measurements, and the prices below. Circle the items you will purchase.

**beds**

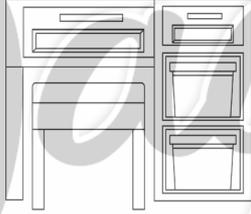


Bed option 1  
3 ft. wide, 6 ft. long  
\$157.00

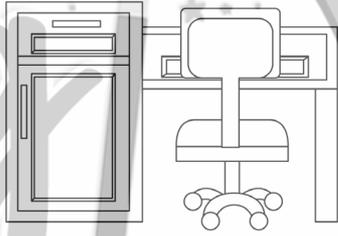


Bed option 2  
5 ft. wide, 6 ft. long  
\$234.00

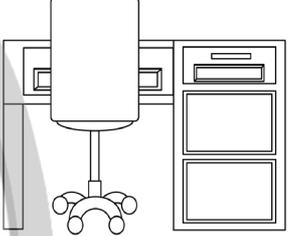
**desks**



Desk option 1  
3 ft. wide, 2 ft. deep  
\$159.00

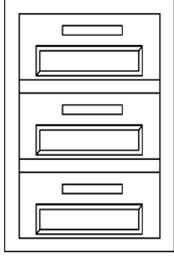


Desk option 2  
4 ft. wide, 1 1/2 ft. deep  
\$206.00



Desk option 3  
3 1/2 ft. wide, 2 ft. deep  
\$185.00

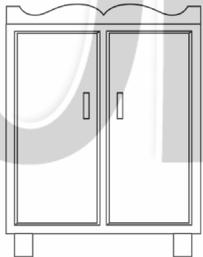
**bureau**



Bureau option 1  
2 ft. wide, 2 ft. deep  
\$161.00

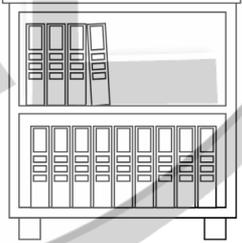


Bureau option 2  
4 1/2 ft. wide, 1/2 ft. deep  
\$210.00



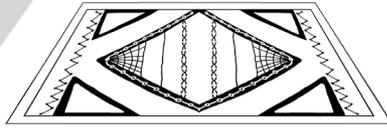
Bureau option 3  
3 ft. wide, 1 ft. deep  
\$193.00

**bookcase**



3 ft. wide, 2 ft. deep  
\$99.00

**rug**



8 1/2 ft. wide, 10 ft. long  
\$78.00

# Drawing a Floorplan

Version 1, page 5

Your next step is to create a floorplan of your room. It will help you decide what is the best way to arrange your furniture.

Each square on the floorplan is equal to one square foot. The closet, windows, and door are shown on the floor plan.

Your task is to draw the furniture you would like to purchase on the scaled map. You must include the location of:

- your bed
- your desk
- your bureau
- bookcase
- rug

Your furnishings must be drawn to scale. Use the measurements from the information page to help you. No furniture can be put in front of windows or doors.

Once you are happy with where you have placed your furnishings, shade or color them. Add a label for each item you draw.

The floor plan is a 10x10 grid. The closet is a 2x2 square in the top right. The top window is a 1x4 vertical rectangle on the left side. The bottom window is a 1x4 vertical rectangle on the left side. The top door is a 1x2 horizontal rectangle on the right side. The bottom door is a 1x2 horizontal rectangle at the bottom center. A large watermark reading 'MAGICAL CORE' is overlaid on the grid.

# Bookshelf Word Problems

Version 1, page 6

It is time to arrange your books on your new bookshelf. It has two shelves for books. You want to sort your books by genre. Read the data and shade in the bar graph to show your collections of books. Then, answer the questions.

Folktales **###**    Poetry **|||**    Fantasy **### ||**    Non-fiction **### ## ||**    Historical Fiction **### |**

Non-fiction														
Poetry														
Fantasy														
Folktales														
Historical fiction														

1. What is the total number of books in your collection? Show how you know.
2. Is it possible for you to put the same number of books on each shelf? If yes, how many can go on each shelf?
3. Since your non-fiction books have more pages, they take up more room on your shelf. If you can only fit this collection on one shelf, how many books do you need to put on the second shelf? Show on the number line.



# More Measurement Word Problems

Version 1, page 10

Read and answer the measurement word problems below.

1. It takes less time to apply the second coat to the feature wall. If you and your dad begin at 3:45 pm and finish at 5:15, how much time did it take to apply the second coat of paint? Solve using the number line.



2. How much less time did it take for you and your dad to paint the second coat of paint than the first coat? Solve using the number line.



# Cost Evaluation

Version 1, page 12

As the interior designer of this project, you must be sure you are staying within your budget. Knowing exactly how much money you have spent will allow you to continue planning for your bedroom re-design. Answer the questions below to know exactly how much money you have spent before you begin purchasing accessories.

1. If you purchase all your furnishings and paint, how much money will you be spending? Complete the table..

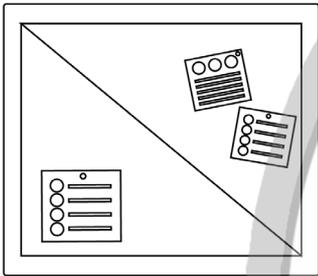
Actual total cost for furnishings	
Actual total cost for paint	
Total cost	

2. How much money do you have left to purchase accessories? Show your calculations.

# Accessorizing

Version 1, page 13

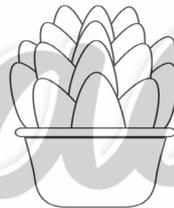
Consider the amount of money you have left to spend on accessories. Below are some accessories you can purchase for your room. Review the options and pick out your favorites. Circle the items you would like to include in your plan. On the next page, you will list your choices and calculate the costs.



Cork Board  
\$45.00



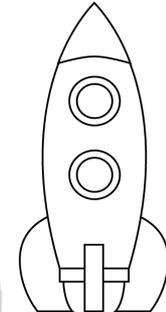
Wall Clock  
\$12.00



Cactus  
\$5.00



Teddy Bear  
\$7.00



Model Rocket  
\$25.00

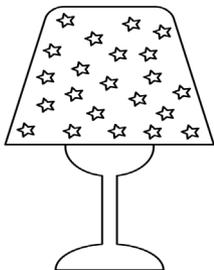
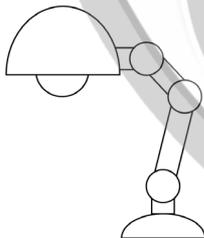
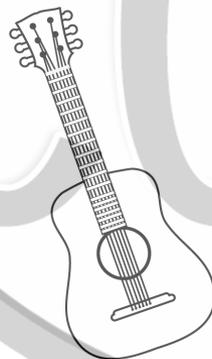


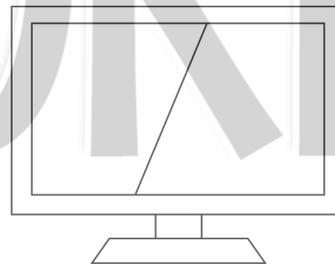
Table Lamp  
\$31.00



Desk Lamp  
\$18.00



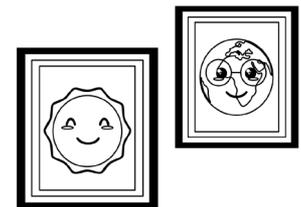
Guitar  
\$62.00



Computer  
\$279.00



Art Tools  
\$15.00



Wall Art  
\$36.00

# Finalizing Your Project

Version 1, page 15

Now, it is time for you to finalize your costs. Your starting budget was \$1,000.00 for the entire project. Calculate the total cost for your bedroom re-design using the table below.

Purchases	Cost
Furniture and Rug	
Paint	
Accessories	
Total Cost of the Project	

1. Using your calculated total cost for the project, determine if you will have any money left over from the \$1,000.00. Show your calculations.

# Buying Wall-to-wall Carpeting - Challenge 3

Read and answer the measurement word problems below.

1. You help your family measure 3 rooms for new wall-to-wall carpeting. You measure the rooms using a tape measure and record the dimensions in feet. Calculate the dimensions in inches. Then, find the perimeter (in feet) of the rooms.

Room	Dimensions in feet	Dimensions in inches	Perimeter in feet
Family room	12 feet wide by 11 feet long		
Guest room	9 feet wide by 10 feet long		
Baby's room	8 feet wide by 8 feet long		

2. The carpeting you picked for all three rooms costs \$2.50 per square foot. Find the area of each room and determine the cost for the carpet.

Room	Area in square feet	Cost for carpeting
Family room		
Guest room		
Baby's room		
Total cost of carpeting for all three rooms		



# Design, Create, Dream

Name: \_\_\_\_\_

**Self Reflection Rubric:** Highlight, circle, or shade one box per row on the rubric that expresses how you rate yourself on this Project Based Learning Activity.

I felt very confident about the math in this project.	I felt good about my ability to complete most of the math in this project.	I felt a lot of the math in this project was too hard for me to do alone.
I understood all of the math and did not need help to complete the problems.	I understand most of the math but needed a little help to solve some of the problems.	I understood some of the math but needed help to complete most of the problems.
I easily used many strategies to solve the math problems efficiently.	I needed some help to use the best strategies for solving the math problems.	I had trouble understanding the best way to solve many of the math problems.
I feel I am ready for a harder math project.	I feel I would like to spend more time practicing similar math problems.	I feel I need assistance to work on similar math problems

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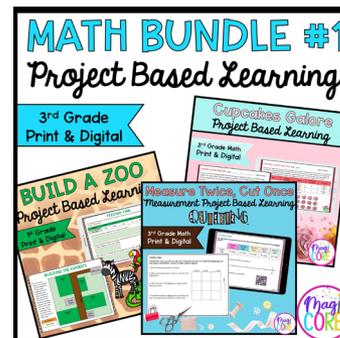


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