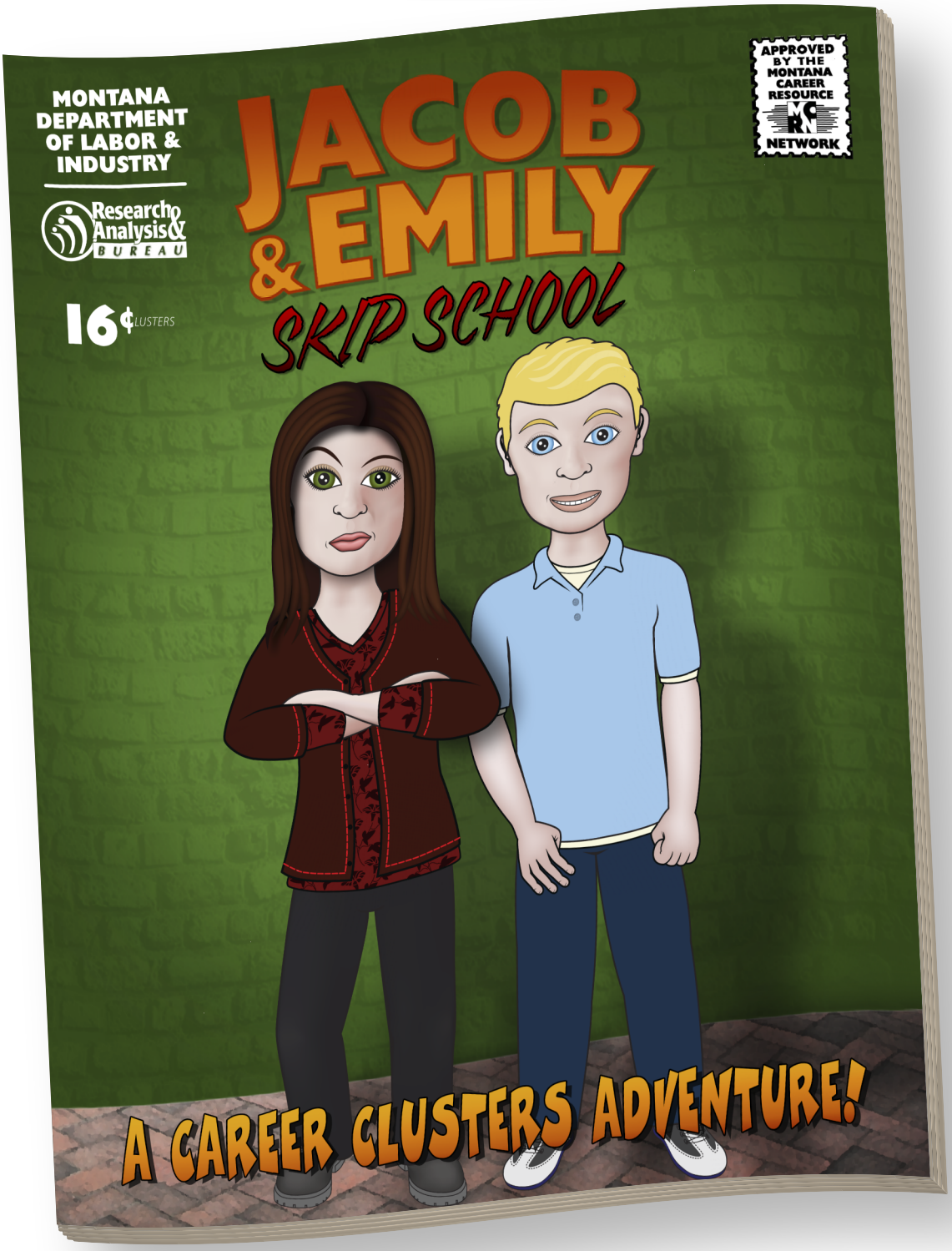
TEACHER'S GUIDE



Montana Department of
LABOR & INDUSTRY
Career Resources

JACOB & EMILY SKIP SCHOOL

TEACHER'S GUIDE

State of Montana
Greg Gianforte, Governor

Montana Department of Labor and Industry
Laurie Esau, Commissioner

Workforce Services Division
Scott Eychner, Administrator

Research and Analysis Bureau
Mike Peery, Bureau Chief

Written and illustrated by:
Robert C. Marvin

Interviews adapted from:
The Montana Career Information System (MCIS)

Printed copies of this publication are available by request.

Research & Analysis Bureau
P. O. Box 1728
Helena, MT 59624-1728
(406) 444-2430
www.careers.mt.gov

Montana Department of
LABOR & INDUSTRY
Career Resources

TABLE OF CONTENTS

THE IMPORTANCE OF CAREER EDUCATION

Ask any worker how they chose their occupation or career, and you will hear a variety of answers. Too often, people select an occupation because of a family member in the business, or worse yet, by looking through classified ads for any job available. As a result, many people are unhappy with their current occupations and, given the chance, would go back and change their career decisions (or indecisions).

Career development is a lifelong journey that begins when a child starts interacting with his or her environment. Some children are drawn to playing with cars and others with dolls. Some like to play outdoors and others are content to color and draw pictures indoors. For elementary students, basic career awareness is an appropriate, and attainable, goal. They learn about who they are, what they like to do, how to get along with others, and how attending school relates to the world of work.

Studies have shown that students exposed to early career development services improved their school involvement and performance, increased personal and interpersonal skills, improved preparation for careers, and increased career awareness, exploration, and planning skills. Simply put, students perform better when they understand why school is important to their future.

Jacob and Emily Skip School was designed to promote career awareness in elementary students, particularly those in the 5th-6th grades, and to introduce the concept of career clusters. The sixteen occupational groups presented in the book are the "career clusters" designated by the US Department of Education. The workbook and teacher's guide activities are aligned with the Montana K-12 Content Standards, and a helpful matrix is included (see page 36) to show which activities align with specific content standards.

Jacob and Emily Skip School was developed by the Montana Department of Labor and Industry's Research and Analysis Bureau. We support educational and workforce development goals by:

Delivering information to students, parents, and workers about careers and the education and training required to succeed in careers.

Providing training and support for teachers, counselors and administrators to help them assist students in preparing for further education and work.

Demonstrating the importance of career and educational planning for all citizens, regardless of age, race, disability or economic situation.

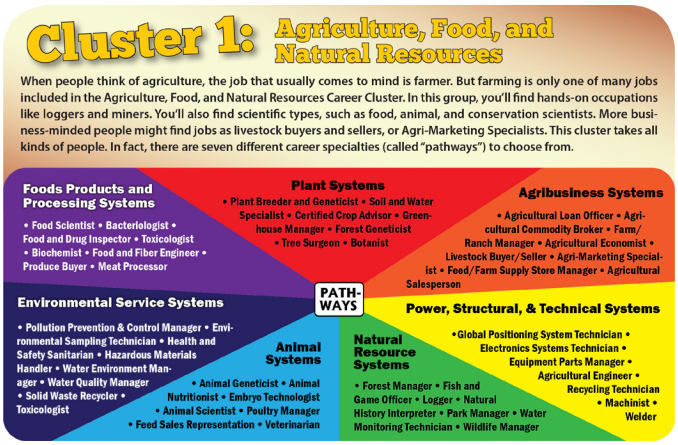
We hope you find this career clusters book and activities useful to you in the classroom and a fun way to engage your students in a discussion about careers.

HOW TO USE THE WORKBOOK

Jacob & Emily Skip School: A Career Clusters Adventure is both a storybook, and a career information resource. The story begins by introducing its two main characters, a set of twins with very different personalities, who take the day off from school to learn about careers. This over-arching storyline provides a framework in which to introduce the concept of career clusters, and to familiarize students with the jobs within each cluster. The story provides continuity, adds an element of interest to students, and reinforces the connection between school and the work. It also serves as an excellent reading exercise, offering a challenging vocabulary to help build reading skills.

In the story, the twins meet 16 professionals, each of whom has an occupation in a different career cluster. Large portions of the dialogue are taken directly from interviews with actual professionals in those occupations.[1] Along with each interview, students will find an occupation profile that includes an illustration of the character, accompanied by basic information on their career, including average wages in Montana, knowledge required, hours, travel, and preparation.[2] These sections familiarize students with the concept of career information, and reinforce the idea that not all careers are created equal--they pay different wages and require different kinds of preparation. This introduces the idea that career decisions should be based on careful research and planning.

Opposite each occupation profile page, there is a cluster profile which provides a brief description of the kinds of jobs and activities included in the cluster. Below the description is a "pathway model" that illustrates the different specialty areas within each cluster, and lists a sampling of occupations within each pathway. These sections illustrate to students how different occupations are interrelated.



[1]*The interviews were provided courtesy of the Montana Career Information System (MCIS), To access MCIS, please visit www.mtcis.intocareers.org. If your school does not have access to MCIS, contact the Research and Analysis Bureau at 406-444-2430 to set up an account.*

[2]*The career information comes from O*Net, which can be accessed at http://online.onetcenter.org.*

HOW TO USE THE WORKBOOK *(CONTINUED)*

Each cluster featured in Jacob and Emily Skip School has a corresponding activity in the Teacher's Guide. Some of these activities are meant to be teacher-led classroom activities, while others can be completed by students on their own.

Most of the activity worksheets are located within the activities section of the workbooks, but a few of the materials will need to be reproduced and handed out. Teachers may photocopy the handouts directly from printed copies of this book, or print them out from the PDF version of the Teacher's Guide, which is available on-line at http://www.ourfactsyourfuture.org/admin/uploadedPublications/1321_Teachers_Guide_Web.pdf

Some in-class activities may require outside resources to complete. You may choose to skip certain activities or adapt them as you see fit.

On another note, we at MCRN are always looking for ways to improve our resources and services. Teachers who implement Jacob and Emily Skip School and the related activities in their classrooms are encouraged to provide feedback on your experiences and suggestions for improvement. Have you come up with an innovative way to implement one of the activities? Do you have an idea for an additional activity you like to see included in a future edition? We'd love to hear about it.

Here's where to contact us:

Research and Analysis Bureau
Phone: (800) 541-3904
Email: mcrn@mt.gov
Mailing address: P.O. Box 1728
Helena, MT 59624-1728
Website: www.careers.mt.gov

ACTIVITY ONE: OCCUPATION FAMILY TREE

In this activity, students research their family's career history to gain an understanding of their current priorities and interests as they relate to the work history of their family.

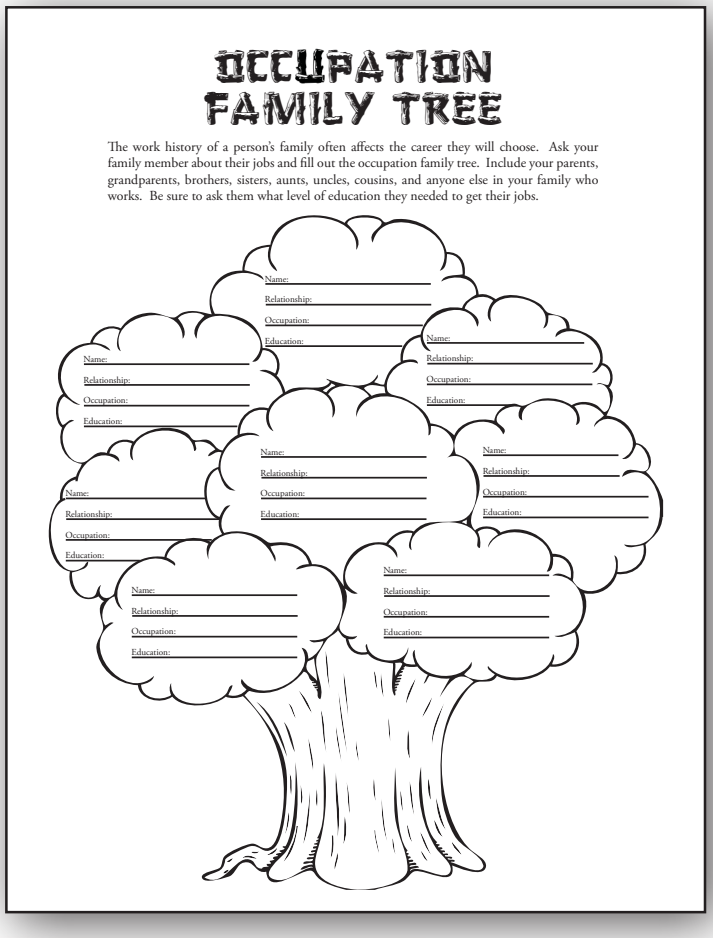
Step 1: Discuss how one's background can affect career choices. What other factors affect this choice?

Step 2: Have students talk to their family members to help them fill it out. Ask them to note the instances where family background has influenced a family member's career choice. You may ask students to identify the cluster(s) each occupation belongs to.

Step 3: In class discussion, ask students for specific examples where family background has affected career choices of family members. Continue discussion of influence of family and the importance of family in career decisions.

Associated Clusters:
All

Materials Provided:
"Occupation Family Tree" worksheet (located in the Workbook on page 36)

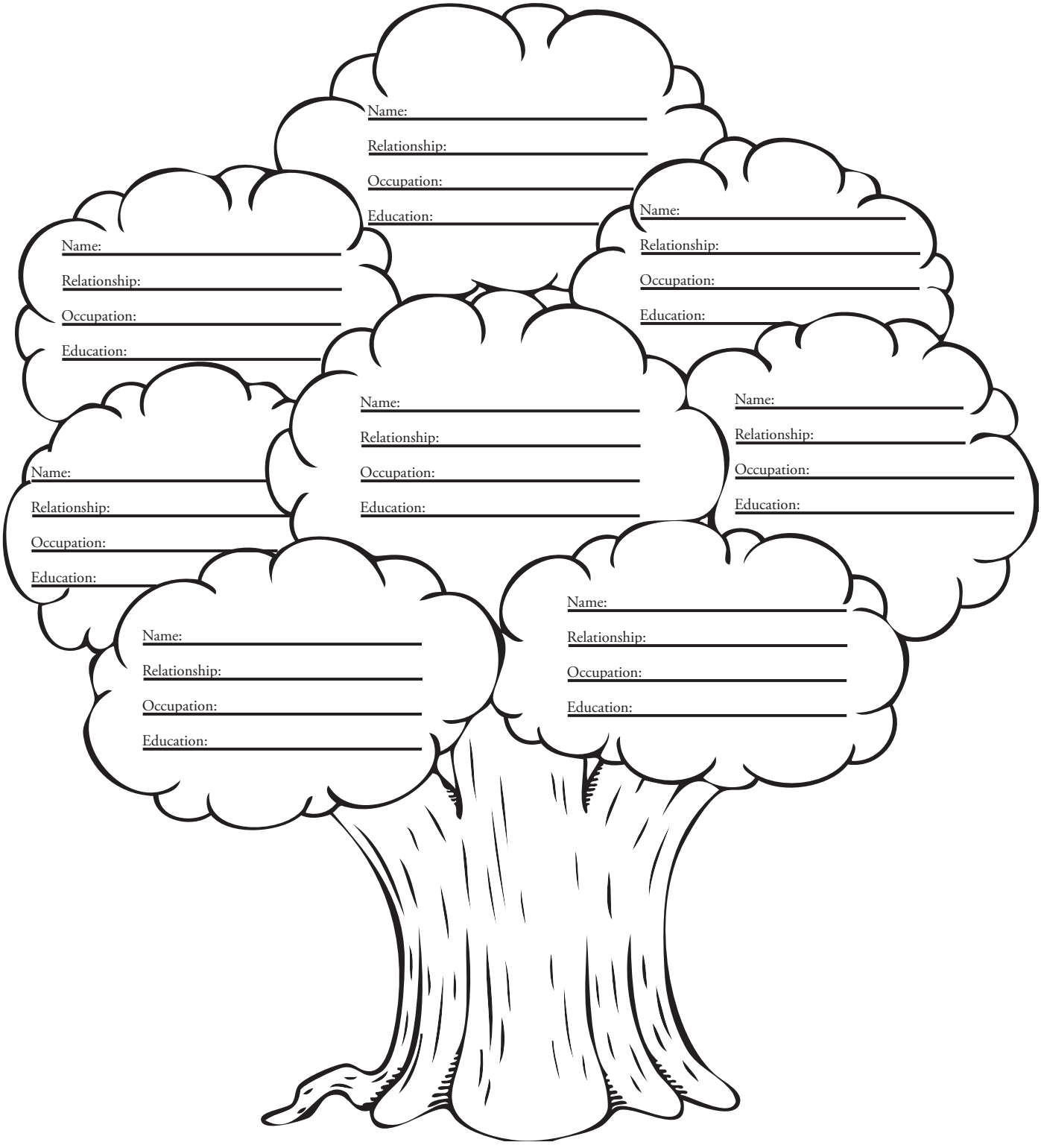

OCCUPATION FAMILY TREE

The work history of a person's family often affects the career they will choose. Ask your family member about their jobs and fill out the occupation family tree. Include your parents, grandparents, brothers, sisters, aunts, uncles, cousins, and anyone else in your family who works. Be sure to ask them what level of education they needed to get their jobs.

Name:
Relationship:
Occupation:
Education:

OCCUPATION FAMILY TREE

The work history of a person's family often affects the career they will choose. Ask your family member about their jobs and fill out the occupation family tree. Include your parents, grandparents, brothers, sisters, aunts, uncles, cousins, and anyone else in your family who works. Be sure to ask them what level of education they needed to get their jobs.

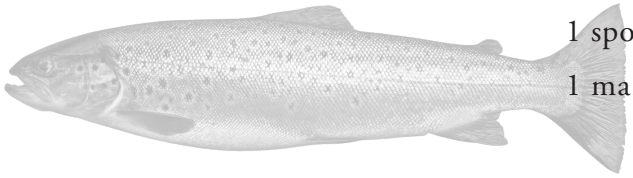


ACTIVITY TWO: TROUT SURVEY

This activity gives students an idea of how a fish and game warden estimates wildlife populations using random sampling and mathematics.

Associated Cluster:
Agriculture, Food, and Natural Resources

Materials Provided:
Instructions (workbook p.37)
Data Collection Sheet (workbook p.38)



Materials Needed:
1 bag of dried beans

1 cup for each group of 4 or 5 students

1 spoon for each group

1 marker for each group

Step 1: Fill your cup about half full with beans. These will represent all the trout in the lake.

Step 2: Try to estimate the trout (beans) in the lake (cup) without disturbing the fish, or trying to count them. In other words, take a guess. Record it on your data collection sheet.

Step 3: Next you will net a portion of the trout and tag them. Take your net (spoon) and scoop some fish out of the lake. Tag them by marking them with an "X". Write down how many trout you tagged, then release them back into the lake.

Step 4: To simulate the movement of fish in a lake, cover the cup with your hand and shake the beans around until they are mixed together.

Step 5: Take your first sample by netting another portion of trout. Record the total number of trout you have netted, and then record how many of them have been tagged.

Step 6: Estimate the total trout population using the formula on your data collection sheet. Record your estimate on the data sheet.

Step 7: Release your trout back into the lake and mix them up again. Take a second sample and make another estimate. Compare the two estimates. Why are they different?

Step 8: Take an average of your two estimates by adding them together and dividing by two. Record the average.

Step 9: Make an actual count of the trout in your lake. How close were your estimates? Your average? Why is there a difference?

Trout Survey
Data Collection Sheet

Fish and Game Wardens conducting the survey:

_____

_____

_____

_____

Estimate of the Trout Population: _____

Total number of trout tagged: _____

Sample #1:

Total number of trout in net: _____

Number of tagged trout in the net: _____

Population estimated with formula: _____

Sample #2:

Total number of trout in net: _____

Number of tagged trout in the net: _____

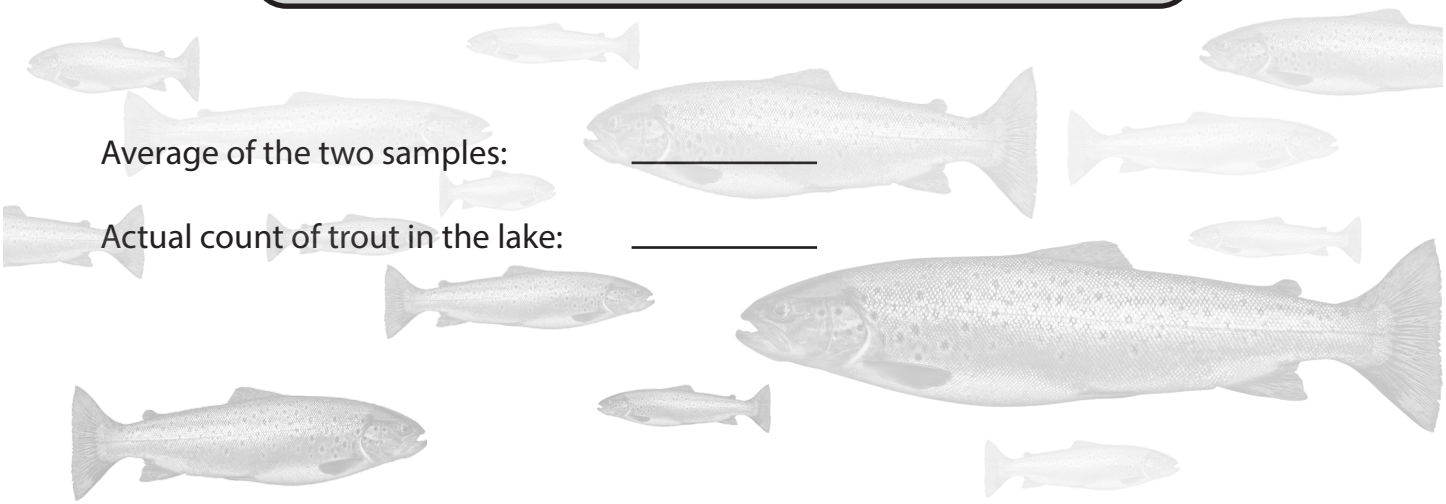
Population estimated with formula: _____

Population Formula:

$$\text{Population} = \frac{\text{(Total number of trout tagged) x (Total number of trout in net)}}{\text{Number of tagged trout in net}}$$

Now find the average of the two samples using the following formula:

$$\text{Average} = \frac{\text{(Population Estimate \#1) + (Population Estimate \#2)}}{2}$$



Average of the two samples: _____

Actual count of trout in the lake: _____

ACTIVITY THREE: CONSTRUCTION DESIGN PROJECT

This activity gives students a glimpse into the world of architecture. They will examine floor plans and use math to determine which has the most efficient kitchen.

Associated Clusters:
Agriculture, Food, & Natural Resources
Science, Technology, Mathematics, & Engineering

Materials Provided:
5 reproducible floor plans (see following pages)

Materials Needed:
Rulers

To expand on this activity:

Consider bringing in a guest speaker to talk to the class about the importance of education in their career. Guest speakers might include architects, builders, drafters, etc.

Step 1: Collect floor plans

You'll need a floor plan that shows the location of the sink, stove, and refrigerator, and that includes a scale to determine distances. You can either copy the five floor plans included in this guide, or assign students to find their own plans on the web. The Following websites provide printable floor plans:

www.Eplans.com
www.Coolhouseplans.com/index.htnl
www.houseplans.com

Step 2: Draw the work triangle

Floor plans for homes usually include the location of the sink, stove, and refrigerator in the kitchen. The walking path connecting each of these is called the work triangle of the kitchen. For an efficient kitchen design, it is recommended that the perimeter of the work triangle not be greater than 22 feet. Have your students draw the work triangle on each floor plan.

Step 3: Measure the perimeter of the triangle

Instruct students to carefully measure each side of the triangle, then add the sides together to determine the perimeter.

Step 4: Calculate the walking distance

Using the scale provided on the floor plan, have students find the actual walking distance of the work triangle. Remember that the scale will differ from floor plan to floor plan.

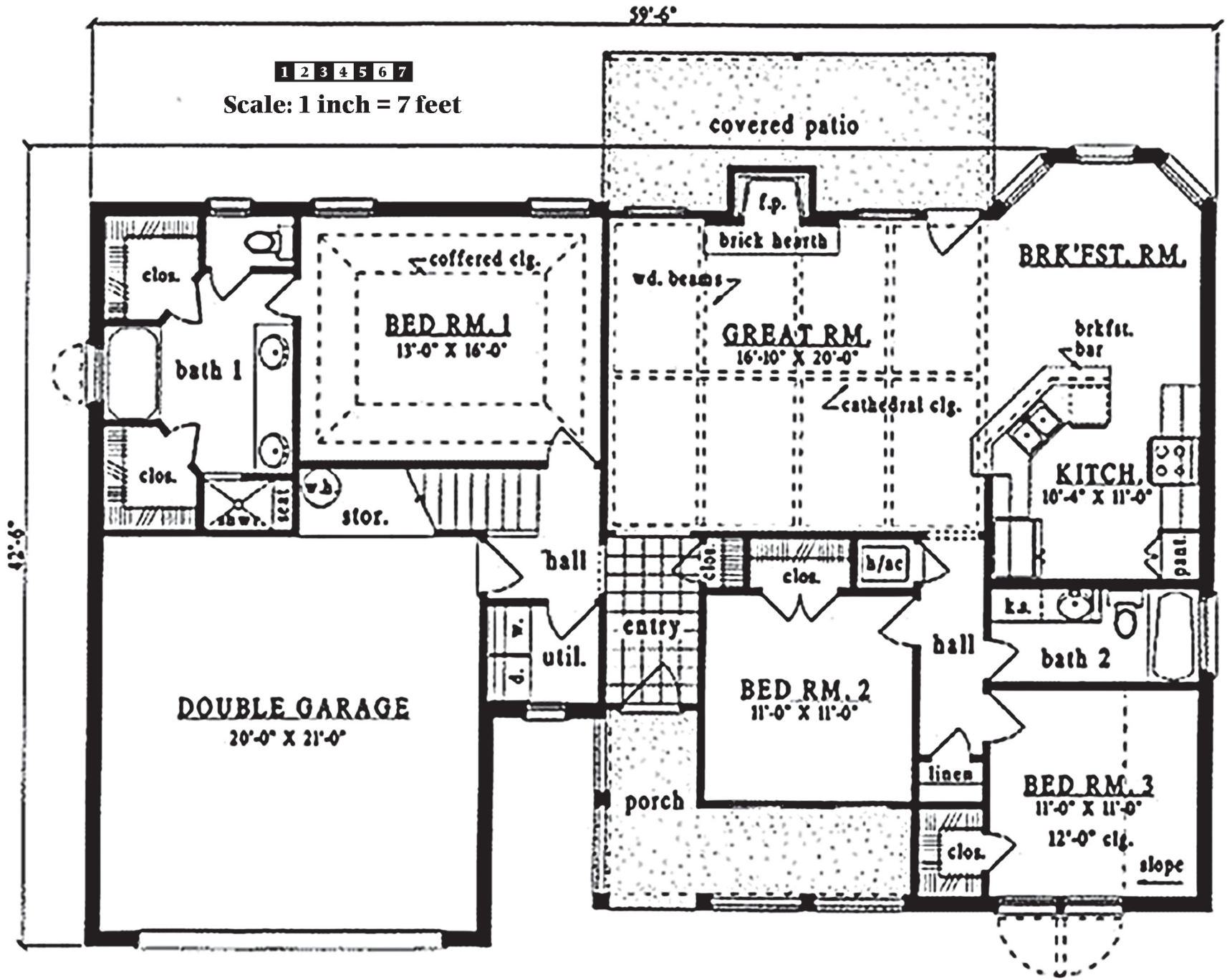
Step 5: Find the most efficient kitchen

Based on the walking distance, determine which house has the most efficient kitchen (i.e. the one with the shortest walking distance between appliances).

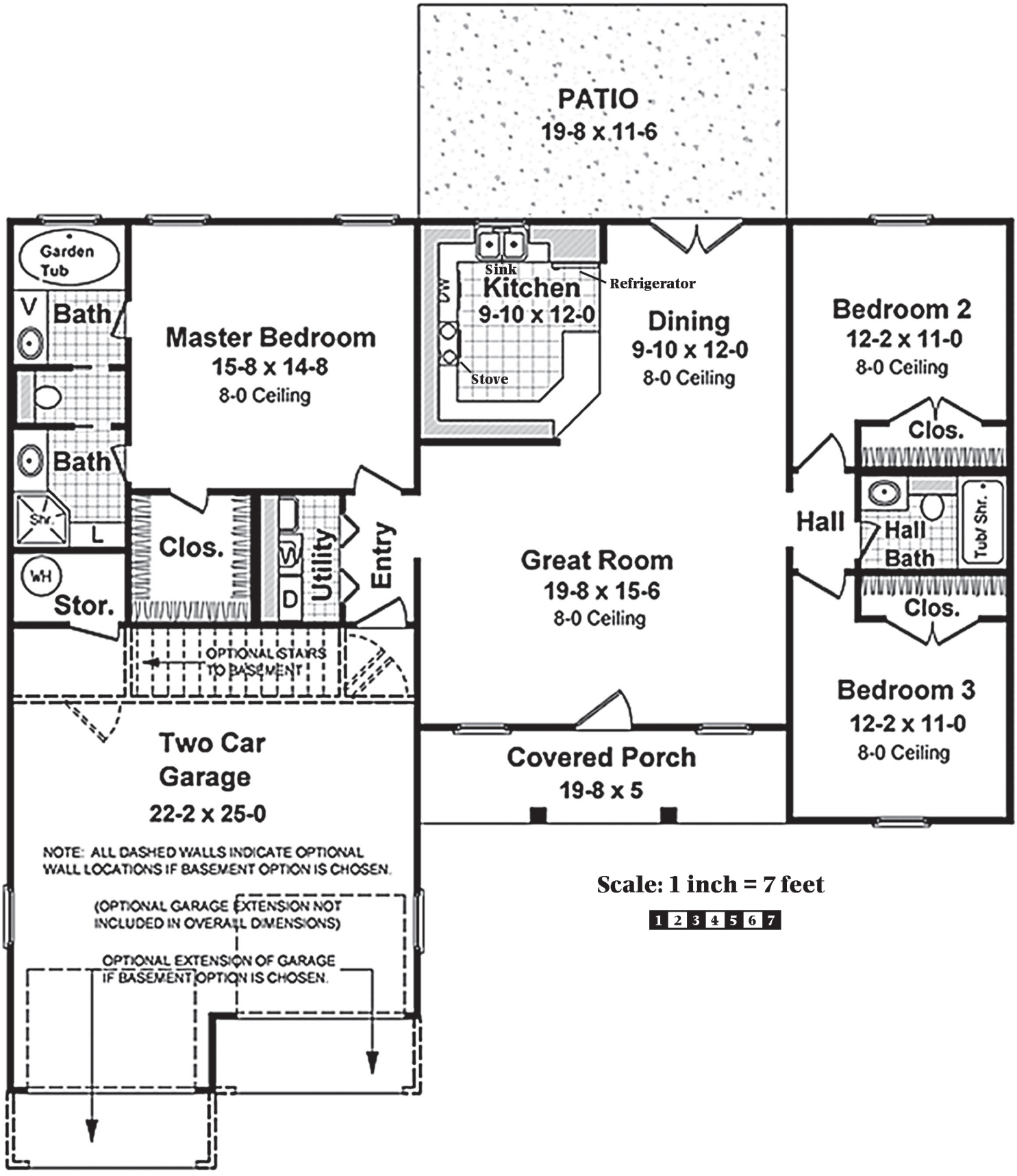
Step 6: Discussion

Discuss which class subjects were helpful in completing this activity, and how important education is for an architect, construction foreman, and drafter.

FLOOR PLAN #1


59'-6"
42'-6"
1 2 3 4 5 6 7
Scale: 1 inch = 7 feet
covered patio
f.p.
brick hearth
BRK'EST. RM.
coffered clg.
wd. beams
BED RM. 1
13'-0" X 16'-0"
GREAT RM.
16'-10" X 20'-0"
brkfst. bar
cathedral clg.
clos.
bath 1
clos.
stor.
KITCH.
10'-4" X 11'-0"
hall
clos.
clos.
h/ac
entry
util.
hall
ref.
bath 2
DOUBLE GARAGE
20'-0" X 21'-0"
BED RM. 2
11'-0" X 11'-0"
linen
porch
BED RM. 3
11'-0" X 11'-0"
12'-0" clg.
clos.
slope

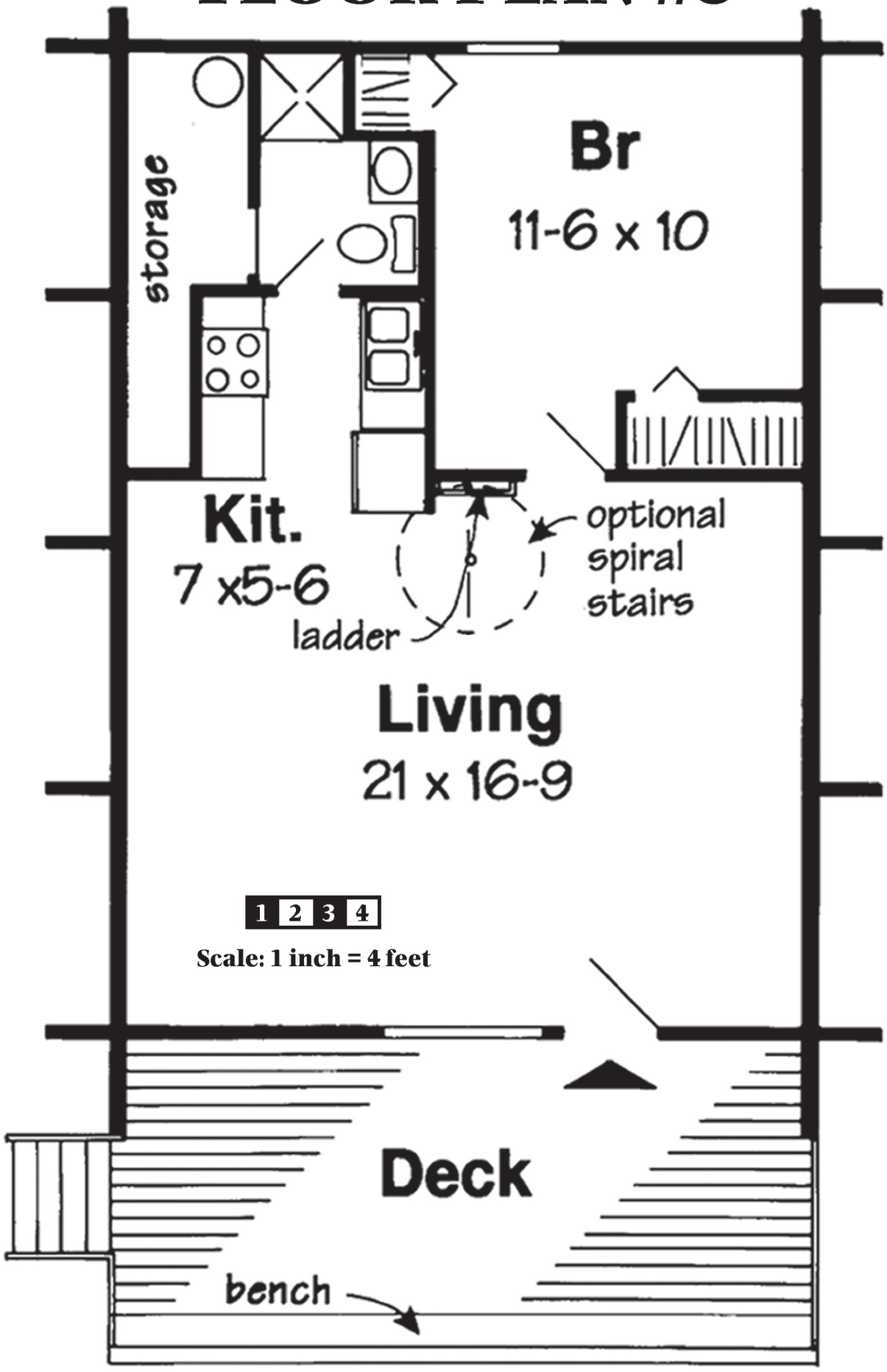
FLOOR PLAN #2



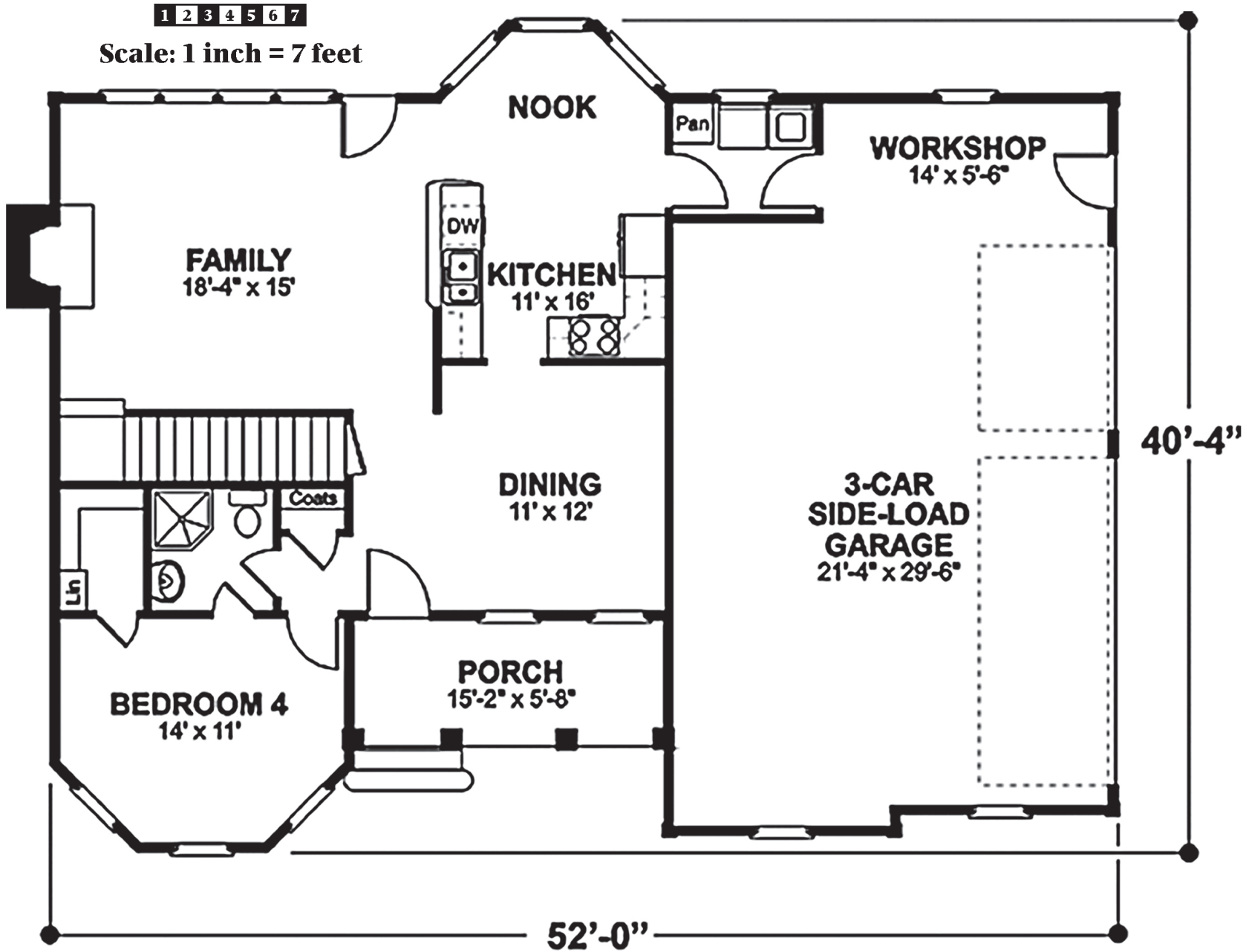
Scale: 1 inch = 7 feet

1 2 3 4 5 6 7

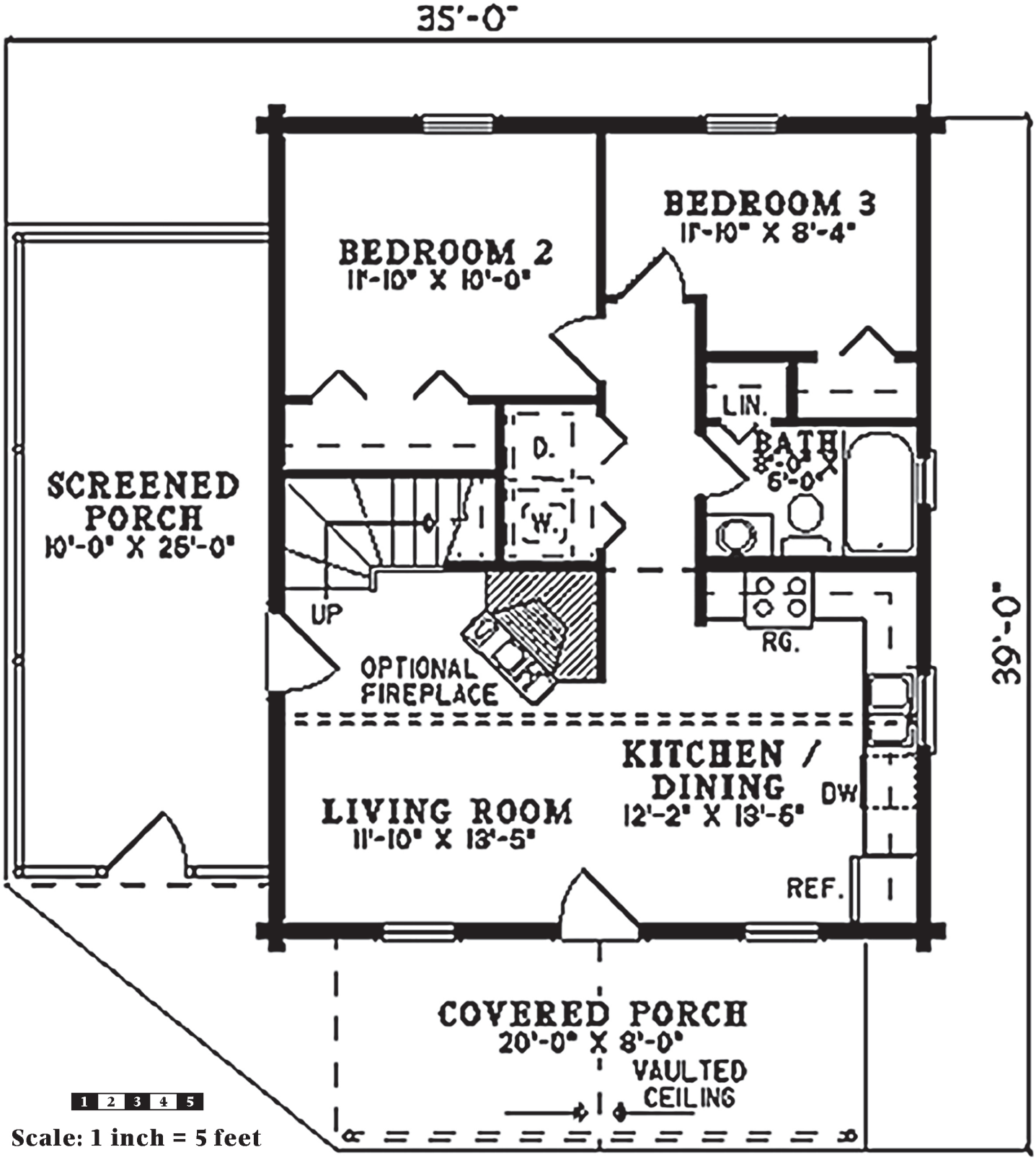
FLOOR PLAN #3


storage
Br
11-6 x 10
Kit.
7 x5-6
optional
spiral
stairs
ladder
Living
21 x 16-9
1 2 3 4
Scale: 1 inch = 4 feet
Deck
bench

FLOOR PLAN #4


1 2 3 4 5 6 7
Scale: 1 inch = 7 feet
NOOK
Pan
WORKSHOP
14' x 5'-6"
DW
FAMILY
18'-4" x 15'
KITCHEN
11' x 16'
40'-4"
DINING
11' x 12'
Coats
Lin
3-CAR
SIDE-LOAD
GARAGE
21'-4" x 29'-6"
PORCH
15'-2" x 5'-8"
BEDROOM 4
14' x 11'
52'-0"

FLOOR PLAN #5



Scale: 1 inch = 5 feet

ACTIVITY FOUR: CREATING AN ADVERTISEMENT

In this activity, students try their hand at advertising a product. The "Fridge" company has launched a new line of refrigerators with built-in ice cream makers, and it is the students' job to create the advertising campaign. This exercise can be used to reinforce their reading in either the Arts & Communication or Marketing & Sales clusters. It also makes an excellent art project.

Associated Clusters:
Arts & Communication/Marketing & Sales

Materials Provided:
"Creating an Ad" instructions (workbook p.39)

Materials Needed:
Poster Board (or large paper)

Scissors

Colored markers

Magazines with sample ads

Step 1: Identify effective ads

Form groups of four to five students. Hand out magazines, and ask them to find three to five ads they like. Discuss the elements that make them effective.

Step 2: Hand out instructions

Go over the instructions with the class.
The students' job is threefold:

1. Develop a catchy product name and slogan
2. Design a print advertisement
3. Prepare a presentation that introduces the new product to the sales staff.

Step 3: Presentations

Have each group present its advertising campaign to the class, which will play the part of the "Fridge" sales staff. The presenters need to explain their product name, slogan, and print ad; and to highlight the features and benefits of the new product. Presentations should be scripted and involve everyone in the group.

Step 4: Debriefing

Discuss which class subjects helped in completing this activity.

Creating an Advertisement!

Congratulations! Your company has been selected to create the advertising campaign for Universal Appliance Company's newest product, the Fridge™ Brand Ice Cream-Making Refrigerator.

Your job involves three tasks:

1. Give the product a catchy **name** and **slogan**. The slogan should be simple, but still communicate the new concept.

2. Design a **print ad** to appear in cooking and homemaking magazines. Be sure to direct the ad to the audience who would buy the product.

3. Prepare a **presentation** to introduce the product to the Fridge™ sales staff, whose job it is to convince stores to carry their new product. These presentations should feature your product's slogan and print ad, but also highlight the features of the product. Tell the sales staff who would likely buy this product, and explain the advantages of having a built-in ice cream-maker in your refrigerator. You will need to write a script for your presentation that includes everyone in your work group.

ACTIVITY FIVE: SCHOOL SCAVENGER HUNT

This activity is designed to make students more aware of the many people and occupations it takes to keep a school running properly.

Associated Cluster:
Education

Materials Provided:
"School Scavenger Hunt" worksheet (workbook p.40)

Step 1: Identify the occupations at your school

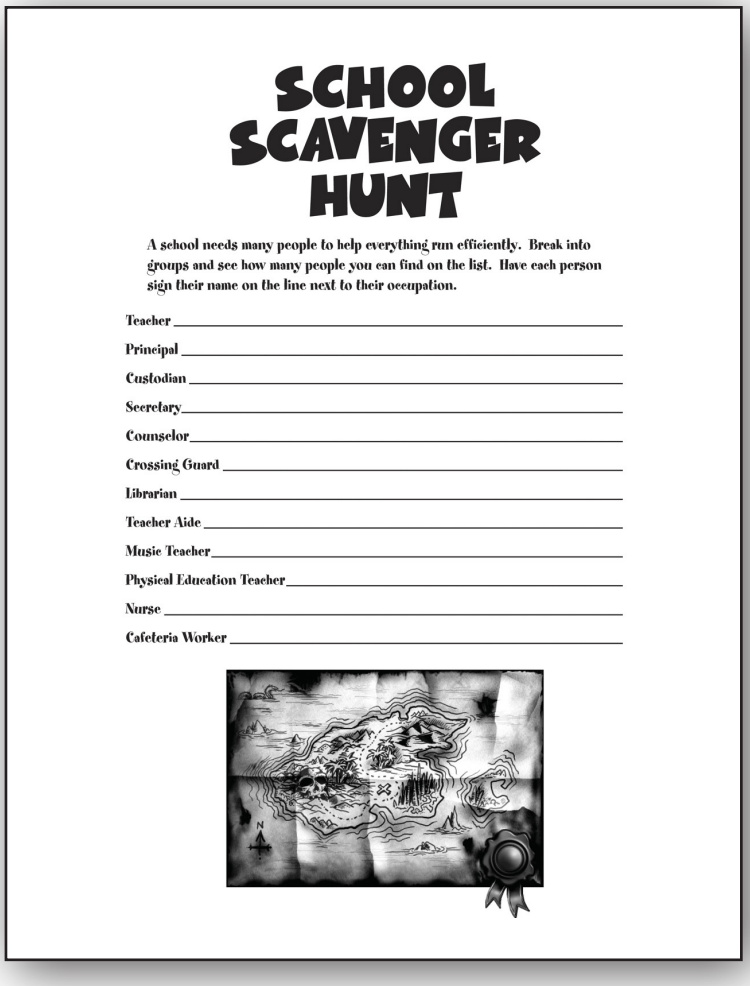
As a class, compile a list on the blackboard of all the different jobs people do to make your school run.

Step 2: Discuss the duties of each job

Have students explore what school might be like if there was no one to perform the duties of each occupation. For instance, how would it change daily life at school if there was no custodian? What would happen if there was no principal?

Step 3: Collect signatures

Break students into groups and have them collect signatures from the people who perform each listed occupation. Feel free to add to the list as well. Have students ask each person how it would change daily life at school without someone to do their job. Have them record their answers and compare them to the ones discussed in class.



SCHOOL SCAVENGER HUNT

A school needs many people to help everything run efficiently. Break into groups and see how many people you can find on the list. Have each person sign their name on the line next to their occupation.

Teacher _____
Principal _____
Custodian _____
Secretary _____
Counselor _____
Crossing Guard _____
Librarian _____
Teacher Aide _____
Music Teacher _____
Physical Education Teacher _____
Nurse _____
Cafeteria Worker _____

School Scavenger Hunt

A school needs many people to help everything run efficiently. Break into groups and see how many people you can find on the list. Have each person sign their name on the line next to their occupation.

Teacher _____

Principal _____

Custodian _____

Secretary _____

Counselor _____

Crossing Guard _____

Librarian _____

Teacher Aide _____

Music Teacher _____

Physical Education Teacher _____

Nurse _____

Cafeteria Worker _____

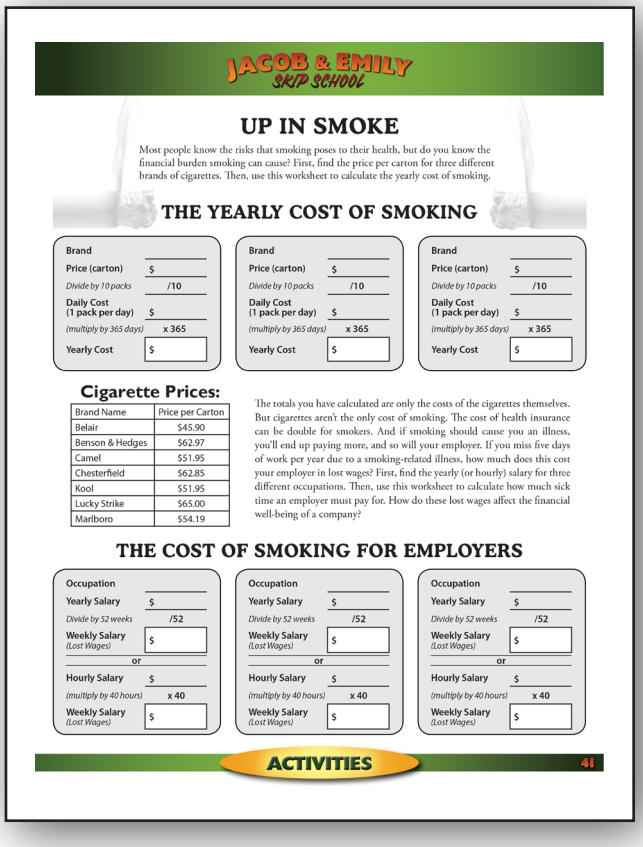
ACTIVITY SIX: UP IN SMOKE

The next activity not only exposes students to the world of finance, it also teaches them a valuable lesson about health, and lets them apply their math skills to a real world scenario.

Associated Clusters:
Finance/Business Management, & Administration

Materials Needed:
Computers with access to Montana Career Information System (available at www.mtcis.intocareers.org at no charge. Call 1-800-541-3904 to set up an account.)

Materials Provided:
"Up in Smoke" worksheet (workbook p.41)



JACOB & EMILY SKIP SCHOOL

UP IN SMOKE

Most people know the risks that smoking poses to their health, but do you know the financial burden smoking can cause? First, find the price per carton for three different brands of cigarettes. Then, use this worksheet to calculate the yearly cost of smoking.

THE YEARLY COST OF SMOKING

Brand		Brand		Brand	
Price (carton)	$	Price (carton)	$	Price (carton)	$
Divide by 10 packs	/10	Divide by 10 packs	/10	Divide by 10 packs	/10
Daily Cost (1 pack per day)	$	Daily Cost (1 pack per day)	$	Daily Cost (1 pack per day)	$
(multiply by 365 days)	x 365	(multiply by 365 days)	x 365	(multiply by 365 days)	x 365
Yearly Cost	$	Yearly Cost	$	Yearly Cost	$

Cigarette Prices:

Brand Name	Price per Carton
Belair	$45.90
Benson & Hedges	$62.97
Camel	$51.95
Chesterfield	$62.85
Kool	$51.95
Lucky Strike	$65.00
Marlboro	$54.19

The totals you have calculated are only the costs of the cigarettes themselves. But cigarettes aren't the only cost of smoking. The cost of health insurance can be double for smokers. And if smoking should cause you an illness, you'll end up paying more, and so will your employer. If you miss five days of work per year due to a smoking-related illness, how much does this cost your employer in lost wages? First, find the yearly (or hourly) salary for three different occupations. Then, use this worksheet to calculate how much sick time an employer must pay for. How do these lost wages affect the financial well-being of a company?

THE COST OF SMOKING FOR EMPLOYERS

Occupation		Occupation		Occupation	
Yearly Salary	$	Yearly Salary	$	Yearly Salary	$
Divide by 52 weeks	/52	Divide by 52 weeks	/52	Divide by 52 weeks	/52
Weekly Salary (Lost Wages)	$	Weekly Salary (Lost Wages)	$	Weekly Salary (Lost Wages)	$
or		or		or	
Hourly Salary	$	Hourly Salary	$	Hourly Salary	$
(multiply by 40 hours)	x 40	(multiply by 40 hours)	x 40	(multiply by 40 hours)	x 40
Weekly Salary (Lost Wages)	$	Weekly Salary (Lost Wages)	$	Weekly Salary (Lost Wages)	$

ACTIVITIES 41

Step 1: Discussion

As a class, list the possible health consequences of smoking. Talk about where smoking has been banned and why. Discuss why insurance rates are so much higher for smokers.

Step 2: Calculate the Cost of Smoking

Using the price sheet included in this guide, have students do comparison pricing on five brands of cigarettes. Using the "Up in Smoke" worksheet, have the students calculate the cost of smoking one pack per day for a year.

Step 3: Calculate Lost Wages

Have students select an occupation on MCIS. From the information given, locate the yearly salary, then calculate the daily salary. If an employee misses five days of work per year due to a smoking related illness, what are the lost wages? Discuss what economic impact this may have on the company.

UP IN SMOKE

Most people know the risks that smoking poses to their health, but do you know the financial burden smoking can cause? First, find the price per carton for three different brands of cigarettes. Then, use this worksheet to calculate the yearly cost of smoking.

THE YEARLY COST OF SMOKING

Brand			
Price (carton)	$		
Divide by 10 packs	/10		
Daily Cost (1 pack per day)	$		
(multiply by 365 days)	x 365		
Yearly Cost	$		

Cigarette Prices:

Brand Name	Price per Carton
Belair	$45.90
Benson & Hedges	$62.97
Camel	$51.95
Chesterfield	$62.85
Kool	$51.95
Lucky Strike	$65.00
Marlboro	$54.19

The totals you have calculated are only the costs of the cigarettes themselves. But cigarettes aren't the only cost of smoking. The cost of health insurance can be double for smokers. And if smoking should cause you an illness, you'll end up paying more, and so will your employer. If you miss five days of work per year due to a smoking-related illness, how much does this cost your employer in lost wages? First, find the yearly (or hourly) salary for three different occupations. Then, use this worksheet to calculate how much sick time an employer must pay for. How do these lost wages affect the financial well-being of a company?

THE COST OF SMOKING FOR EMPLOYERS

Occupation			
Yearly Salary	$		
Divide by 52 weeks	/52		
Weekly Salary *(Lost Wages)*	$		
or			
Hourly Salary	$		
(multiply by 40 hours)	x 40		
Weekly Salary *(Lost Wages)*	$		

(Worksheet located in Workbook p.42)

ACTIVITY SEVEN: NAME THAT OCCUPATION

Complete each sentence by filling in the correct occupation from the following list:

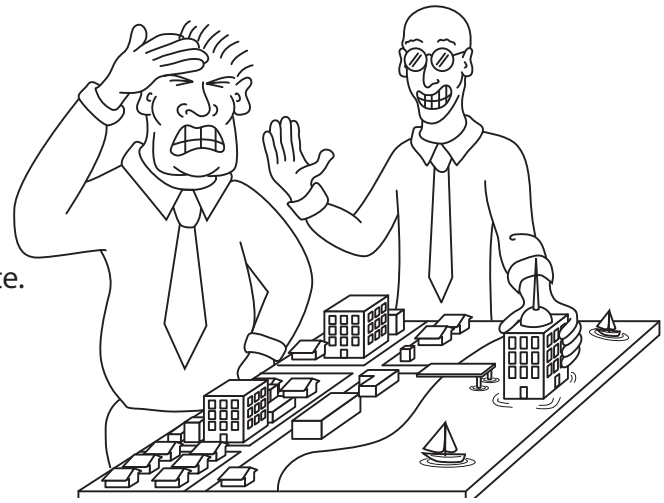
Social Service Manager **Tax Examiner**
Building Inspector **Transportation Inspector**
Interpreter **Occupational Health Specialist**
Mail Carrier **City Planner**

1. Someone who investigates workplaces and recommends ways to remove health hazards is called a(n) _____.

2. A _____ makes decisions about where to put buildings, streets, and parks.

3. A _____ checks for structural quality and fire safety.

4. Someone who listens to foreign language speakers, or watches sign language users, and translates what they say is called a(n) _____.



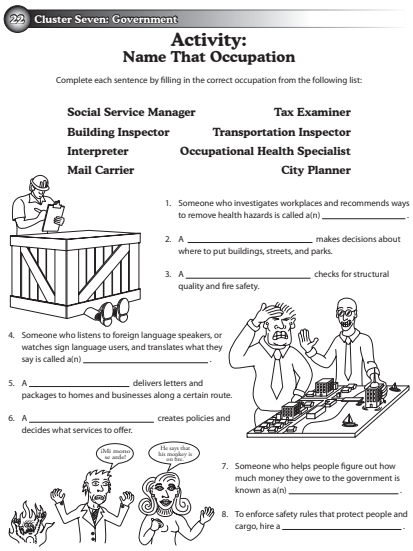
5. A _____ delivers letters and packages to homes and businesses along a certain route.

6. A _____ creates policies and decides what services to offer.

7. Someone who helps people figure out how much money they owe to the government is known as a(n) _____.

8. To enforce safety rules that protect people and cargo, hire a _____.

ACTIVITY SEVEN ANSWER KEY



22 Cluster Seven: Government

Activity:
Name That Occupation

Complete each sentence by filling in the correct occupation from the following list:

Social Service Manager	**Tax Examiner**
Building Inspector	**Transportation Inspector**
Interpreter	**Occupational Health Specialist**
Mail Carrier	**City Planner**

1. Someone who investigates workplaces and recommends ways to remove health hazards is called a(n) _____.
2. A _____ makes decisions about where to put buildings, streets, and parks.
3. A _____ checks for structural quality and fire safety.
4. Someone who listens to foreign language speakers, or watches sign language users, and translates what they say is called a(n) _____.
5. A _____ delivers letters and packages to homes and businesses along a certain route.
6. A _____ creates policies and decides what services to offer.
7. Someone who helps people figure out how much money they owe to the government is known as a(n) _____.
8. To enforce safety rules that protect people and cargo, hire a _____.

Answer Key:

1. **Occupational Health Specialist**
2. **City Planner**
3. **Building Inspector**
4. **Interpreter**
5. **Mail Carrier**
6. **Social Service Manager**
7. **Tax Examiner**
8. **Transportation Inspector**

ACTIVITY EIGHT ANSWER KEY

1. Saw [pediatrics] patient in the [emergency room]. [Complains of] severe headache. [Symptoms] included nausea and blurred vision. Sent to [radiology] for [magnetic resonance imaging]. [Diagnosis]: concussion. [Prescription]: [complete bed rest] and [tender loving care].

2. Patient [complains of] chest pains and shortness of breath. [Past history] indicates [coronary heart disease]. [Symptoms] indicate possible [myocardial infarction]. Put in [intensive care unit] for monitoring.

3. [Pediatrics] patient brought to [emergency room] by 13-year-old brother. [Complains of] object lodged in throat. Sent to [radiology]. Called [social services] to find parents. Called in [ear, nose, and throat] specialist and reserved [operating room].

4. Patient came into [ER] [c/o] back pain. Patient has no [PH] of back pain. Other [Sx] include shortness of breath and dizziness. Sent to [xray]. [Px] [CBR] until final [Dx].

5. Patient reported she fell in her house. [C/o] neck pain and pain in the rib cage area upon arriving in [ER]. Visible bruises around face and shoulders. Called [SS] because the injuries did not appear to match those one would receive in a fall. Sent to [xray]. [Dx] broken rib.

(Worksheet located in Workbook p.43)

ACTIVITY EIGHT: MEDICAL ABBREVIATIONS

Medical terms and abbreviations are used by doctors in creating medical notes for each patient. Medical records technicians then translate that information into medical records for patients.

Term	*Abbreviation*	*Term*	*Abbreviation*
carcinoma	**CA**	**emergency room**	**ER**
coronary heart disease	**CHD**	**ear, nose, and throat**	**ENT**
complains of	**c/o**	**intensive care unit**	**ICU**
diagnosis	**Dx**	**social services**	**SS**
murmur	**m**	**immediately**	**stat**
myocardial infarction	**MI**	**tablets, pills**	**tabs**
present illness	**PI**	**grams**	**g or gm**
symptoms	**Sx**	**milliliters**	**ml**
past history	**PH**	**liters**	**L**
operating room	**OR**	**ounces**	**oz**
radiology	**X-Ray**	**complete bed rest**	**CBR**
magnetic resonance imaging	**MRI**	**tender loving care**	**TLC**
pediatrics	**Peds**	**prescription**	**Rx**

Translate the statements below that contain medical abbreviations. Write the statements with no abbreviations.

1. Saw peds patient in ER. C/o severe headache. Sx included nausea and blurred vision. Sent to X-ray for MRI. Dx concussion. Rx CBR and TLC.

_____
_____
_____
_____

2. Patient c/o chest pains and shortness of breath. PH indicates CHD. Sx indicate possible MI. Put in ICU for monitoring.

_____
_____
_____
_____

3. Peds patient brought to ER by 13-year-old brother. C/o object lodged in throat. Sent to X-Ray. Called SS to find parents. Called in ENT specialist and reserved OR.

_____
_____
_____
_____

Translate the statements below into statements with abbreviations.

4. Patient came into the emergency room complaining of back pain. Patient has no past history of back pain. Other symptoms include shortness of breath and dizziness. Sent to radiology. Prescribed complete bed rest until final diagnosis.

_____
_____
_____
_____

5. Patient reported she fell in her house. Complained of neck pain and pain in the rib cage area upon arriving in the emergency room. Visible bruises around face and shoulders. Called social services because the injuries did not appear to match those one would receive in a fall. Sent to radiology. Diagnosis broken rib.

_____
_____
_____
_____

ACTIVITY NINE: LET'S TRAVEL

This activity teaches students about all the work that goes into planning an international trip, and makes them aware of the occupations that make international travel possible. It also builds research and speaking skills, and introduces them to foreign languages.

Associated Cluster:
Hospitality & Tourism

Materials Provided:
"Let's Travel" worksheet (workbook p.44)

Step 1: Divide the class into groups of three or four students. Have each group draw the name of a country whose national language is not English.

Step 2: Go over the Let's Travel worksheet, which explains the goal of the activity: to plan a trip to the country they drew.

Step 3: Have students go to the library to research their country, answering all the questions on the handout. They will need to discover their country's location, climate, interesting sites, monetary unit, modes of transportations, modes of transportation available, holidays celebrated, and other significant cultural customs. They should also find three commonly used phrases in the national language which will help them during their trip.

Step 4: Have students create a list of all the occupations that will help them make the trip. For instance, travel agents, pilots, tour guides, translators, bank tellers, etc.

Step 5: The groups are to gather this information and prepare to present a travelogue to the class using visual aids and whatever creative approach they choose.

Step 6: Discuss which class subjects were helpful in completing this activity.

Let's Travel!

Your group is to plan a two-week trip in a foreign country where English is NOT the common spoken language. Go to the library and research its location, climate, interesting sites, unit of money, language, holidays celebrated, and cultural customs. Once your group completes its research, present your travel plans to the rest of the class using visual aids and any other creative approach you choose. Make sure to answer the following questions:

1. **What legal papers will you need (example: passport)?**
2. **What is the climate like? What clothes will you need to pack? Consider the culture of the country to decide what types of clothing are acceptable.**
3. **What places of interest would you like to visit?**
4. **How much money would you take, and what is the current exchange rate?**
5. **Where would you stay? How much would it cost?**
6. **What kinds of foods are available?**
7. **What language or languages are spoken there? Research the language and find three phrases that will help you in your travels (example: Where is the restroom?).**
8. **List all of the occupations that will be involved in the the planning and travel for this trip.**

(Worksheet located
in Workbook p.45)

ACTIVITY TEN:
HUMAN SERVICES WORD SEARCH

Circle the following occupations within the word search puzzle.

Manicurist	**Hairstylist**	**Clergy**	**Cosmetologist**
Barber	**Embalmer**	**Psychologist**	**Counselor**
Funeral Director	**Childcare Worker**		

C H I L D C A R E W O R K E R
O O E H L O F R V D S J M M O
U A S W D A W J K L M N A B G
N O Z M X C V Y H Y U I N A P
S K O L E O W G S E D H I L M
E Y H N Z T C R C F G E C M W
L B V G F S O E A M K I U E Q
O V W R T Y K L W S D G R R A
R E B R A B P C O L K J I W Z
Q W E T G D F X V G B O S T E
R E H A I R S T Y L I S T T W
T Q W S D C V N M K L S O I P
F U N E R A L D I R E C T O R
S I O P L K K E G D S O U Y W
Z X C T S I G O L O H C Y S P

ACTIVITY TEN ANSWER KEY

Manicurist	Hairstylist	Clergy	Cosmetologist
Barber	Embalmer	Psychologist	Counselor
Funeral Director	Childcare Worker		

ACTIVITY ELEVEN: LIGHTS OUT

This activity is designed to make students aware of the important role that energy production plays in modern occupations and daily life.

Associated Clusters:
Government/Information Technology/Law, Public Safety, & Security

Step 1: Break students into discussion groups

Instruct each group to designate a "recorder" to write down the lists they will generate.

Step 2: Present the following scenario:

In August 2005, the largest disaster to hit the United States occurred when Hurricane Katrina hit the Gulf Coast, affecting millions of people. Much of the affected area lost electricity during this disaster. Days and weeks passed without power. Streets, homes, and businesses were dark. Many people commented that they didn't realize the potential impact of the loss of electricity until it was too late.

Step 3: Generate Lists

Ask students to imagine themselves in a similar situation. What if there was an earthquake and they found themselves without electricity? Have them brainstorm and make lists of the following:

List 1: Items that could not be used without power (30 items)

List 2: People who could not do their jobs without electricity (20 items)

List 3: Short term solutions: What are some things you could do to prepare for a short-term (less than a day) power outage? (10 items)

List 4: Long term solutions: What would you do to prepare for a long-term (more than 24 hours) power outage? (10 items)

Step 4: Present lists to the class

Ask each group to read its lists to the class.

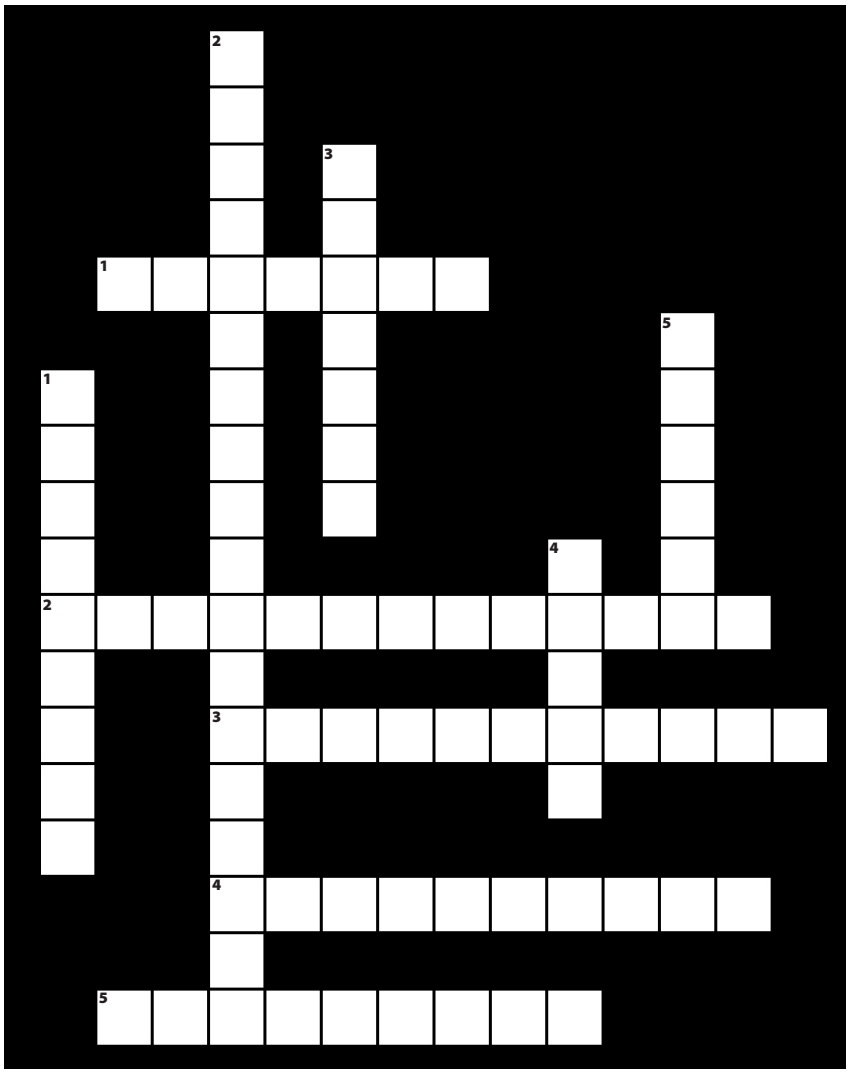
Step 5: Follow-up discussion

Lead a follow-up discussion focusing on the occupations that would be responsible for maintaining civil order during such emergencies.

(Worksheet located
in Workbook p.46)

ACTIVITY TWELVE:
LAW, PUBLIC SAFETY, & SECURITY CROSSWORD

Use the clues below to find the occupations that fit in the boxes.



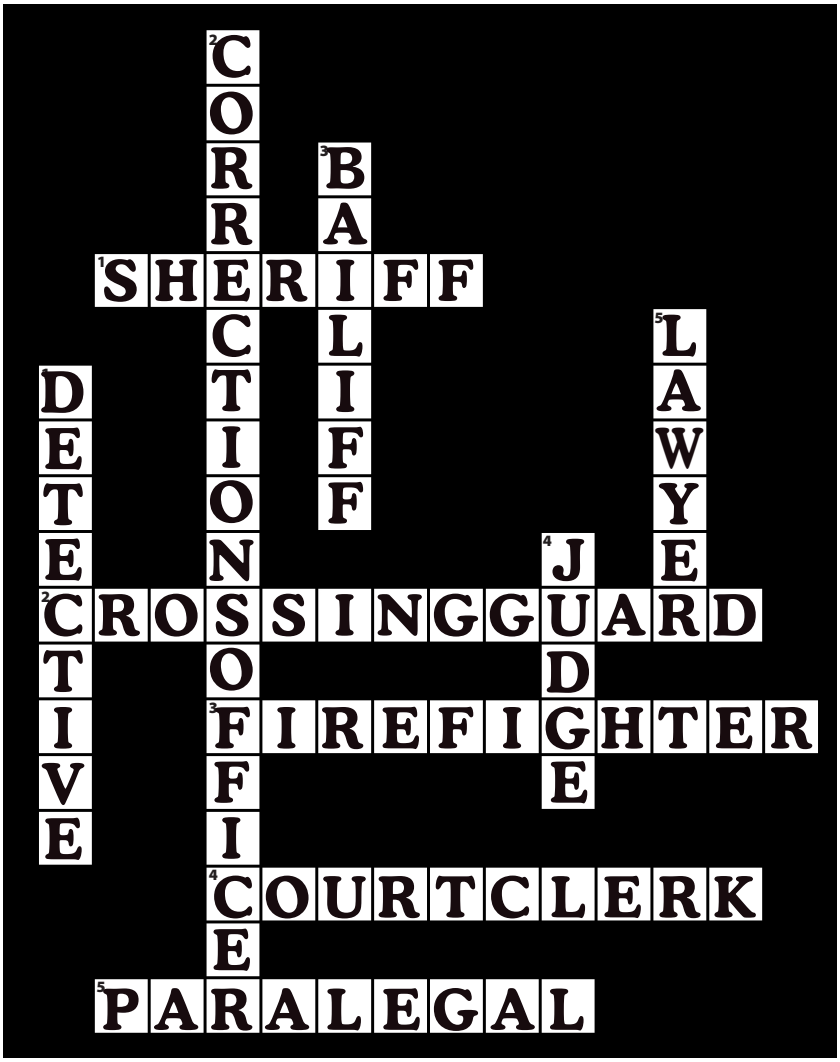
ACROSS

1. Enforces laws at the county level.
2. Stops traffic at schools crosswalks.
3. Extinguishes burning buildings and gets the people inside to safety.
4. Prepares a docket of cases, secures information for judges, and contacts witnesses, attorneys, and litigants to get information.
5. Investigates facts, and prepares legal documents, and conducts research to support a legal proceeding, to formulate a defense, or to initiate legal action.

DOWN

1. Gathers facts and evidence for criminal cases.
2. Guards inmates in a prison or other institution.
3. Enforces the rules of behavior in courtrooms.
4. Presides over criminal and civil cases in a court of law.
5. Represents clients in criminal and civil litigation, draws up legal documents, and advises clients on legal transactions.

ACTIVITY TWELVE ANSWER KEY



ACROSS

1. Enforces laws at the county level.
2. Stops traffic at schools crosswalks.
3. Extinguishes burning buildings and gets the people inside to safety.
4. Prepares a docket of cases, secures information for judges, and contacts witnesses, attorneys, and litigants to get information.
5. Investigates facts, and prepares legal documents, and conducts research to support a legal proceeding, to formulate a defense, or to initiate legal action.

DOWN

1. Gathers facts and evidence for criminal cases.
2. Guards inmates in a prison or other institution.
3. Enforces the rules of behavior in courtrooms.
4. Presides over criminal and civil cases in a court of law.
5. Represents clients in criminal and civil litigation, draws up legal documents, and advises clients on legal transactions.

ACTIVITY THIRTEEN: ASSEMBLY LINE

This activity demonstrates the effectiveness of the assembly line system in manufacturing. It also gives them insight to the history of American economics.

Associated Clusters:
Manufacturing/Arts & Communication

Materials Needed:
Construction Paper
Scissors
Glue
Colored Pencils or Markers
Copies of flowers *(1 per student,plus 10 for each group)*

Materials Provided:
Reproducible flower graphics
Assembly Line worksheet

Resources:
Henry Ford, Maker of the Model T by Miriam Gilbert
Henry Ford, Boy With Ideas, by Hazel Aird
Henry Ford, Engineer by Louise Neyhart
The Factories by Malcolm Dixon
Let's Discover the World of Machines by Raintree Publishers

Step 1: Have students explore the changes made in U.S. economics by the creation of Henry Ford's assembly line (a list of recommended resources is included above). Discuss why the creation of the assembly line was so important.

Step 2: Hand out the Assembly Line worksheet

Step 3: Break students into groups of eight (depending on class size, you may want to adjust the group size and the number of steps in the exercise). Pass out the materials listed above.

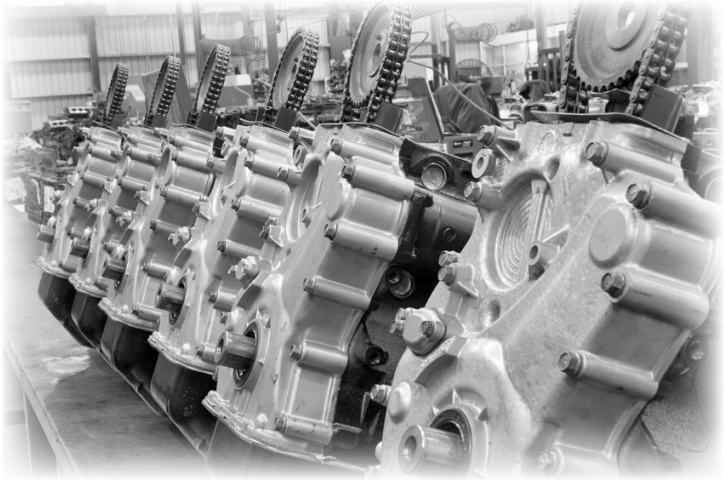
Step 4: Have each student assemble one greeting card, following the instructions on the work sheet. Make sure to have them time themselves.

Step 5: Have each group form an assembly line, assigning one task to each students. Time how long it takes to assemble 10 greeting cards.

Step 6: Discuss the questions at the end of the worksheet.

ASSEMBLY LINE

Assembly lines are where factories make products and each person is responsible for making a different part of it or putting pieces together. At the end, someone inspects it for accuracy.



In this activity, each person will make a greeting card by themselves and note the amount of time it takes to produce one card. Then a group of eight people will get together and divide the work into eight separate tasks, one person for each task. The group will make ten cards. The time per card will then be calculated.

Tasks:

1. **Fold construction paper in half**
2. **Color the petals yellow**
3. **Color the leaves green**
4. **Cut out the flower with stem and leaves**
5. **Glue the flower on the outside of the card**
6. **Write "Have a Nice Day!" on the inside of the card**
7. **Write "Made in Montana" on the back of the card**
8. **Inspect the card for accuracy. Ones with errors need to be corrected before they are considered complete.**

Time to make one card by one person: _____

Time to make 10 cards by group: _____

Time per card by group: _____

Questions:

1. **Which was faster, each person making a card from start to finish, or making a card using an assembly line? Why?**

2. **What are the advantages and disadvantages of making cards in each way?**

3. **What would help to decrease the amount of time per card?**






APPENDIX A: MONTANA K-12 STANDARDS CROSSWALKED BY ACTIVITY

Standard / Activity	Family Occupation Tree	Trout Survey	Construction Design	Creating an Ad	School Scavenger Hunt	Up in Smoke	Name that Occupation	Medical Abbreviations	Let's Travel	Word Search	Lights Out	Crossword	Assembly Line	Cluster Workbook
Mathematics		X	X			X								X
Career and Technical	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Workplace Competencies	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Social Studies	X					X			X		X		X	X
Media Literacy				X										X
Speaking and Listening	X			X	X									X
Writing	X			X	X			X						X
Health Enhancement						X		X						X
Technology											X			X
Arts				X									X	X
Science		X												X
Literature														X
Library Media		X		X					X				X	X
World Languages									X					X
Reading							X	X		X		X		X

APPENDIX B: CAREER CLUSTERS CROSSWALKED BY ACTIVITY

Cluster / Activity	Family Occupation Tree	Trout Survey	Construction Design	Creating an Ad	School Scavenger Hunt	Up in Smoke	Name that Occupation	Medical Abbreviations	Let's Travel	Word Search	Lights Out	Crossword	Assembly Line
Agriculture		X											
Architecture and Construction			X										
Arts and Communication				X									
Business, Management				X									
Education					X								
Finance						X							
Government							X				X		
Health Science								X					
Hospitality and Tourism									X				
Human Services										X			
Information Technology											X		
Law, Public Safety, and Security											X	X	
Manufacturing													X
Marketing and Sales				X									
Science, Tech., and Math		X											
Transportation & Distribution									X				

Montana Department of
LABOR & INDUSTRY
Career Resources

Research and Analysis Bureau
P. O. Box 1728
Helena, MT 59624-1728
Phone: (406) 444-2430
Toll-free: (800) 541-3904
www.careers.mt.gov

50 copies of this public document were produced at an estimated cost of $3.60 per copy, for a total cost of $180.00, which includes $180.00 for printing and $0.00 for distribution.