

## INTEGRATED THEMATIC UNIT

304 11/95

0304-1

**NAME:** Atsuko Ando  
**SCHOOL:** Richmond Elementary School, Portland, Oregon  
**TOPIC:** HOUSE

**OVERVIEW:** This thematic unit begins by exploring a traditional Japanese house, and examining Japanese manners and customs. The unit then proceeds to compare and contrast houses in Japan and the U. S. and how they have changed over the years. Students will analyze building materials and procedures through scientific experiments and will evaluate the cause and effect relationship between natural disasters and destruction of residential housing in the two countries. Students will develop an understanding of how to construct better houses that are responsive to future environmental and human needs.

**GRADE:** 5th grade

**LENGTH:** 4-6 weeks

### CONTENT OBJECTIVES:

Students will be able to...

#### Science:

1. Hypothesize and compare the strength of various building materials for houses.
2. Hypothesize and compare the strength of various structures.
3. Read a Gouin Series book and act out series and parallel circuits.
4. Demonstrate series and parallel circuits with a battery, wire and miniature bulb.
5. Examine how lights are on in series and parallel circuits, and make a matrix.
6. Install two miniature bulbs in a model 3-D Japanese house.
7. Identify the causes of destruction of houses.
8. Explain Ring of Fire in relationship to earthquakes.
9. Act out how an earthquake occurs.
10. Compare and contrast the difference in room temperature with and without doors and windows closed.
11. Keep a journal of the process of creating a 3-D model house.

#### Social Studies:

1. State the features of a traditional Japanese house such as tatami, shoji, fusuma, sliding door, etc.
2. Compare the use of fusuma and shoji in a Japanese house and make a matrix.

3. Hypothesize the effect of climate that has on determining structures of houses in different places in Japan.
4. Locate the following places on a map of Japan: Tokyo, Kobe, Kyoto, Toyama, Sapporo and Numazu.
5. Compare and categorize the features of houses in different places in Japan.
6. Make necessary props and dramatize urbanization by using "A Little House."
7. Illustrate changes in the style of houses in Japan over the years.
8. Examine similarities and differences between Japanese houses and American houses.
9. Complete a survey form about American houses and write a questionnaire on houses to give to Japanese friends.
10. Analyze the results of the survey and make a chart.
11. Compare things used in Japanese and American houses in the past and present and make a book entitled "Past and Present."
12. Identify the merits and drawbacks of materials used in present-day houses (structure and roof) and recommend what should be used in the future.
13. Draw a floor plan of a traditional Japanese house and label the rooms and features.
14. Illustrate an ideal future house including an ideal environment and write a poem about it.
15. Decide the ingredients and the quantity in order to make a candy house within a budget.

**Health:**

1. Analyze a home environment for safe living.
2. Create a telephone list for emergency situations at home.

**Math:**

1. Find geometrical shapes and patterns in photos of Japanese houses.
2. Measure the size of the classroom in terms of the number of tatami mats required.
3. Solve tatami geometrical puzzles.
4. Measure the total area of individual created 3-D house.
5. Measure the perimeter/area /volume of a candy house.
6. Measure quantitative changes in temperature in science observations.
7. Solve story problems using vocabulary from the House Unit.
8. Graph the results from surveys.

**English Language Arts:**

1. Read and discuss stories that are related to houses.
2. Share illustrations of ideal future houses and discuss why they are ideal.

3. Research houses in various parts of the world, and write a report about them and share.

**Art:**

1. Create a 3-D model of a traditional Japanese house.
2. Evaluate photos of Japanese houses and colonial houses and state personal opinion.
3. Create a mural of houses in the past, present and future.
4. Draw a picture of one's own shoes and explain Japanese manners about shoes.

**Music:**

1. Sing from memory one song related to the house.
2. Change some of the lyrics and sing the new version.

**Physical Education:**

1. Represent the movement of electricity in series and parallel circuit.

**JAPANESE LANGUAGE OBJECTIVES:**

On completion of this unit, students will have a command in listening, speaking, reading and writing of the following language functions and forms within the specific context of the unit and also in other language contexts within the classroom environment.

**Functions****Forms**

- |  |                               |
|--|-------------------------------|
| 1. Asking and giving reasons                     | どうして靴をぬぎますか。<br>へやがよごれるからです。  |
| 2. Cause and effect                              | 地震があつたので家は壊れました。              |
| 3. Asking and giving information about materials | 屋根は、何でできていますか。<br>瓦でできています。   |
| 4. Comparison                                    | れんがは木よりつよいです。                 |
| 5. Asking and expressing desire                  | どんな家に住みたいですか。<br>日本の家に住みたいです。 |
| 6. Expressing opinion                            | れんがは、強いと思います。                 |
| 7. Prohibition                                   | 家のなかでは、靴をはいてはいけません。           |
| 8. Conditions                                    | もしも私が家をたてるなら、白い家を建てるでしょう。     |
| 9. Attracting attention                          | すみません。失礼します。ご免ください。           |
| 10. Asking and giving price                      | これはいくらですか。<br>百円です。           |
| 11. Asking and giving numbers                    | 家は、なん軒ありますか。三軒あります。           |
| 12. Reporting past events                        | 昔は、たくさん木がありました。               |

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## CULTURAL OBJECTIVES:

Students will be able to:

1. Create a skit about Japanese manners and perform for kindergartners.
2. Identify the features of a Japanese house.
3. Complete tasks cooperatively in assigned groups.

## ACTIVITIES:

1. Test the strength of paper structures of various shapes by using paper. Students record the results of the test.
2. Design and create in cooperative groups a desk out of two pieces of construction paper to hold small objects.
3. Design and build a straw structure of maximum height in cooperative groups.
4. Connect wires, batteries and bulbs in series and parallel circuits to make the bulbs come on. Examine how lights are on. Compare brightness and make a matrix.
  - a. one bulb/one battery
  - b. one battery /two bulbs
  - c. one bulb / one battery
5. Read a Gouin series book about series and parallel circuits and act them out.
6. Make a circuit to conduct the test to determine what materials are conductors and insulators. Materials: pencil lead, nail, key, aluminum foil, paper, plastic, penny and eraser. Record the results in the chart.
7. Make a list of electrical appliances and other items that require electricity in the home.
8. Find the amperes of electricity for home electric appliances such as stereo, blender, coffee maker, dryer, iron, refrigerator, television, toaster, vacuum cleaner, washing machine, etc.
9. Play the breaker game. It is a math game played by more than two people. Assume a circuit has fuses capable of carrying no more than a certain number of amperes. Students draw cards of appliances with different wattage. Add the number of watts. The person whose circuit is overloaded loses the game. Continue playing the game until no cards are left.
10. Brainstorm and make a list of the causes of destruction of houses with illustrations or photos.
11. Draw a floor plan of a traditional Japanese house and label the rooms and features. Create a 3-D model of a traditional Japanese house and install two miniature bulbs in parallel circuit. Measure the total area in metric and Japanese unit (tsubo). Keep a journal of the process.
12. Play a communication game in pairs, "Where is the Bear in the House?" Each partner keeps an identical floor plan. One hides a bear and the other finds it. One answers "yes" or "no" to the other's questions.
13. Play the game, "Let's Build a House" in pairs. Prepare the cards with one-sentence instructions. Draw or erase pictures of parts of a house according to the card drawn.



Example: *Build a roof. A window is destroyed due to a hurricane.*

14. Locate the Ring of Fire and places where earthquakes occur currently on a world map. Identify the relationship between the Ring of Fire and earthquakes.
15. Act out the movement of fault lines to show an earthquake occurs.
16. Set up an experiment to examine the green house effect. Prepare two clear bottles with thermometers inside. Put a piece of plastic wrap and a rubber band over the top of one of the bottles. Leave the other bottle open. Record the temperature of both bottles and make a graph. Hypothesize and compare the difference in room temperature.
17. Set up an experiment to examine which colors absorb more heat. (black, white, red, green and blue) Put one ice cube in each bag. Place one bag on top of each color of paper in a sunny location. After 20 minutes, measure the water in each bag and make a graph. Evaluate which would be cooler, a house with a white roof or a house with a dark roof.
18. Read a Japanese story relating the cause and effect relationship, "Node node node." Write a new version and create a "cause and effect" book.
19. Examine the similarities and differences between shoji and fusuma—location, materials, etc. Make a Venn diagram.
20. Locate the following places on a map of Japan: Tokyo, Kobe, Kyoto, Toyama, Sapporo and Numazu. Examine pictures of Japanese houses in different places and make a chart.
21. Do a series of pre-and-post reading activities connected with the story of "a little house."
22. Illustrate change in the style of houses in Japan over the past 50 years for background. Make necessary props and dramatize urbanization by using "a little house."
23. Each group is given a set of photos of Japanese and American houses. Examine the similarities and differences. Make a Venn diagram. Evaluate the photos and state personal opinion. Find geometrical shapes and patterns.
24. Complete a survey form about American houses and write a questionnaire on houses to give to Japanese friends. Example: *What color is your house? What is your house made of?* Interview one another and analyze the results of the survey and make a chart.
25. Examine things used in Japanese and American houses in the past and present and create a book entitled "Past and Present."
26. Examine merits and drawbacks of materials for building houses. Illustrate an ideal future house including an ideal environment and write a poem about an ideal future home.
27. Students decide what ingredients and the quantity to use in order to make a candy house within a budget. Keep accounts. Create it and measure the perimeter, area, and volume.
28. Solve tatami geometrical puzzles.

- 29. Solve story problems using vocabulary from the House Unit.
- 30. Draw a picture of shoes and explain about Japanese manners related to shoes.
- 31. Examine Japanese manners in a house. Create a "do and don't" book and act it out for primary grades.
- 32. Set up an experiment to examine the strength of various building materials for houses.

**MATERIALS:**

Books:

- Nihon no Ie*, by Sakuji Oda. Fukuinkan
- Yume no Ohanashi*, by Yoko Saigo, Tokumashoten
- Node Node Node*, by Taro Gomi, Kaiseisha
- Oboeteiroyo Ookinaki*, by Yoko Sano, Koudansha
- Yowai Katachi Tsuyoi Katachi*, by Satoshi Kako, Doshinsha
- Watashi no Mura* by Kunio Kaku, Rukuinkan
- Chisai Ouchi*, Iwanamishoten
- Hitowa Donoyouni Ie wo Tsukuttaka.* by Tom Nagao  
Riburioshuppan

Video Tapes:

- Disaster Prevention
- Japanese Architecture— The Living Heritage
- Hi-Tech in Japan
- Housing Community
- Greening the Environment
- Earthquake Protection
- Land Development
- Protecting our Habitat
- Old and Happy in the Home town

From Video Lending Library  
 Consulate General of Japan  
 Portland Oregon  
 (503)211-1811 ext. 17

Art: Photos of Japanese houses and American houses, etc...

Music: Audio tapes: " Anata"  
 Records/CD's

**OTHER RESOURCES:**

People: a carpenter, a roof maker

Places: the Japanese Garden

**ASSESSMENT:**

1. Video/audio tapes of student activities
2. Art work
3. Samples of written work

**VOCABULARY:****Nouns:**

|             |           |       |    |
|-------------|-----------|-------|----|
| room        | heya      | へや    | 部屋 |
| window      | mado      | まど    | 窓  |
| hallway     | rouka     | ろうか   | 廊下 |
| floor       | yuka      | ゆか    | 床  |
| ceiling     | tenjyo    | てんじょう | 天井 |
| bathroom    | furo      | ふろ    | 風呂 |
| kitchen     | daidokoro | だいどころ | 台所 |
| entrance    | genkan    | げんかん  | 玄関 |
| door        | to        | と     | 戸  |
| roof        | yane      | やね    | 屋根 |
| tile        | kawara    | かわら   | 瓦  |
| garden      | niwa      | にわ    | 庭  |
| wall        | kabe      | かべ    | 壁  |
| brick       | renga     | れんが   | 煉瓦 |
| wood        | ki        | き     | 木  |
| straw       | wara      | わら    | 藁  |
| earthquake  | jishin    | じしん   | 地震 |
| tidal waves | tsunami   | つなみ   | 津波 |
| hurricane   | hariken   | ハリケーン |    |
| typhoon     | taifu     | たいふう  | 台風 |
| floods      | kouzui    | こうずい  | 洪水 |
| battery     | denchi    | でんち   | 電池 |
| bulb        | denkyu    | でんきゅう | 電球 |
| electricity | denki     | でんき   | 電気 |

**Adjectives:**

|        |        |      |     |
|--------|--------|------|-----|
| strong | tsuyoi | つよい  | 強い  |
| weak   | yowai  | よわい  | 弱い  |
| bright | akarui | あかるい | 明るい |
| dark   | kurai  | くらい  | 暗い  |

|                      |                  |         |       |
|----------------------|------------------|---------|-------|
| scary                | kowai            | こわい     | 怖い    |
| clean                | kirei            | きれい     | 綺麗    |
| dirty                | kitanai          | きたない    | 汚い    |
| high                 | takai            | たかい     | 高い    |
| low                  | hikui            | ひくい     | 低い    |
| <b>Verbs:</b>        |                  |         |       |
| put on (shoes)       | haku             | はく      | 履く    |
| put on (clothes)     | kiru             | きる      | 着る    |
| take off             | nugu             | ぬぐ      | 脱ぐ    |
| be destroyed         | kowareru         | こわれる    | 壊れる   |
| build                | tateru           | たてる     | 建てる   |
| live                 | sumu             | すむ      | 住む    |
| think                | omou             | おもう     | 思う    |
| be made of           | dekiteiru        | できている   | 出来ている |
| <b>Prepositions:</b> |                  |         |       |
| by means of          | de               | で       |       |
| <b>Other:</b>        |                  |         |       |
| if                   | moshimo-nara     | もしも-なら  |       |
| but                  | demo             | でも      |       |
| and                  | soshite          | そして     |       |
| next                 | tsugini          | つぎに     | 次に    |
| at last              | saigoni          | さいごに    | 最後に   |
| because              | node             | ので      |       |
| Excuse me.           | sumimasen        | すみません   |       |
|                      | shitsureishimasu | しつれいします |       |
|                      | gomenkudasai     | ご免ください  |       |
| <b>Counters:</b>     |                  |         |       |
| -ken, gen (houses)   | けん               |         |       |
| -doru (dollar)       | ドル               |         |       |
| -en (yen)            | えん               | 円       |       |