I'll Trade You Dollars for Taka

Teacher and School not available

Grade Level (Req.): 7th-10th grade	Content Area (Req.): Geography	Unit (Opt.):
Connections to Other Disciplines (C Mathematics	Opt.):		
• Wathematics			
•	T		
Time Frame (Req.): 1 class period Goal (Req.): Students will know currencies of different of		encies of different countries.	
	Objective (Req.): Students will convert currency from USD (United		ert currency from USD (United
	•	. •	aka) and vice versa. Students
	comparisons costs		mon prices in BDT and make USD.
Materials Needed (Req.):		New Vocabulary	
Computer with Internet ac	cess to currency	•	
exchange rates		•	
 I'll Trade You Dollars for Taka worksheet (optional, one for each student) 		•	
It'll Cost Me What? Worksheet (one for each student)		•	
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Anticipatory Set/Introduction [Ing.			

Anticipatory Set/Introduction [Inquiry Question is required] (Req.): How does the purchasing power of a U.S. Dollar compare to the purchasing power of Taka in Bangladesh?

Instructional Sequence/Procedure (Reg.):

- 1. Instructor displays a few items bought in Bangladesh with prices in Taka displayed with the items. Students are welcome to handle the items.
- 2. Instructor asks, "So, what did these items cost me?" Discussion follows. Instructor introduces lesson, posing the challenge that students discover the cost of each item by learning how to use the exchange rate to convert currencies.
- 3. Instructor leads interactive classroom discussion of currency conversion between USD and BDT following format on "I'll Trade You Dollars for Taka" worksheet. Instructor does not have to distribute worksheet. Instructor leads group discussion, assigns student work in pairs, and assigns individual practice as desired.
- 4. Instructor will assign "It'll Cost Me What?" worksheet for homework.
- 5. Enrichment: Conversion Fees Tell students to find out how much they would have to pay to convert their U.S. dollars to another currency. What do banks charge for the service they provide? What do currency-exchange companies charge? Why do they charge these fees?; Currency Debate Should all countries use the same currency? Ask students to list reasons in favor of and reasons against one universal currency; The Euro Research the history of the
- 6. Adaptations: Instructor may consider giving students \$1 = Tk 70 as a constant exchange rate

when working the problems on the worksheets	s. Instructor may consider allowing students to
use an online currency converter.	
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Formative Evaluation (Req.): Class discussion	Assessment (Req.): Students will be assessed on writing their own currency conversion problems and providing solutions (See problems in "I'll Trade You Dollars for Taka" worksheet).
	Students will be assessed on identifying patterns in the conversions between BDT and USD (See problems in "I'll Trade You Dollars for
	Taka" worksheet). Students work independently
	on practice worksheet, "It'll Cost Me What?"
	and will be assessed on understanding of
	concept of currency conversion, application of
	concepts, and ability to draw inferences.
 Geography, grade 9-12: Understand how physi and major ecosystems. 	cal and human proceses shape the Earth's surface
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Common Core Curriculum Standards Used (Opt.):	
 Speaking and Listening, grade 6-12: Engage effective 	•
(one-on-one, in groups and teacher-led) with d	
texts, and issues, building on others' ideas and	expressing their own clearly and persuasively.
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NGS Standards Used (Req.):	
The physical and human characteristics of place.	es

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Five Themes of Geography Used (Req.):	School District Standards and Benchmarks			
Place	(Opt.):			
• Region	•			
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21 st Century Universal Constructs (Opt.): Critical Thinkin	ng, Complex Communication			
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Other Disciplinary Standards (Opt.):				
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Other Essential Information (Opt.):				
Other Resources (Opt.):				
http://finance.yahoo.com/currency;				
http://www.turkishdailynews.com.tr/article.php?enewsid=56038				
 http://www.lankabusinessonline.com/fullstory.php?newsID=1733646108&no_view=1&SEARCH 				
_TERM=35; http://www.fairwear.net/about/qe7.htm				
http://ipsnews.net/news.asp?idnews=34936;				
http://www.dol.gov/dol/topic/wages/minimumwage.htm				
 http://www.theindependent-bd.com/details.php?nid=49191; 				
http://devdata.worldbank.org/AAG/bgd_aag.p				
http://clickbd.com/auction/auction.detail.php?itemNumber=8685				

I'll Trade You Dollars for Taka

1. What are the two current ratios of exchange between U.S. Dollars and Bangladesh Taka? Name the source of your exchange rate.			
a. \$1.00 = Tk	b. $\$$ \approx Tk 1 (Round to nearest ten-thousandth.)		
Source of exchange rate:			

CONVERTING DOLLARS TO TAKA

2. When you travel to Bangladesh, you will exchange some of your U.S. Dollars for Taka. Using the ratio \$1.00 = Tk_____, calculate the following exchanges:

An example: \$2.00 is equal to how many Taka? Set up your ratio and solve by crossmultiplication. Note how units of currency will cancel. (Example uses \$1.00 = Tk 70.)

$$\frac{\$1.00}{Tk\ 70} = \frac{\$2.00}{Tk\ ?}$$

Tk
$$? = $140 \text{ Tk} \\ $1.00$$

Tk
$$? = Tk 140 : $2.00 = Tk 140$$

d.
$$$5.00 = Tk$$

Write two of your own. Ask a classmate to solve. Check classmate's answer.

g.

CONVERTING TAKA TO DOLLARS

3. When you leave Bangladesh to return to the United States, you will exchange your Taka into Dollars. Using the ratio \$ \approx Tk 1, calculate the following:

An example: Tk 1400 is equal to how many U.S. Dollars? Set up your ratio and solve by cross-multiplication. Note how units of currency will cancel. (Example uses Tk 1 = 0.014.) (Can you use 1.00 = Tk 70?)

$$\frac{\text{Tk 1}}{\$0.014} \approx \frac{\text{Tk 1400}}{\$?}$$

Tk 1 x \$ $? \approx$ Tk 1400 x \$0.014

Tk 1 x \$ $? \approx$ Tk \$ 19.60

\$
$$? \approx \frac{\text{Tk } \$ 19.60}{\text{Tk } 1}$$

 $? \approx 19.60 Tk $1400 \approx 19.60

- a. Tk $70 \approx \$$ _____ c. Tk $7000 \approx \$$ _____
- b. $k 700 \approx \$$ _____ d. Tk $350 \approx \$$ _____

Write two of your own. Ask a classmate to solve. Check classmate's answer.

- e. Tk \approx \$
- f. Tk_≈ \$ _____

Describe the pattern of conversion:

PRACTICE YOUR SKILLS

4.	If Nancy exchanges \$400 today upon her arrival at the Zia Airport in Dhaka, Bangladesh, how many Taka will she receive?
5.	Change the amount of U.S. Dollars Nancy exchanges in question 5 above. Write the new problem <i>and</i> its solution here.
6.	When Khaled arrives in the United States from Bangladesh, he will want to exchange Taka for U.S. Dollars. If Khaled wants \$350, how many Taka will he need to exchange?
7.	Write your own problem calling for a conversion from Taka to Dollars <i>and</i> its solution here.
8.	CHALLENGE PROBLEM: If Arti cashed in \$550 for Taka in Dhaka, spent Tk 29,275 during his five-day stay in Bangladesh, and converted his extra Taka back to U.S. Dollars at the airport before he left Dhaka, how many U.S. Dollars did he receive if the exchange rate was equal to today's exchange rate? What exchange rate will you use? (Round your solution to the nearest dollar.)

It Will Cost Me What?

- 1. In Bangladesh, the current (as of October 2006) minimum wage for garment workers is Tk 1662 per month. What is that in U.S. Dollars (USD)?
- 2. In Bangladesh, the current minimum wage for state owned enterprises (SOEs) (i.e. Bangladesh Petroleum Company, Bangladesh Telephone and Telegraph Board, Bangladesh Power Development Board, and Bangladesh Jute Mills Corporation) is Tk 1300. How much is this in USD?
- 3. One source reports it takes about \$200 a month for a family to meet basic needs in Bangladesh, how much is this in Taka? Can one person working as a garment worker at minimum wage earn enough money to cover basic needs for a family? Can two persons working as garment workers at minimum wage earn enough money to cover basic needs for a family? Explain.
- 4. Convert the following monthly wages from BDT to USD:

Best Western Hotel doorman	Tk 2,000	\$
Best Western Hotel bell captain	Tk 3,500	\$
Assistant librarian at university	Tk 12,000	\$
Library worker at university	Tk 6,000	\$
University professor	Tk 23,000	\$
Government Secretary of Ministry	Tk 23,000	\$
Wealthy businessman in Dhaka	Tk 100,000	\$

NOTE: The 2006 Gross National Income (GNI) per capita in Bangladesh was \$480, whereas the U.S. GNI per capita was \$43,560. 40% or more of the population of Bangladesh lives below the national level of poverty.

- 5. Renting a flat (small apartment or room) in Dhaka can be very expensive, up to Tk 25,000 per month. How much is that in USD? However, one may find a place for as low as Tk 5,000 and can share it with friends. How much is that in USD?
- 6. To furnish an apartment, one may want to purchase used furniture. Convert BDT to USD for each of the following used items and find the total cost in each currency.

Two-sitter sofa (love seat)	Tk 3,200		\$
Reading table	Tk 1,500		\$
Chest of drawers	Tk 6,500		\$
Big dining table (slightly broken)	Tk 3,000		\$
5 Chairs for dining table, each	Tk 500		\$
		x 5 =	\$
Camp bed	Tk 3,500		\$
TOTAL	Tk. \$		\$

7. A young college student at Dhaka University typically spends Tk 3000 (USD? \$_) to Tk 4000 (USD? \$_) a month on necessary items such as these below. Convert the following costs from BDT to USD:

Pepsi	Tk 12	\$
Chai	Tk 3	\$
2-lt. bottled water	Tk 20	\$
Banana, 1 piece	Tk 3	\$
Boiled egg, 1 piece	Tk 5	\$

Spring roll (egg ro	ll) Tk 10	\$
Vegetable patty	Tk 10	\$
*1 kg. rice	Tk 25	\$
1 kg. flour	Tk 32	\$
ote: 1 kilogram – 2 20/	162262 pounds	

*Note: 1 kilogram = 2.20462262 pounds

1 kg. sugar	Tk 29	\$
1 kg. onions	Tk 26	\$
1 kg. green chilies	Tk 40	\$
1 kg. eggplant	Tk 26	\$
1 kg. cucumber	Tk 15	\$
1 kg. potatoes	Tk 20	\$
1 liter soybean oil	Tk 73	\$
Small broiler chicken	Tk 27	\$
Broiler chicken (per kg.)	Tk 85	\$
Candy bar	Tk 15	\$
Newspaper, local	Tk 3	\$
Newspaper, national	Tk 12	\$
International postcard postage	Tk 14	\$
Cotton Salwar Kameez	Tk 500 -	\$
	Tk 1500	\$
Silk scarf	Tk 260	\$
Ready-made pants (minimum cost)	Tk 300	\$
Blue jeans (minimum cost)	Tk 500	\$
Dress shirt (minimum cost)	Tk 300	\$
T-shirts	Tk 100	\$
Sandals (rubber/flex sole)	Tk 50	\$
Tennis shoes	Tk 300 -	\$
	Tk 1000	\$
Dress shoes	Tk 500 -	\$

	Tk 3000	\$
Internet café	Tk 25	\$
Haircut	Tk 20	\$
Rickshaw ride (1 kilometer)	Tk 10	\$
Auto rickshaw ride (2 kilometers)	Tk 50	\$
CD of popular music	Tk 60 -	\$
	Tk 120	\$
Movie ticket	Tk 100	\$
Cell phone	Tk 5,000	\$
Cell phone calls (per minute)	Tk 2.5	\$
Harry Potter book	Tk 140	\$
Original artwork—carved folk mask	Tk 2,500	\$
Folk instrument, ektara	Tk 7,000	\$

8. Make a list of twenty common items you purchase with USD in a month. List those items and their cost. Then convert USD to BDT.

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9. Write a 5-sentence summary of what you have learned about the comparative purchasing powers of the U.S. Dollar and the Bangladesh Taka through this math activity.

I'll Trade You Dollars for Taka

1. What are the two current ratios of exchange between U.S. Dollars and Bangladesh Taka? Name the source of your exchange rate.

a.
$$\$1.00 = \text{Tk} \underline{70}$$

For example, I have used $\$1.00 = b$. $\$\underline{0.014}$ $\approx \text{Tk } 1$ (Round to nearest ten-thousandth.)

Source of exchange rate: **Answers will vary**

CONVERTING DOLLARS TO TAKA

2. When you travel to Bangladesh, you will exchange some of your U.S. Dollars for Taka. Using the ratio $1.00 = Tk_{\underline{}}$, calculate the following exchanges:

An example: \$2.00 is equal to how many Taka? Set up your ratio and solve by crossmultiplication. Note how units of currency will cancel. (Example uses \$1.00 = Tk 70.)

$$\frac{\$1.00}{\text{Tk }70} = \frac{\$2.00}{\text{Tk }?}$$

Tk
$$? = \frac{$140 \text{ Tk}}{$1.00}$$

Tk ? = Tk 140
$$\therefore$$
 \$2.00 = Tk 140

c.
$$$1000.00 =$$

Write two of your own. Ask a classmate to solve. Check classmate's answer. Answers will vary. Check student calculations.

$$f.$$
\$ = Tk

Describe the pattern of conversion:

Answers will vary. Popular answer will be to multiply USD by 70 (or the current exchange rate) to find BDT.

CONVERTING TAKA TO DOLLARS

3. When you leave Bangladesh to return to the United States, you will exchange your Taka into Dollars. Using the ratio $$0.014 \approx Tk 1$, calculate the following: For example, I have used $$0.014 \approx Tk 1$. Note: Rounding to a smaller decimal place will lead to more accuracy.

An example: Tk 1400 is equal to how many U.S. Dollars? Set up your ratio and solve by cross-multiplication. Note how units of currency will cancel. (Example uses Tk $1 \approx \$0.014$.)

$$\frac{\text{Tk 1}}{\$0.014} \approx \frac{\text{Tk 1400}}{\$}$$

Tk 1 x \$ $? \approx$ Tk 1400 x \$0.014

Tk 1 x \$ $? \approx$ Tk \$ 19.60

\$
$$? \approx Tk \$ 19.60$$

Tk 1

Suggest alternate method: Divide Tk 1400 by 70 to get \$20.00.

$$? \approx $19.60$$
 Tk $1400 \approx 19.60

a. Tk
$$70 \approx$$
 98 or 1.00

b. Tk
$$700 \approx $9.80 \text{ or } 10.00$$

d. Tk
$$350 \approx $4.90 \text{ or } 5.00$$

Write two of your own. Ask a classmate to solve. Check classmate's answer. Answers will vary. Check student calculations.

e. Tk
$$\approx$$
 \$ _____ f. Tk \approx \$ _____

Describe the pattern of conversion:

g. Answers will vary. Popular answers will be to multiply BDT by 0.014 (or the current exchange rate) to find USD or to divide BDT by 70 (or the current exchange rate) to find USD.

PRACTICE YOUR SKILLS

4. If Nancy exchanges \$400 today upon her arrival at the Zia Airport in Dhaka, Bangladesh, how many Taka will she receive?

Answers will vary, dependent upon the exchange rate. For example, using \$1.00 = Tk 70, Nancy will receive Tk 28,000.

5. Change the amount of U.S. Dollars Nancy exchanges in question 5 above. Write the new problem *and* its solution here.

Answers will vary. Check student calculations.

6. When Khaled arrives in the United States from Bangladesh, he will want to exchange Taka for U.S. Dollars. If Khaled wants \$350, how many Taka will he need to exchange?

Answers will vary, dependent upon the exchange rate. For example, using \$1.00 = Tk 70, Khaled will need to exchange Tk 24,500.

7. Write your own problem calling for a conversion from Taka to Dollars *and* its solution here.

Answers will vary. Check student calculations.

8. CHALLENGE PROBLEM: If Arti cashed in \$550 for Taka in Dhaka, spent Tk 29,275 during his five-day stay in Bangladesh, and converted his extra Taka back to U.S. Dollars at the airport before he left Dhaka, how many U.S. Dollars did he receive if the exchange rate was equal to today's exchange rate? What exchange rate will you use? (Round your solution to the nearest dollar.)

Answers will vary, dependent upon the exchange rate. For example, using \$1.00 = Tk 70, \$550 x 70 = Tk 38,500. Tk 38,500 – Tk 29,275 = Tk 9,225. And, Tk 9,225 \div 70 \approx \$132.

It Will Cost Me What?

1. In Bangladesh, the current (as of October 2006) minimum wage for garment workers is Tk 1662 per month. What is that in U.S. Dollars (USD)?

Tk $1662 \div 70 \approx 23.74

2. In Bangladesh, the current minimum wage for state owned enterprises (SOEs) (i.e. Bangladesh Petroleum Company, Bangladesh Telephone and Telegraph Board, Bangladesh Power Development Board, and Bangladesh Jute Mills Corporation) is Tk 1300. How much is this in USD?

Tk $1300 \div 70 \approx \$18.57$

3. One source reports it takes about \$200 a month for a family to meet basic needs in Bangladesh, how much is this in Taka? **Tk 14,000** Can one person working as a garment worker at minimum wage earn enough money to cover basic needs for a family? **no** Can two persons working as garment workers at minimum wage earn enough money to cover basic needs for a family? **no** Explain.

Answers will vary, but Tk 14,000 is a far cry from Tk 1662 or even twice that.

4. Convert the following monthly wages from BDT to USD: **Answers will vary with exchange rate and with rounding factor.**

Best Western Hotel doorman	Tk 2,000	\$ <u>28.57</u>
Best Western Hotel bell captain	Tk 3,500	\$ <u>50.00</u>
Assistant librarian at university	Tk 12,000	\$ <u>171.43</u>
Library worker at university	Tk 6,000	\$ <u>85.71</u>
University professor	Tk 23,000	\$ <u>328.57</u>
Government Secretary of Ministry	Tk 23,000	\$ <u>328.57</u>
Wealthy businessman in Dhaka	Tk 100,000	\$ 1,428.57

NOTE: The 2006 Gross National Income (GNI) per capita in Bangladesh was \$480, whereas the U.S. GNI per capita was \$43,560. 40% or more of the population of Bangladesh lives below the national level of poverty.

- 5. Renting a flat (small apartment or room) in Dhaka can be very expensive, up to Tk 25,000 per month. How much is that in USD? **\$357.14** However, one may find a place for as low as Tk 5,000 and can share it with friends. How much is that in USD? **\$71.43**
- 6. To furnish an apartment, one may want to purchase used furniture. Convert BDT to USD for each of the following items and find the total cost in each currency. **Answers will vary with exchange rate and with rounding factor.**

Two-sitter sofa (love seat)	Tk 3,200	\$ <u>45.71</u>
Reading table	Tk 1,500	\$ <u>21.42</u>
Chest of drawers	Tk 6,500	\$ <u>92.86</u>
Big dining table (slightly broken)	Tk 3,000	\$ <u>42.86</u>
5 Chairs for dining table, each	Tk 500	(\$ <u>7.14</u>)
		$x 5 = \frac{35.70}{}$
Camp bed	Tk 3,500	\$ <u>50.00</u>
TOTAL	Tk. \$	<u>\$ 288.55</u>

7. A young college student at Dhaka University typically spends Tk 3000 (USD? \$42.86) to Tk 4000 (USD? \$57.14) a month on necessary items such as these below. Convert the following costs from BDT to USD: Answers will vary with exchange rate and with rounding factor.

Pepsi	Tk 12	\$ <u>.17</u>
Chai	Tk 3	\$ <u>.04</u>
2-lt. bottled water	Tk 20	\$ <u>.29</u>
Banana, 1 piece	Tk 3	\$ <u>.04</u>
Boiled egg, 1 piece	Tk 5	\$ <u>.07</u>
Spring roll (egg roll)	Tk 10	\$ <u>.14</u>
Vegetable patty	Tk 10	\$ <u>.14</u>
*1 kg. rice	Tk 25	\$ <u>.36</u>

1 kg. flour	Tk 32	\$ <u>.46</u>
*Note: 1 kilogram = 2.20462262 pc	ounds	
1 kg. sugar	Tk 29	\$ <u>.41</u>
1 kg. onions	Tk 26	\$ <u>.37</u>
1 kg. green chilies	Tk 40	\$ <u>.57</u>
1 kg. eggplant	Tk 26	\$ <u>.37</u>
1 kg. cucumber	Tk 15	\$ <u>.21</u>
1 kg. potatoes	Tk 20	\$ <u>.29</u>
1 liter soybean oil	Tk 73	\$ <u>1.04</u>
Small broiler chicker	n Tk 27	\$ <u>.39</u>
Broiler chicken (per	kg.) Tk 85	\$ <u>1.21</u>
Candy bar	Tk 15	\$ <u>.21</u>
Newspaper, local	Tk 3	\$ <u>.04</u>
Newspaper, national	Tk 12	\$ <u>.17</u>
International postcar postage	d Tk 14	\$ <u>.20</u>
Cotton Salwar Kame	ez Tk 500 -	\$ <u>7.14</u>
	Tk 1500	\$ <u>21.43</u>
Silk scarf	Tk 260	\$ <u>3.71</u>
Ready-made pants (minimum cost)	Tk 300	\$ <u>4.29</u>
Blue jeans (minimun	n cost) Tk 500	\$ <u>7.14</u>
Dress shirt (minimur	n cost) Tk 300	\$ <u>4.29</u>
T-shirts	Tk 100	\$ <u>1.43</u>
Sandals (rubber/flex	sole) Tk 50	\$ <u>.71</u>
Tennis shoes	Tk 300 -	\$ <u>4.29</u>
	Tk 1000	\$ <u>14.29</u>
Dress shoes	Tk 500 -	\$ <u>7.14</u>
	Tk 3000	\$ <u>42.86</u>
Internet café	Tk 25	\$ <u>.38</u>
Haircut	Tk 20	\$ <u>.29</u>
Rickshaw ride (1 kilometer)	Tk 10	\$ <u>.14</u>
Auto rickshaw ride (2 Tk 50	\$ <u>.71</u>

kilometers)

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CD of popular music	Tk 60 -	\$ <u>.86</u>
	Tk 120	\$ <u>1.71</u>
Movie ticket	Tk 100	\$ <u>1.42</u>
Cell phone	Tk 5,000	\$ <u>71.43</u>
Cell phone calls (per minute)	Tk 2.5	\$ <u>.04</u>
Harry Potter book	Tk 140	\$ <u>2.00</u>
Original artwork—carved folk mask	Tk 2,500	\$ <u>35.71</u>
Folk instrument, ektara	Tk 7,000	\$ <u>100.00</u>

I'll Trade You Dollars for Taka Cost of Artifacts

Newspaper	Tk	10
Clay bell	Tk	5
Cloth purse	Tk	50
Ektara	Tk	100
T-shirt	Tk	100
Lungi	Tk	150
Bottled water	Tk	20
Silk scarf	Tk	450
Silk shawl	Tk	850
Silk tie	Tk	315
CD	Tk	160
3-piece salwar/kameez	Tk	1500
Lunch "box"	Tk	350
Lungi	Tk	150
Sari doll magnet	Tk	50
Cloth newt	Tk	50
Postcard	Tk	20

CD Tk 200 Tk 15 Fan Lost wax Tk 750 figures 3 Wooden Tk 60 ladies Leather purse Tk 420 Ball caps Tk 150 Tk 50 Bookmarks Rickshaw Tk 30 Silk pillow Tk 200 cover Plaid woven Tk 15 Silky scrap Tk 25 Cotton square Tk 15

8. Make a list of twenty common items you purchase with USD. List those items and their cost. Then convert USD to BDT.

Answers will vary. Look for reasonable answers.

9. Write a 5-sentence summary of what you have learned about the comparative purchasing powers of the U.S. Dollar and the Bangladesh Taka through this math activity.

Answers will vary. Look for thoughtful answers.