

Disease Along the River

A Case Study and Cholera Outbreak Game

by

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Instructions: This document contains the Action Cards for the game in the case study “Disease Along the River.” Ideally the cards should be printed out on card stock using a printer that is capable of two-sided printing. Start printing on page 2 so that this instruction page does not print out. The cards are dotted only on one side to assist in cutting. The numbers on the front of the card should match the back. There are a total of ten cards for each villager. Each sheet yields nine cards; the final rainstorm cards (“S” for “Storm”) are included at the end of the document. These rainstorm cards are optional—if preferred, the instructor can read out the relevant directions for this part of the game as outlined in the Teaching Notes. If the rainstorm cards are used, they should be inserted between Rounds 4 and 5 once the cards are cut and stacked.

Villager 1A

3

Villager 1A

2

Villager 1A

1

Villager 1A

R

Villager 1A

5

Villager 1A

4

Villager 1A

8

Villager 1A

7

Villager 1A

6

Villager 1A

1.

You are a goat herder living at a high elevation in Village A. It is time to take your goats to pasture.

Action!
None

Villager 1A

2.

Your goats are feeling thirsty. Bring them to the river to drink!

Action!
Collect 6 beads from the Village A water supply.

Villager 1A

3.

Your goats make waste near the river.

Action!
Place 6 of your beads into the Village A water supply.

Villager 1A

4.

Bring your goats home from the river and milk them. Collect the milk.

Action!
None

Villager 1A

5.

Head down to the river and collect some drinking water for your journey to Village #4.

Action!
Take 6 beads from the Village A water supply.

Villager 1A

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 1A

6.

You arrive at Village D after a long journey on foot. Nature calls. Village D practices open defecation so you walk down to the river to relieve yourself.

Action!
Place 6 beads into Village D's water supply.

Villager 1A

7.

You get wind that there is going to be a celebration at Village E. Make your way quickly to Village E. Party!

Action!
Randomly exchange 2–3 beads with 5 other people.

Villager 1A

8.

Return home to Village A. Nature calls!

Action!
Add 6 beads to the village water supply

Villager 2A

3

Villager 2A

Villager 2A

1

Villager 2A

R

Villager 2A

5

Villager 2A

4

Villager 2A

8

Villager 2A

7

Villager 2A

6

Villager 2A

1.

You are living in Village A. This is a village known for its delicious goat cheese. Your home is short on fresh water. Go collect some water from the river.

Action!

Collect 4 white beads from the Village A water supply.

Villager 2A

2.

Bring back the water you collected and use it for bathing and cleaning your home.

Action!

None

Villager 2A

3.

You decide to take a trip with your neighbor to Village D. You bring some of your best goat cheese for trade. After arriving at Village D, stop to quench your thirst.

Action!

Pickup 3 white and 3 color beads from Village D's water supply.

Villager 2A

4.

You return home from your visit to Village D. Nature calls! Your home Village A practices open defecation. Walk down to river to relieve yourself.

Action!

Place 6 beads in the water supply. 2 of the 6 should not be your own color.

Villager 2A

5.

You've been away traveling and your goats are hungry. Take them to pasture.

Action!

None

Villager 2A

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 2A

6.

Bring your goats down to the river to drink. Your goats make waste at the river.

Action!

Drop 6 beads into your water supply.

Villager 2A

7.

You heard that there is going to be a celebration at Village E. Party! Travel to Village E.

Action!

Randomly exchange 2-3 beads with 5 other people.

Villager 2A

8.

Return home. Nature calls!

Action!

Place 6 beads into the water supply.

Villager 3A

3

Villager 3A

2

Villager 3A

1

Villager 3A

R

Villager 3A

5

Villager 3A

4

Villager 3A

8

Villager 3A

7

Villager 3A

6

Villager 3A

1.

You are living in Village A. This village is known for raising goats. Its time to wash some clothes down at the river.

Action!

Put 2 of your beads into the Village A water supply. Collect 2 white beads.

Villager 3A

2.

Hang your clean clothes out to dry and get dressed for a journey to another village.

Action!

None

Villager 3A

3.

Accompany your neighbor to Village D. It is a long walk to Village D! After you arrive, have a drink.

Action!

Pickup 3 white and 3 colored beads from Village D's water supply.

Villager 3A

4.

Return home from your visit. Nature calls! Village A practices open defecation. You must go to the river to relieve yourself.

Action!

Place 6 beads into the Village A water supply. 2–6 beads should not be your own color.

Villager 3A

5.

You've been away and your goats are hungry. Take your goats to pasture.

Action!

None

Villager 3A

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 3A

6.

Meet your friend down at the river and exchange some goats.

Action!

Trade 4 beads with Villager #2.

Villager 3A

7.

You got wind that there is going to be a celebration at Village E. Party! Quickly travel to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 3A

8.

Return home. Nature calls! Visit the latrine.

Action!

Add 6 beads into the water supply.

Villager 4A

3

Villager 4A

2

Villager 4A

1

Villager 4A

R

Villager 4A

5

Villager 4A

4

Villager 4A

8

Villager 4A

7

Villager 4A

6

Villager 4A

1.

You are a goat herder from Village A. You are working out in the fields far from the river, tending your herd of goats.

Action!
None

Villager 4A

2.

Your goats are full. You bring them back to their pen.

Action!
None

Villager 4A

3.

After a hard day's work, Nature calls! Village A practices open defecation. You walk down to the river to relieve yourself.

Action!
Place 6 beads into the Village A water supply.

Villager 4A

4.

Travel to Village C for a visit. Wash your hands in their well and have a drink.

Action!
Put 2 beads in and take 6 beads out of the Village C water supply.

Villager 4A

5.

Sometimes you tire of drinking goat milk. Trade some of your fresh goat milk for fresh cow milk with Villager #2 in Village C.

Action!
Exchange 3 beads with each other.

Villager 4A

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 4A

6.

Return home and share some fresh cow milk with your neighbors, Villagers #2 and #3 from Village A.

Action!
Gift one bead to Villagers #2 and #3 in Village A.

Villager 4A

7.

You got wind that there is going to be a celebration at Village E. Party! Travel to village E immediately!

Action!
Randomly exchange 2–3 beads with 5 other people.

Villager 4A

8.

Return home. Nature calls!

Action!
Place 6 beads into the Village A water supply.

Villager 1B

3

Villager 1B

2

Villager 1B

1

Villager 1B

R

Villager 1B

5

Villager 1B

4

Villager 1B

8

Villager 1B

7

Villager 1B

6

Villager 1B

1.

You live in Village B. This is a village that grows food. Bring water from the river to water your crops.

Action!

Pickup 8 white beads for the garden from the Village B water supply.

Villager 1B

2.

Water your fields with the river water. Harvest your ready crops for trade in a nearby village.

Action!

None

Villager 1B

3.

Nature calls! Village B has a communal latrine where you may go to relieve yourself. Wash your hands.

Action!

Place 6 beads into the village latrine, take two beads from the Village B water supply.

Villager 1B

4.

Take a trip to visit Village A. Trade some vegetables for goat milk with Villager #1 from Village A.

Action!

Trade 3 beads each with Villager #1 from Village A.

Villager 1B

5.

It is time to head home. Before you go, fill up your water container at the river in Village A.

Action!

Take 6 beads from the water supply in Village A.

Villager 1B

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 1B

6.

You arrive back home. It is time to tend to your crops.

Action!

None

Villager 1B

7.

You got wind that there is going to be a celebration at Village E. Party! Make your way to Village E!

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 1B

8.

Return home. Nature calls! Visit the latrine in Village B.

Action!

Place 6 beads into the latrine.

Villager 2B

3

Villager 2B

2

Villager 2B

1

Villager 2B

R

Villager 2B

5

Villager 2B

4

Villager 2B

8

Villager 2B

7

Villager 2B

6

Villager 2B

1.

You live in Village B. This is a Village that grows food. Harvest crops from your fields. Bring your vegetables to the river and wash them.

Action!

Pickup 6 white beads and place two of your colored beads into the Village B water supply.

Villager 2B

2.

Bring your clean vegetables home and cook them for dinner.

Action!

None

Villager 2B

3.

Share some of your harvest with your neighbors.

Action!

Give two of your beads to each of the villagers in Village B.

Villager 2B

4.

Nature calls! Visit the village latrine and be sure to wash your hands.

Action!

Drop 6 beads into the village latrine. Pick up two beads from the Village B water supply.

Villager 2B

5.

Wash your vegetables and begin your trip to Village D to trade.

Action!

pick up 6 beads from and place 2 of your colored beads into the Village B water supply.

Villager 2B

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 2B

6.

Meet with Villager #4 in Village D and trade some vegetables for fresh fish.

Action!

Trade 3 beads each with Villager #4 from Village D.

Villager 2B

7.

You get wind that there is going to be a celebration at Village E. Party! Make your way to Village E!

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 2B

8.

Return home. Nature calls! Visit the Village B latrine.

Action!

Place 6 beads into the Village B latrine.

Villager 3B

3

Villager 3B

2

Villager 3B

1

Villager 3B

R

Villager 3B

5

Villager 3B

4

Villager 3B

8

Villager 3B

7

Villager 3B

6

Villager 3B

1.

You live in Village B. This is a Village that grows food. Nature is calling. Luckily your village has a communal latrine. Relieve yourself at the village latrine and be sure to wash your hands.

Action!

Place 6 beads into the Village B latrine and take two beads from the Village B water supply.

Villager 3B

2.

It's time to eat! Go meet your family and have some dinner.

Action!

None

Villager 3B

3.

Nature calls again! Visit the Village B latrine a second time! Be sure to wash your hands after!

Action!

Deposit 6 beads into the village latrine and take 2 beads from the Village B water supply.

Villager 3B

4.

You have a large farm and your crops are thirsty! Go to the river and collect water.

Action!

Pick up 10 beads from the water supply to water your fields.

Villager 3B

5.

Water your garden and pick some vegetables.

Action!

None

Villager 3B

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 3B

6.

Share your bountiful harvest with your neighbors in Village B.

Action!

Give 2 beads to Villager #1 and 2 beads to Villager #4 from Village B.

Villager 3B

7.

You hear there is going to be a celebration at Village E. Party! Make your way to Village E!

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 3B

8.

Return home. Nature calls! Visit the latrine.

Action!

Place 6 beads into the Village B latrine.

Villager 4B

3

Villager 4B

2

Villager 4B

1

Villager 4B

R

Villager 4B

5

Villager 4B

4

Villager 4B

8

Villager 4B

7

Villager 4B

6

Villager 4B

1.

You live in Village B. This is a Village that grows food. It is time to plant new crops. You till your soil.

Action!
None

Villager 4B

2.

Take a visit to Village C. You need to bring back fertilizer for your garden.

Action!
None

Villager 4B

3.

You arrive at Village C. Enjoy a nice cool drink of water at the Village C well after your journey!

Action!
Take 3 white and 3 colored beads from the water supply at Village C.

Villager 4B

4.

Trade your vegetables for Villager 3C's milk.

Action!
Trade your vegetables for Villager 3C's milk.

Villager 4B

5.

It's time to head home. Fill up your water container for the journey back.

Action!
Pickup 6 beads from the Village C water supply.

Villager 4B

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 4B

6.

You arrive back home and Nature calls! Visit Village B latrine to relieve yourself. Wash your hands.

Action!
Place 6 beads in the Village B latrine. Pick up two beads from the Village B water supply.

Villager 4B

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!
Randomly exchange 2-3 beads with 5 other people.

Villager 4B

8.

Return home. Nature calls! Visit the Village B latrine.

Action!
Place 6 beads into the Village B latrine.

Villager 1C

3

Villager 1C

2

Villager 1C

1

Villager 1C

R

Villager 1C

5

Villager 1C

4

Villager 1C

8

Villager 1C

7

Villager 1C

6

Villager 1C

1.

You live in Village C. This is a village that raises cattle. Go fetch water from the Village C well for your cows.

Action!

Take 8 white beads from the village water supply.

Villager 1C

2.

Now your cattle are hungry. Bring your cattle to pasture.

Action!

None

Villager 1C

3.

You make your way back to the Village C well and fill up a drinking container with water. You are preparing to travel.

Action!

Pickup 6 beads from the village well.

Villager 1C

4.

Take a trip to Village A. Trade your cow milk for goat milk with Villager 1A.

Action!

Exchange 3 beads each with Villager 1 from Village A.

Villager 1C

5.

Nature calls! Village A practices open defecation so you must go down to the river to relieve yourself. You collect water upstream to fill your drinking container and head home.

Action!

Place 6 beads into Village A's water supply and take 6 beads out.

Villager 1C

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 1C

6.

You arrive back home in Village C. You take your cattle to drink at a local drinking hole (separate from the Village C well).

Action!

None

Villager 1C

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 1C

8.

Return home. Nature calls!

Action!

Deposit 6 beads in the Village C latrine.

Villager 2C

3

Villager 2C

2

Villager 2C

1

Villager 2C

R

Villager 2C

5

Villager 2C

4

Villager 2C

8

Villager 2C

7

Villager 2C

6

Villager 2C

1.

You live in Village C. This is a village that raises cattle. Nature calls! You are lucky to have a communal latrine in which to relieve yourself. Wash your hands at the river when you are done.

Action!

Place 6 beads into the Village C latrine. Pick up two beads from the Village C water supply.

Villager 2C

2.

You have a shipment of fertilizer to get ready for trade.

Action!

None

Villager 2C

3.

Deliver your cow manure (fertilizer) to the visitor from Village B.

Action!

Give 10 beads to Villager 4 from Village B.

Villager 2C

4.

You are preparing for dinner. Go and collect water for cooking and cleaning from the river.

Action!

Pick up 6 beads of mixed color from the Village C water supply.

Villager 2C

5.

You make a visit to Village D. Go to the Village C well and collect some drinking water for your journey before you leave.

Action!

Pick up 6 beads from the Village C water supply.

Villager 2C

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 2C

6.

Trade some of your cow milk for fresh fish with Villager 2D.

Action!

Exchange 3 beads each with Villager 2 in Village D.

Villager 2C

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 2C

8.

Return home. Nature calls!

Action!

Deposit 6 beads in the Village C latrine.

Villager 3C

3

Villager 3C

2

Villager 3C

1

Villager 3C

R

Villager 3C

5

Villager 3C

4

Villager 3C

8

Villager 3C

7

Villager 3C

6

Villager 3C

1.

You live in Village C. This is a village that raises cattle. Gather biomass fuel (dry cow manure) to be used as cooking fuel.

Action!

None

Villager 3C

2.

It is time to go home and prepare a meal. Collect water for cooking and cleaning from the village well.

Action!

Pickup 6 beads of mixed color from the Village C water supply.

Villager 3C

3.

Nature calls! Visit the Village C latrine. Wash your hands in the village well.

Action!

Place 6 beads into the Village C latrine. Pick up 2 beads from the Village C water supply.

Villager 3C

4.

Wash your clothing at the village well.

Action!

Place 2 beads into the Village C water supply.

Villager 3C

5.

Join your neighbor, Villager 2C, and visit Village D. Bring some water from the well.

Action!

Pick up 6 beads from the Village C water supply.

Villager 3C

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 3C

6.

Nature calls! Village D practices open defecation. Take a walk down to the river and relieve yourself.

Action!

Place 6 beads in the Village D water supply.

Villager 3C

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 3C

8.

Return home. Nature calls!

Action!

Deposit 6 beads in the Village C latrine.

Villager 4C

3

Villager 4C

2

Villager 4C

1

Villager 4C

R

Villager 4C

5

Villager 4C

4

Villager 4C

8

Villager 4C

7

Villager 4C

6

Villager 4C

1.

You live in Village C. This is a village that raises cattle. Gather some water from the well for cooking.

Action!

Take 6 white beads out of the water supply.

Villager 4C

2.

You are heading home to cook dinner. Nature calls! Stop at the latrine. Wash your hands after.

Action!

Place 6 beads into the village latrine.

Villager 4C

3.

Take a trip to Village D. On your way to Village D, you stop at Village B and use their latrine.

Action!

Place 6 beads in the Village B latrine.

Villager 4C

4.

You arrive at Village D. You decide to have a drink and bathe in the river after your long journey.

Action!

Place 2 beads into the Village D's water supply. Take 6 beads from Village D's water supply (2 of the 6 should be colored).

Villager 4C

5.

Find Villager 2D. They will offer to trade with you. Accept their trade offer.

Action!

Exchange 3 beads each with Villager 2 from Village D.

Villager 4C

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 4C

6.

You take a long drink from the river at Village D and return home to Village C.

Action!

Pickup 6 beads from the Village #4 water supply.

Villager 4C

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2-3 beads with 5 other people.

Villager 4C

8.

Return home. Nature calls!

Action!

Deposit 6 beads in the Village C latrine.

Villager 1D

3

Villager 1D

2

Villager 1D

1

Villager 1D

R

Villager 1D

5

Villager 1D

4

Villager 1D

8

Villager 1D

7

Villager 1D

6

Villager 1D

1.

You come from Village D. This is a fishing village. You are just bringing back your boat from fishing downstream.

Action!

Place 15 beads into the village water supply.

Villager 1D

2.

You bring your catch back home and share it with your neighbors.

Action!

Give 2 beads to Villagers 2 and 4 from Village D.

Villager 1D

3.

You meet with travelers, 2A and 3A, from Village A. Trade fresh fish for delicious Village A goat cheese.

Action!

Exchange 3 beads each with Villagers 2 and 3 from Village A.

Villager 1D

4.

Nature calls! Village D practices open defecation. You must go to the river to relieve yourself.

Action!

Place 6 beads into the Village D water supply.

Villager 1D

5.

Take a bath in the river and travel to Village C to see your mom.

Action!

Place 2 beads into the water supply. Remove two beads from the water supply.

Villager 1D

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 1D

6.

Share some goat cheese with your mom's neighbors in Village C.

Action!

Give 2 beads to each villager in Village C.

Villager 1D

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2-3 beads with 5 other people.

Villager 1D

8.

Return home. Nature calls!

Action!

Place 6 beads into the Village D water supply.

Villager 2D

3

Villager 2D

2

Villager 2D

1

Villager 2D

R

Villager 2D

5

Villager 2D

4

Villager 2D

8

Villager 2D

7

Villager 2D

6

Villager 2D

1.

You come from Village D. This is a fishing village. Nature calls! Village D practices open defecation so you make your way to the river to relieve yourself.

Action!

Place 6 beads into the Village D water supply.

Villager 2D

2.

You go upstream of the Village D waste area to fetch water for dinner.

Action!

Take 6 beads from the village water supply.

Villager 2D

3.

You are short on food. Prepare to go fishing!

Action!

None

Villager 2D

4.

You have a successful day fishing on the river. Bring back your catch!

Action!

Pickup 6 beads from the Village D water supply.

Villager 2D

5.

Take some of your fish down to the river and clean them.

Action!

Place 4 beads into the village water supply.

Villager 2D

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 2D

6.

You need to wash out your boat and clean your fishing nets.

Action!

Place 6 beads into the village water supply.

Villager 2D

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 2D

8.

Return home. Nature calls!

Action!

Place 6 beads into the village water supply.

Villager 3D

3

Villager 3D

2

Villager 3D

1

Villager 3D

R

Villager 3D

5

Villager 3D

4

Villager 3D

8

Villager 3D

7

Villager 3D

6

Villager 3D

1.

You come from Village D. This is a fishing village. You have just made a big catch! You head down to the river to clean your fish.

Action!

Place 4 beads into the village water supply.

Villager 3D

2.

Bring home your cleaned fish and prepare your meal. Collect water from the river for cooking.

Action!

Pick up 6 beads from the Village D water supply.

Villager 3D

3.

Nature calls! Village D practices open defecation so you make your way to the river and relieve yourself.

Action!

Place 6 beads into the Village D water supply.

Villager 3D

4.

You make a friendly visit to your uncle's home in Village C. Fill your water container for the journey.

Action!

Pick up 6 beads from the Village D water supply.

Villager 3D

5.

Visit your uncle's house. He offers you some tea that he has made from water collected from the Village C water supply.

Action!

Take 3 beads from the Village C water supply.

Villager 3D

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 3D

6.

You cool off by splashing at the Village C well and return home.

Action!

Place 3 beads in the Village C water supply. Take 3 beads from the Village C water supply.

Villager 3D

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 3D

8.

Return home. Nature calls!

Action!

Place 6 beads into the village water supply.

Villager 4D

3

Villager 4D

2

Villager 4D

1

Villager 4D

R

Villager 4D

5

Villager 4D

4

Villager 4D

8

Villager 4D

7

Villager 4D

6

Villager 4D

1.

You come from Village D.
This is a fishing village.
Today you are mending your
fishing nets.

Action!
None

Villager 4D

2.

You give your neighbor a
mended net in exchange for
more fresh fish.

Action!
Take 2 beads from Villager
1D.

Villager 4D

3.

Prepare to go fishing!

Action!
None

Villager 4D

4.

Bring back your fishing
catch!

Action!
Pickup 6 beads from the
village water supply.

Villager 4D

5.

Nature calls! Village D
practices open defecation so
you make your way to the
river to relieve yourself.

Action!
Place 6 beads into the village
water supply.

Villager 4D

Replication!

Group the foreign beads in
your personal cup by color.
Count the number of beads
in each color group and
multiply X 5. Increase the
quantity of each color in
your personal supply by that
amount. Mix up your cup.

Villager 4D

6.

Take a trip to Village B with
your new friend.

Action!
None

Villager 4D

7.

You hear that there is going
to be a celebration at Village
E. Party! Make your way to
Village E.

Action!
Randomly exchange 2–3
beads with 5 other people.

Villager 4D

8.

Return home. Nature calls!

Action!
Place 6 beads into the village
water supply.

Villager 1E

3

Villager 1E

2

Villager 1E

1

Villager 1E

R

Villager 1E

5

Villager 1E

4

Villager 1E

8

Villager 1E

7

Villager 1E

6

Villager 1E

1.

You are from the Village E. This is a village that raises cattle. Bring your cattle to the water to drink.

Action!

Take 8 white beads from the Village E water supply.

Villager 1E

2.

Your cattle make waste while herded down by the river.

Action!

Place 8 beads into the Village E water supply.

Villager 1E

3.

Fill up your drinking container at the river upstream from your herd. You are going to make a trip to Village C with your cattle.

Action!

Take 6 beads from the Village E water supply.

Villager 1E

4.

Nature calls! Make use of the communal latrine in Village C.

Action!

Place 6 beads into the Village C water supply.

Villager 1E

5.

Nobody is around in Village C! Borrow some of their cow milk and head home.

Action!

Take 10 beads from Villager 2C. Take 10 beads from Villager 3C.

Villager 1E

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 1E

6.

Arrive home in Village E and share some milk with your friends.

Action!

Give Villagers 2E and 4E 1–2 beads each.

Villager 1E

7.

Your village is about to have a celebration. Party!

Action!

Randomly exchange 2–3 beads with 5 other villagers.

Villager 1E

8.

Nature calls!

Action!

Place 6 beads in the Village E water supply.

Villager 2E

3

Villager 2E

2

Villager 2E

1

Villager 2E

R

Villager 2E

5

Villager 2E

4

Villager 2E

8

Villager 2E

7

Villager 2E

6

Villager 2E

1.

You are from the Village E. This is a village that raises cattle. Nature calls! Village E practices open defecation so you make your way to the riverbank.

Action!

Place 6 beads into the village water supply.

Villager 2E

2.

It is time for you to select 5 of your prize cattle for trade. Head to your barn to inspect the herd.

Action!

None

Villager 2E

3.

Join with your neighbor, Villager 1E, and take a visit to Village C. Fill your drinking container at the river before you leave so you have water for your journey.

Action!

Take 6 beads from the village water supply.

Villager 2E

4.

Nature calls! You are now in Village C. Make use of the Village C latrine.

Action!

Place 6 beads into the Village C latrine.

Villager 2E

5.

Nobody is around in village C! Borrow some of their cow milk and head home.

Action!

Take 10 beads from Villager 3C.

Villager 2E

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 2E

6.

Return home and share some cow milk with your friends.

Action!

Give Villagers 1E and 4E from village E 1–2 beads each.

Villager 2E

7.

Your village is about to have a celebration. Party!

Action!

Randomly exchange 2–3 beads with 5 other people.

Villager 2E

8.

Nature calls!

Action!

Place 6 beads in the Village E water supply.

Villager 3E

3

Villager 3E

2

Villager 3E

1

Villager 3E

R

Villager 3E

5

Villager 3E

4

Villager 3E

8

Villager 3E

7

Villager 3E

6

Villager 3E

1.

You are from the Village E. This is a village that raises cattle. It is time to milk your cows.

Action!
None

Villager 3E

2.

Bring the cow milk back to your house for making your best cheese.

Action!
None

Villager 3E

3.

Travel to Village A to trade and learn about making goat cheese. Stop on the way in Village B to use the communal latrine and fill your water container at the river.

Action!
Put 6 beads into the latrine at Village B. Remove 6 beads from the Village B water supply.

Villager 3E

4.

Arrive at Village A. Trade some cow cheese for goat cheese with Villager 2 in Village A.

Action!
Exchange 3 beads with Villager 2 in Village A.

Villager 3E

5.

Head home and carry back some water from Village A for your journey.

Action!
Take 6 beads from Village A's water supply.

Villager 3E

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 3E

6.

Nature calls! Head to the river in Village E to relieve yourself.

Action!
Place 6 beads into water supply. Shout 'Party!'

Villager 3E

7.

Your Auntie is so happy to see you have returned safely that she has invited everyone to her village to celebrate! Your house is having a party!

Action!
Randomly exchange 2-3 beads with 5 other villages.

Villager 3E

8.

Nature calls!

Action!
Place 6 beads in the Village E water supply.

Villager 4E

3

Villager 4E

2

Villager 4E

1

Villager 4E

R

Villager 4E

5

Villager 4E

4

Villager 4E

8

Villager 4E

7

Villager 4E

6

Villager 4E

1.

You live in Village B. This is a Village that grows food. It is time to plant new crops. You till your soil.

Action!
None

Villager 4E

2.

Take a visit to Village C. You need to bring back fertilizer for your garden.

Action!
None

Villager 4E

3.

You arrive at Village C. Enjoy a nice cool drink of water at the Village C well after your journey!

Action!
Take 3 white and 3 colored beads from the water supply at Village C.

Villager 4E

4.

Trade your vegetables for Villager 3C's milk.

Action!
Trade your vegetables for Villager 3C's milk.

Villager 4E

5.

It's time to head home. Fill up your water container for the journey back.

Action!
Pickup 6 beads from the Village C water supply.

Villager 4E

Replication!

Group the foreign beads in your personal cup by color. Count the number of beads in each color group and multiply X 5. Increase the quantity of each color in your personal supply by that amount. Mix up your cup.

Villager 4E

6.

You arrive back home and Nature calls! Visit Village B latrine to relieve yourself. Wash your hands.

Action!
Place 6 beads in the Village B latrine. Pick up two beads from the Village B water supply.

Villager 4E

7.

You hear that there is going to be a celebration at Village E. Party! Make your way to Village E.

Action!
Randomly exchange 2-3 beads with 5 other people.

Villager 4E

8.

Return home. Nature calls! Visit the Village B latrine.

Action!
Place 6 beads into the Village B latrine.

Villager 3A

S

Villager 2A

S

Villager 1A

S

Villager 2B

S

Villager 1B

S

Villager 4A

S

Villager 1C

S

Villager 4B

S

Villager 3B

S

Villager 1A

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 2A

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 3A

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4A

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 1B

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 2B

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 3B

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4B

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 1C

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4C

S

Villager 3C

S

Villager 2C

S

Villager 3D

S

Villager 2D

S

Villager 1D

S

Villager 2E

S

Villager 1E

S

Villager 4D

S

Villager 2C

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 3C

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4C

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 1D

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 2D

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 3D

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4D

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 1E

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 2E

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4E

Villager 3E

S

S

Villager 3E

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None

Villager 4E

Storm!

A powerful rainstorm occurs that damages the sanitation system of villages B and C.

Action!

None