

7

Critical Thinking -
Problem Solving

Task A: *Critical Thinking Exercises*

Critical thinking is a skill that helps us when living our day to day lives. Daily we are confronted with a vast array of problems or situations that require us to make decisions. In the following exercise students need to identify *two* items to complete each task.

Task A: *Select two items needed to complete a task or solve a problem.*

1. Guff needs to climb a steep cliff. What does Guff need?

rope fish strong boots basket

2. Utha has a broken spear handle. What does he need to repair the handle?

rope knife bowl water

3. Asa needs to go fishing. What will she need to take?

fishing line rug bait boots

4. Guff needs to make a fire. What will he need?

dry wood spear flint water

5. Asa needs to cook food. What will she need?

rug pot campfire cloak

Task B: *Critical Thinking Exercises*

Task B: *The missing piece. Complete the sequence of events.*

This exercise requires students to identify the missing piece of information.

1. Asa wants to plant a wheat seed.

Example Sequence: Asa digs a small hole.

She places a wheat seed in the hole.

Asa covers the seed with soil.

Asa sprinkles water over the spot.

2. Guff wants to climb a tree.

Sequence: Guff places his left foot onto a low-lying branch.

He holds a branch above his head with his left hand.

Guff climbs to the top of the tree.

3. Utha hunts a deer.

Sequence: Utha spots a deer a long way in the distance.

Utha is within a spear's throw of the deer

Utha throws his spear.

4. Guff confronts a saber-toothed cat.

Sequence: While Guff cooks fish over a fire, he hears a noise.
He turns and sees a saber-toothed cat.

Guff climbs to the top of a tree.

5. Utha makes a shelter.

Sequence: Utha digs out a floor.
Utha puts up some walls.

That night, Utha's family was safe and dry in the shelter when it rained.

6. Guff takes eggs from a bird nest.

Sequence: Guff started to climb the tree.
He climbed to the top of the tree and found a nest.

Guff started the climb down while holding the bird eggs.

7. Asa makes a fire.

Sequence:

Asa collects dry leaves and sticks.

She uses a flint to create a small flame.

Asa places the fish and meat over the roaring flames.

8. Utha's hunting party hunt a mammoth herd.

Sequence:

The hunting party approaches the mammoth herd.

The bull mammoth senses the hunters' presence.

Utha runs away from the mammoth herd!

9. Guff and Asa build a raft.

Sequence:

Guff cuts down a small tree.

Asa binds the branches with twine.

The raft is placed in the water.

Task C: *Critical Thinking Exercises*

Task C: *Which is easier for the character to do?*

This exercise requires students to identify the relative difficulty of one situation versus the other. There is never a clear right or wrong answer. Encourage students to verbalize or write *why* they believe a particular scenario would be easier.

1. Which is *easier* for Guff to do?

Fight a saber-toothed cat with
his bare hands...

Ride on top of a mammoth...

2. Which is *easier* for Guff to do?

Cut down a tree with a small
axe...

Make a fire with a flint and dry
sticks...

3. Which is *easier* for Utha to do?

Climb to the top of a
large mountain...

Swim across a swiftly flowing river...

4. Which is *easier* for Asa to do?

Swim across a rapidly
water...

Spear a fast moving fish in the
flowing river...

5. Which is *easier* for Guff to do?

Steal eagle eggs from the
top of a mountain...

Hunt a mammoth herd alone...

6. Which is *easier* for Asa to do?

Catch fish with a fishing line
and bait...

Catch fish using a spear...

7. Which is *easier* for Utha to do?

Create a woolen tunic with
an axe...

Carve a woolen tunic using
a knife...

Task D: *Critical Thinking Exercises*

Task D: *What is the problem?*

The goal for this exercise is for students to identify a potential problem for the character, based only the limited information provided. Encourage students to verbalize or write responses.

1. Guff had holes in his bearskin boots as he crossed the snow-covered mountains. *Why is this situation a potential problem for Guff?*

2. Utha's spear broke in half as he defended himself against the saber-toothed cat. *Why is this situation a potential problem for Utha?*

3. Guff is caught in a fierce thunderstorm a long way from any shelter.
Why is this situation a potential problem for Guff?

4. Asa still had a long way to walk back to camp and the sun was already setting.

Why is this situation a potential problem for Asa?

5. Utha was all alone on a large, flat plain when two saber-toothed cats appeared ahead. *Why is this situation a potential problem for Utha?*
-

6. Guff lost his flint and fire lighting equipment in the middle of the harsh winter. *Why is this situation a potential problem for Guff?*
-

7. As Asa gathered nuts and fruit from trees, she failed to notice the large hole in her pouch. *Why is this situation a potential problem for Asa?*
-

8. Guff was walking through a dark forest when he suddenly realized he could not tell in which direction he faced. *Why is this situation a potential problem for Guff?*
-

9. As Utha constructed the shelter from tree branches and mud bricks, it started to rain heavily. *Why is this situation a potential problem?*
-

10. Utha's tribe had to survive the harsh winter by hunting scarce animals in the ice and snow. *Why is this situation a potential problem for the tribe?*
-

Task E: *Critical Thinking Exercises*

Task E: *How to avoid the problem.*

The goal for this exercise is for students to identify potential problems and provide examples of how the character can best avoid the potential problem. Encourage students to explain their reasoning verbally or write in the space provided.

1. Guff wanted to cross the river but the water was too deep and flowing too rapidly. *To cross the river Guff could...*

Example: *Try to find a safer crossing further along the river.*

2. Asa was out picking berries all day when she realized that it was getting dark and that she was far from the tribe's campsite. *Asa should have....*

3. As Guff prepared for the hunt with his father he noticed that the spearhead was loose on the wooden shaft. *Guff should have...*

4. Utha was just about to finish fixing his spear when he realized that he had left the twine at the last camp. He would not be able to tighten the spear. *Utha should have...*

5. When Guff reached the safety of the camp, he remembered that he had forgotten to close his pouch. All the nuts he had gathered had fallen out. *Guff should have...*
-

6. Utha did not allow enough time to put enough straw and leaves on the roof of the shelter. That night, when it rained, Utha's family got wet. *Utha should have...*
-

7. Guff climbed the mountain peak on a misty day to see the coastline and the ocean. When he made it to the top of the mountain, he could not see much at all because of the mist. *Guff should have...*
-

8. Utha woke in the night to investigate a noise. After the search, as he walked back to the shelter, he noticed with a jolt of fear that a bear was between him and the shelter. Utha was not carrying a weapon. *Utha should have...*
-

9. When Asa reached the river after a long walk, she noticed many berries that she wished to pick. However, she had left her basket back in the camp. *Asa should have...*
-

Task F: *Critical Thinking Exercises*

Task F: *Problem solving tough situations*

The goal for this exercise is for students to identify a difficult problem and help solve it. Encourage students to verbalize their answers or write their responses on the lines provided.

1. One day, Asa and Guff were fishing near a large lake. Without warning, a large herd of mammoth began grazing in the area. Asa and Guff, realized to their dismay that the herd of mammoths and a mighty bull mammoth were between them and their camp.

- a. Why is this a problem for Guff and Asa?

- b. Why would it be dangerous to try and walk *through* the herd?

- c. What is something Guff and Asa can do to return to their camp safely?

2. As Guff climbed the cliff face to collect eagle eggs from the nest, located on a rocky prominence at the top of the peak, the mother eagle spotted him with her sharp vision. With a loud squawk the great eagle swooped at Guff, her talons outstretched. Guff ducked as the eagle narrowly missed him. Guff hugged the cliff face fiercely. If he let go it now was a long drop to the bottom of the ravine, and he would not survive. Guff made himself into a small ball as the great eagle swooped once again.

a. Why is this a difficult situation for Guff?

b. Why does Guff hug the cliff face fiercely?

c. What is one thing Guff could do to improve this difficult situation?

3. Utha and the hunting party had made a mistake. The mammoths had been alerted to their presence. The hunting party had made the critical error of advancing on the herd with the wind blowing at their backs. The bull mammoth detected the hunting party's scent immediately. The massive creature confronted the tribe with its great curved tusks. All the members in the hunting party, except Utha, turned and ran. Utha stood alone with only his spear as protection as the great beast advanced toward him.

a. Why is this a problem for Utha?

b. Why did the tribe hunting party turn and run, and why did Utha stay?

c. What is something Utha can do to get out of this difficult and dangerous situation?

4. The saber-toothed cats snarled menacingly as they advanced toward Guff. Guff was trapped. At Guff's back was the edge of the cliff, and at the bottom of the cliff was the fast moving river. Guff thrust his spear, its sharp point the only thing that protected him from the big cats. He had to make a decision before the saber-toothed cats pounced.

a. Why is this a problem for Guff?

b. What may happen to Guff if he attempts to run past the saber-toothed cats?

c. What is one thing that Guff can do to escape the saber-toothed cats, even though it is dangerous?

5. Guff and Asa went on a foraging expedition for food. They collected a range of berries and wild vegetables, which took half the day. It was a hot day so both Guff and Asa went swimming in a nearby lake. They left the collected food supplies on a large flat rock near the lake. Later, when they returned to the rock, they discovered that forest animals had eaten all the food they had collected that day.

a. Why is this a problem for Guff and Asa?

b. What are some things that Guff and Asa could have done to protect the gathered food from animals?

c. What can Guff and Asa do about all the food that has been eaten by animals?
