

Week 1 - Logic Puzzles

Question 1. Yoshi has two ropes that each take an hour to burn, but burn at inconsistent rates. How can Yoshi measure 45 minutes using only the ropes?

Question 2. Princess Peach meets a goomba and piranha plant in the forest. The goomba lies every Monday, Tuesday and Wednesday and the other days he speaks the truth. The piranha plant lies on Thursdays, Fridays and Saturdays, and the other days of the week he speaks the truth. “Yesterday I was lying,” the goomba told Princess Peach. “So was I,” said the piranha plant. What day is it?

Question 3. Boo, Bob-omb and Blooper have each been working a second job. One is a knight, one a knave, and one a spy. The knight always tells the truth, the knave always lies, and the spy can either lie or tell the truth. Boo says: “Blooper is a knave.” Bob-omb says: “Boo is a knight.” Blooper says: “I am the spy.” Who is the knight, who the knave, and who the spy?

Question 4. Mario has five boxes in a row numbered 1 to 5, in which a Shy Guy is hiding. Every night the Shy Guy jumps to an adjacent box, and every morning Mario has one chance to open a box to find him. How does Mario win this game of hide and seek?

Question 5. Daisy meets three koopas on a mountain top. One always tells the truth, one always lies, and one tells the truth or lies randomly. We can call them Truth, False and Random. They understand English but answer in their own language, with ja or da for yes and no—but you don’t know which is which. You can ask three questions to any of the koopas (and you can ask the same koopa more than one question), and they will answer with ja or da. What three questions do you ask to figure out who’s who?