

MULTIPLICATION. Once a king asked his court jester for a game of chess, confident he would win. The king offered a prize of one gold coin for the first square of the chessboard, two coins for the second, three for the third, four for the fourth and so on - always adding for the next field one gold coin to the previous amount. **T**he game was played - and promptly lost by the king. Reluctantly he gave orders for the gold to be brought out, but as it was obvious that he resented having to part with it, the court jester offered him an alternative to being paid in gold: He would be satisfied if the king paid him in rice - so he could feed himself and his family. **H**e asked for one grain of rice for the first field on the chessboard, two grains for the second field, four for the third, eight for the fourth and so on - always multiplying by two the number of grains from one field on the board to the next. **A**ll the court laughed at the jester, for his apparent stupidity in forgoing a prize of some two thousand gold coins. But the king was pleased and ordered a sack of rice and the counting of rice grains commenced - sixteen grains were placed on the fifth field, thirty two on the sixth, sixty four on the seventh and one hundred and twenty eight on the eighth field.

Already the first row of fields was covered with about one spoon worth of rice. As they progressed, they allowed for two spoons-full for field nine, four for field ten, eight for the eleventh and then sixteen for the twelfth field - all of which amounted to one hundred and twenty five grams. By this time nearly one fifth of the chessboard was covered - with not very much rice at all. The king, in his arrogance, continued to ridicule his jester. **B**ut soon he was in for a surprise. When they continued to double the amount of rice, they needed one kilogram for the fifteenth field and thirty two kilograms for the twentieth field. The king had to order more sacks of rice. But it became clear that more than one ton of rice was needed for the twenty fifth field. **T**he minister for finance approached the king now, and when he whispered into his ear, the king was humbled - had the rice for just half the chessboard been ordered, it would have amounted to well over one hundred tons; they did not have that much rice in storage! **T**he minister calculated now that in the whole world there was not enough rice - that indeed in all of their history not enough rice had been produced - to pay out the court jester.

