

Rainbow stones

You begin with 1 stone of each of the seven colours Red, Orange, Yellow, Green, Blue, Indigo, and Violet. You can perform the following spells as many times as you like:

Type 1: Transmutation - turn 1 stone into 2 stones. You can only transmute as follows:

- Turn 1 Red stone into 2 Orange stones.
- Turn 1 Orange stone into 2 Yellow stones.
- Turn 1 Yellow stone into 2 Green stones.
- Turn 1 Green stone into 2 Blue stones.
- Turn 1 Blue stone into 2 Indigo stones.
- Turn 1 Indigo stone into 2 Violet stones.

Type 2: Colour swap - destroy 1 stone and swap the colour of all stones of two different colours. You can only colour swap as follows:

- Destroy 1 Red stone, swap the colours of Orange and Yellow stones.
- Destroy 1 Orange stone, swap the colours of Yellow and Green stones.
- Destroy 1 Yellow stone, swap the colours of Green and Blue stones.
- Destroy 1 Green stone, swap the colours of Blue and Indigo stones.
- Destroy 1 Blue stone, swap the colours of Indigo and Violet stones.

Example: Suppose you have 2 Red, 3 Yellow, 1 Green, 2 Blue, and 3 Violet stones.

- (1) Using a type 1 spell on a Blue stone, you now have 2 Red, 3 Yellow, 1 Green, 1 Blue, 2 Indigo, and 3 Violet stones.
- (2) Using a type 2 spell on a Blue stone, you now have 2 Red, 3 Yellow, 1 Green, 3 Indigo, and 2 Violet stones.
- (3) Using a type 2 spell on a Red stone, you now have 1 Red, 3 Orange, 1 Green, 3 Indigo, and 2 Violet stones. (Notice since you started with 0 Orange stones, you now have 0 Yellow stones.)

Your goal: Have as many Violet stones as possible.