

**Eureka moment:**

A short play to dramatize one of the most significant discoveries by Archimedes. Have fun acting it out, and then why not create your own plays for other 'Eureka' moments for other great discoveries!

Characters – who's who	Props – be prepared
Narrator	Crown: design your own
Archimedes: Greek mathematician and scientist	Block of gold: covered box in gold paper
King Hieron II: Greek king of Syracuse	Cloth to cover crown
	Bath tub: a cardboard box makes a great substitute
	Robe of king: old curtain works a treat

Scene 1: In the king's palace

Narrator	Eureka, a moment of discovery! Join us to uncover the moment in history that marks the first use of this phrase. We are heading back to ancient Greece to a meeting between a king and a scientist and a puzzling question. <i>(Enter King Heiron II and Archimedes. King Heiron is wearing a crown but is covering it with a cloth.)</i>
King Heiron	Archimedes you are a wise man and a great solver of puzzles, I have here another for you to solve. (points to his head)
Archimedes	You flatter me oh great king but I will try to unravel it if I can.
King Heiron II	I've just had a new crown made for me. <i>(Takes cloth off to reveal the crown.)</i> They're just one problem with it – I'm not certain that it is made from real gold. I have been told that the goldsmith has been known to substitute silver for gold so pocketing the pure gold for himself!
Archimedes	<i>(Takes the crown from the king and feels the weight of it.)</i> Well it certainly looks like gold. Have you weighed it to see if it weighs the same as gold you gave him?
King Heiron II	It was the first thing I did! It weighs exactly the same but I have to be certain or else I will look like a fool.
Archimedes	Leave it with me and I'll puzzle it out!

Scene 2: At Archimedes's house

	<i>(Archimedes is sitting in the bath.)</i>
Narrator	The next day whilst relaxing in the bath Archimedes suddenly has an idea ... <i>(Archimedes jumps out of the bath in great excitement)</i>
Archimedes	<i>(Talking to himself.)</i> Eureka! I've found it! When I got into the bath the water level rose. If I place an object with a large volume into the water a large amount of water rises BUT if I place an object with the same weight but a smaller volume the water level only rises by a small amount. I must fetch the king to show him. <i>(Runs off stage. Returns with the king – plus crown and gold.)</i>
Archimedes	<i>(Places the gold into the bath tub.)</i> See how little the water rises?
King Heiron II	Yes but what does it mean?
Archimedes	<i>(Places the crown into the bath tub.)</i> See how much higher the water rises now with the crown? The crown can not be solid gold as it is not dense enough. If the crown was made of gold it would be a lot smaller.
King Heiron II	You are a genius Archimedes. Now someone fetch me that goldsmith!