

***If you only have 30 minutes ...***

Strong readers can recognize the main point of an article and pull out the most pertinent information in the article that supports it.

While reading the article entitled *Can Fig Trees Help Us Adapt to a Changing Climate?*, it becomes clear that the FIGGEN project is an integral part of understanding the importance of fig trees for the past, present and future of agriculture in a world with increasing heatwaves and decreasing precipitation.

After reading the article on your own, hold the FIGGEN project in the forefront of your mind. Write a paragraph answering the following questions:

- A) How did the FIGGEN project come into existence?<sup>1</sup>
- B) Explain what the FIGGEN project's main objective is.<sup>2</sup>
- C) What potential does the information compiled in the FIGGEN project Report stand to provide for the future of fig farmers?<sup>3</sup>
- D) What potential does the information compiled in the FIGGEN project Report offer for agricultural in general in the face of global warming?<sup>4</sup>

Now break into small groups and discuss the information you gathered working alone on reading and summarizing the FIGGEN Project's purpose and importance. Take this information along with other relevant facts from the article and use it to fill out the three-column chart with information that relates to the past, the present and the future of fig trees.

### The Tenses of the Fig Tree

The Past <sup>5</sup>	The Present <sup>6</sup>	The Future <sup>7</sup>

#### Common Core Standard(s) Met:

**CCRA.R.1** Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

**CCRA.R.2** Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

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<sup>1</sup> Riccardo Gucci, a professor of Agrarian Science at University of Pisa in Italy, took inspiration to study the environment in which fig trees grow from a fig tree that he saw growing out of a cliff during a train ride.

<sup>2</sup> Answers may include the following: FIGGEN teams gathered cuttings of 270 varieties of fig trees to investigate in their study; FIGGEN researchers have compiled a list of the best varieties of fig in terms of most tolerant, noting fruit size, juiciness, perishability, and the tree's resistance to disease as factors.

<sup>3</sup> Answers may include the following: FIGGEN aims to provide the first advanced genetic markers associated to the characteristic resilience to drought and salinity and support fig breeders in creating new varieties of figs better adapted to climate change; The FIGGEN study will conclude in 2024 and involves DNA stress testing and analysis of a wide variety of figs in Tunisia, Turkey and Spain.

<sup>4</sup> Answers may include the following: The FIGGEN study aims to plant a seed for preserving the biodiversity of increasingly arid ecosystems; FIGGEN aims to provide the first advanced genetic markers associated to the characteristic resilience to drought and salinity and support fig breeders in creating new varieties of fig even better adapted to climate change; FIGGEN aims to find that rather special resistant gene in figs that makes them resistant to drought conditions encoded within their DNA.

<sup>5</sup> Some Past Possibilities: Figs have been cultivated for 11,400 years and are the oldest-known agricultural crop; figs were farmed across the Mediterranean Basin by the first century CE; the fig's culinary uses and religious symbolism are prevalent in the Bible and the Qur'an; until the 1960s, with the invention of transport vehicles and new technology, figs could not be transported far because they would go bad quickly in the heat and had to be sold locally or consumed at home.

<sup>6</sup> Some Present Possibilities: World Meteorological Report 2011-2020 was the warmest decade on record; land temperatures have increased by 2 degrees Celsius since Industrial times; one thousand two hundred seventy bird and mammal species eat figs, far more than any other fruit as reported by a 2001 Cambridge University study; shade from dense leaf canopies cools hot air and slows evaporation and the flow of rainwater over the ground, limiting erosion and retaining soil moisture and organic matter.

<sup>7</sup> Some Future Possibilities: Fig farmers, breeders and observers around the Mediterranean will be able to benefit from FIGGEN's catalogs; the FIGGEN study identifies the most drought-tolerant fig varieties in Tunisia, Spain and Turkey and will be available in scientific journals in 2024; catalogs will be distributed to dozens of farmers, nurseries and plant breeders so that they may choose the most commercially viable and drought-resistant figs to work with in the future; there is potential for Mediterranean agriculture to adapt to new conditions and allow figs to remain one of the most profitable crops in this area.