

PUZZLERS

#19 | FOOD BUDGET



Puzzle

Develop a monthly food budget and grocery plan for a four-person family household.

Standards & Connections

NGSS.3-5-ETS1, NGSS.MS-ETS1, CCSS.ELA-LITERACY.SL.9-10.4

Background:

Disposable income is the total amount of money available for an individual or population to spend or save after taxes have been paid. U.S. consumers spend about 10% of their disposable personal income on food, while those in other countries spend much more.ⁱ Mexico spends 23% of its disposable income on food, and Nigeria spends 57% of its disposable income on food.ⁱⁱ A budget is a plan for how you plan to spend money. Creating this spending plan allows you to determine in advance whether you will have enough money to do the things you need to do, like eat and pay bills, or would like to do, such as go to the movies.

Suggested Materials:

Access to the internet, calculator, Excel



IDENTIFY

Share the background information with the students, then share the puzzle to be solved. Determine constraints (e.g., time allotted, space, materials provided, etc.) and divide students into small groups.



IMAGINE

Ask a series of questions to help students brainstorm solutions to the puzzle. Encourage students to list all ideas – don't hold back! Before moving on, make sure each group selects a solution that fits within the constraints.

Ask: How can you solve this puzzle? Which of your ideas can you build a prototype for given the constraints?



DESIGN

Students diagram the prototype, identify the materials needed to build the prototype, and write out the steps to take. Students describe the expected outcomes.

Ask: What steps will you take to create your solution? What do you expect your solution to look like and be able to do?



CREATE

Students follow their design plan and build their prototypes. Monitor their progress and remind them about how much time they have.



TEST & IMPROVE

Students evaluate their creation and compare it with the expected outcomes. Students seek areas of improvement and make changes where needed.



SHARE

Students share their solution to the puzzle and communicate lessons learned.

Ask: What was your biggest takeaway? What would you do differently?

Additional Resources:

For more background information on this topic, please visit www.purpleplow.org.



Have students choose different countries and compare their budgets and grocery plans.

¹ USDA. (2018, October 24). Americans budget share for total food changed little during the last 20 years. Retrieved from <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=76967>

² American Farm Bureau Foundation for Agriculture. (2017). Food and farm facts. Pg 5.