Searching for the best threshold value

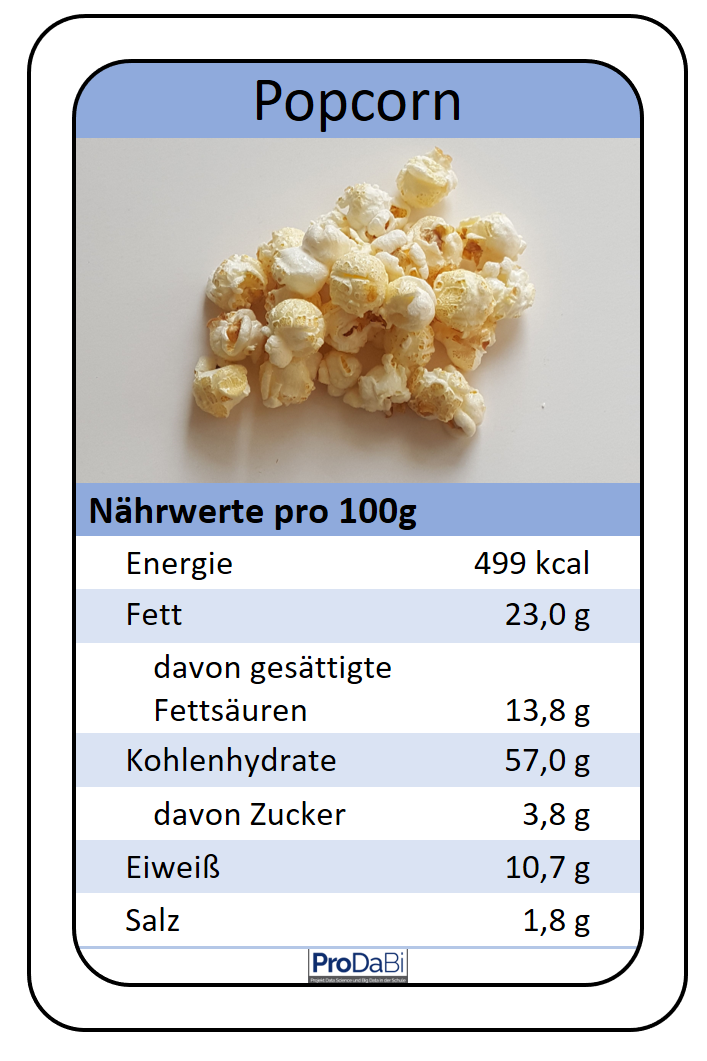
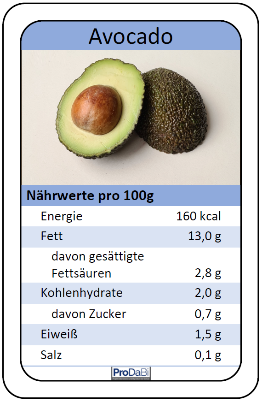
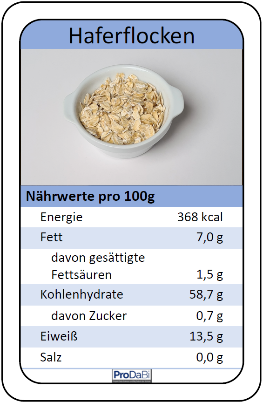
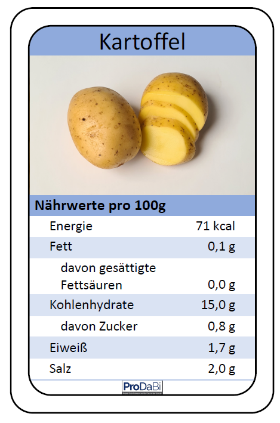
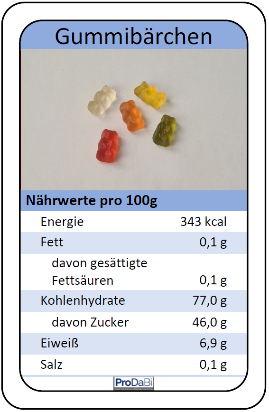
Leo and Pia are looking for a **threshold value** to set up a decision rule with the **feature fat**. They are only working with 11 cards for now. Leo has **sorted** the **cards in ascending order of fatness** and placed a **pencil** between the apple and the raspberry jam**.**

**Leo says:** "With a threshold at the point where my pencil is, only 4 foods are misclassified!"

**Pia replies first:** "You can still find a better place for the threshold value!

**Pia goes on to say:** "What's more, you can't even set a threshold between the apple and the raspberry jam!





**Task 1**: Which 4 foods does Leo mean that are misclassified with his threshold value? Mark the 4 cards with a circle.

**Task 2:** Can you find a better place than Leo to set a threshold value? Mark the point between two foods with a thick, vertical line and label the line with a suitable number for the threshold value. Write a reason in your notebook why your threshold value is better than Leo's.

**Exercise 3**: Is Pia right that there is no suitable threshold value at the place where Leo put the pencil? Write an explanation in your notebook.

**Task 4:** Can you find the best threshold value for the Energy characteristic? Find the right cards from the deck and do exactly the same as Pia and Leo.

Best threshold value for the energy feature: \_\_\_\_\_\_\_\_\_\_\_\_\_