You are the CEO of your own new baking business. There is a fabulous mystery sponsor who has hidden their name in the upcoming maths challenges. Can you identify the name of the mystery sponsor?

Calculate the answer to the following 13 challenges. On the next page you’ll find your secret chocolate chip cookies recipe, that might come in handy in the challenges! At each challenge, use the code in the answers to gain a letter. Unscramble all 13 letters to reveal the sponsor’s name. You will need a calculator—you can use your phone or one online.

Once complete, follow the link and enter your answer. If you are correct you will be admitted to the final page, if not try again- you can do it! Screenshot or take a photo of the final page and tag us in it on Twitter @CastlebraeCHS or email it to Jessica.2.Heatlie@castlebrae.edin.sch.uk. You’ll then get a positive on your Class Charts!

Good luck and enjoy!
Ingredients
Makes 26 Cookies

• 225 g Unsalted Butter
• 100 g Granulated Sugar
• 200 g Light Brown Sugar
• 2 Large Eggs
• 2 tsp Vanilla Extract
• 375 g Plain Flour
• 1 tsp Baking Powder
• 1 tsp Salt
• 360g Chocolate Chips

Method

1. Preheat oven to 180°C. Line a baking sheet with parchment paper. In a large bowl put the butter, brown sugar and white sugar. Using an electric whisk, beat for 5 minutes on medium speed until creamy and light, scraping down the bowl as needed.

2. Add the eggs one at a time, beating well with each addition, scraping down the bowl as needed, then beat in the vanilla.

3. In a separate bowl, sift together the flour, salt and baking powder. Mix to combine. Add the flour mixture to the butter and sugar mixture in thirds, mixing to incorporate with each addition. Fold in the chocolate chips until evenly distributed.

4. Use an ice cream scoop to get even balls of dough. Place scoops of dough onto lined baking sheet about 2 inches apart. This may take 3 baking sheets so you may want to bake in batches. Bake right away or cover and refrigerate until ready to bake.

5. Bake one cookie sheet at a time for 12-15 min at 350°F until edges are just turning golden. The tops should still look under-baked. Allow cookies to cool on the baking sheet for 5 mins then transfer to a rack to cool. Enjoy!
Challenge 1

Your scrumptious cookies are made in a circular shape. How many lines of symmetry are there in a circle?

Answer:
0 - L       1 - A      360 - R      ∞ - H
Challenge 2

Fun Fact: The world’s largest chocolate chip cookie weighed 40,000 lbs. How heavy is this in kilograms?

Hint: 1lb = 0.45kg

Answer:
1,800,000 - P
18,000 - E
1,800 - O
180,000 - S
Old baking books suggest an equal ratio of Butter: Sugar: Flour for cookies. However, you make a soft and chewy cookie so should have slightly more flour and sugar. What is your ratio of Butter: Sugar: Flour in its simplest form?

**Answer**
18:24:28 - M
6:12:10 - N
3:4:5 - C
30:45:50 - K
If you were baking 100 years ago, prices would be quite different:
• Butter cost 8p
• Sugar cost 11p
• Plain Flour cost 4p

In 2020, Butter costs £1.58, Sugar costs £0.91 and Plain Flour costs £0.93.

Which of the ingredients had the smallest percentage increase from 1920 to 2020?

Answer
Butter - A
Sugar - C
Flour - I
None, all the same - Q
Challenge 5

The recipe makes 26 cookies. How many grams of chocolate chips would you need if you were making for the whole school? There are 390 staff and students in total.

Answer
540g - E
720g - Y
3600g - G
5400g - U
Challenge 6

You are preparing to ship your delicious cookies worldwide so you need packaging. There are two options, both are cuboids and hold the same number of cookies. To be efficient you want to reduce the **surface area** of material used. What is the difference in cm² between packaging A and B?

Packaging A: 24cm by 18cm by 7cm
Packaging B: 25cm by 16cm by 9cm

**Surface area** = 2 × h × l + 2 × w × l + 2 × w × h

**Answer**
- 86cm² - R
- 576cm² - C
- 2290cm² - H
- 6224cm² - W
Challenge 7

You have interest from businesses and individuals in many cities across Britain. To begin with, you can deliver to cities within the regions C0, C1, D0, D1 and B4. How many cities can you deliver to?

Answer
4 - L
6 - T
9 - K
10 - S
Challenge 8

You sent some cookies to Spain and people reviewed them:

Review 1: Me encanta porque tiene mucho chocolate.

Review 2: ¡Esta galleta es mi favorito porque es enorme!

Review 3: ¡Muy bien!

Review 4: Me gusta esta galleta porque se descrite en la boca.

Review 5: No me gusta la galleta porque tiene demasiado dulce para mi.

Review 6: Me gusta esta galleta porque es suave.

What fraction of people gave a positive review? Hint: La galleta means cookie

Answer

3/6 - B
4/6 - O
5/6 - I
6/6 - N
Challenge 9

You paid some money to advertise your cookies. Your Instagram had 5468 followers and after 1 week had 7332. Assuming the number of followers continues to increase by this number, how many followers would you expect after 1 year?

Answer
18,640 - I
96,928 - O
102,396 - M
104,260 - K
Challenge 10

National Chocolate Chip Cookie Day occurs in the month that’s number has $\sqrt{36}$ factors.
e.g March = 3, 3 has 2 factors 1 and 3.

The day is number $4! \div 6$. Which day and month is it celebrated?

Hint: $4!$ means $4 \times 3 \times 2 \times 1$

Answer
June 4th- A
June 24th - E
December 4th- N
December 24th- L
Challenge 11

To begin your business you invested £7,000. Your total costs per month are £3,500. How much would you need to charge per cookie to break even in the first year if you predict to sell 50,000 cookies?

Answer
14p - A
98p - E
£1.02 - B
£1.10 - T
You are going to meet the owner of a large chain of bakeries and cake shops. She is interested in buying from you. Each cookie costs 48p for you to make. She asks to make a deal

For a monthly order of 1250 cookies, she would pay £812.50. She is willing make payments each month. How many months will it take for you to make a profit of £500?

Answer:

3- O
2- S
6 - T
12- E
Challenge 13

You already have a super fan! Tommy ate 100 of your cookies in 5 days. Each day he ate 6 more than the day before. How many cookies did he eat on the first day?

Hint: Let the number of cookies on day 1 = $x$.
Then day 2 = $x + 6$ etc.

Answer

3 - P
8 - O
14 - S
30 - V