

Maths - Secondary

Stonewall's home learning packs can be used by parents or carers looking to support their child's learning or by education staff looking to send work home for their students. There is a primary, secondary and SEND version of each pack, with a list of suggested activities and supporting materials for you to pick and choose from. This maths pack features a range of worksheets and questions for your child to work on.

Stonewall is a lesbian, gay, bi and trans equality charity working with employers, schools, colleges and services for LGBT acceptance without exception. Find out more about our work here: www.stonewall.org.uk.

A word on online safety: please make sure you supervise your child when they use YouTube or are using the internet for research. Talk to them about what they should do if they see something that makes them feel uncomfortable or that they think they shouldn't be seeing. Use our [Staying Safe Online](#) resource or the [Childnet](#) website to help you.

Choose the right activity for your child:



a simpler version of the activity



the version of the activity that most students will use



a trickier version of the activity



Activities for Key Stage 3 Students



The dancefloor

Sam and George are planning their wedding. They love dancing, so want there to be a nice dancefloor.

They plan to hire a dancefloor with an area of 64 m^2 . They can't decide whether they'd like the floor to have plain edging or light up edging.

It costs £2.32 per 1 m^2 of flooring. Each floor tile is 1m by 1m.

The plain edging for the floor costs 75p per metre.

The light up edging costs £1.25 per metre

1. What is the minimum possible perimeter of the dancefloor?
2. What is the maximum possible perimeter of the dancefloor?
3. What is the lowest possible cost for the dancefloor?
4. What is the highest possible cost for the dancefloor?
5. What is the difference in cost between a dancefloor with a light up edge and a dancefloor with a plain edge?



The wedding

Sam and George are getting married and have a budget of £4,500 for their reception. 100 people are going to be at the wedding. Help them to plan the wedding reception, choosing from the different options to keep them on budget. You might want to create an Excel spreadsheet to help you.

Venue:

Village hall - £120 per day

Marquee - £600 per day

Stately home - £65 per guest (includes tables, chairs and 3 course dinner)

Table hire - £6.70 per table (each sits 10)

Chair hire - £2.65 per chair

Food:

Buffet - £5 per person

Three course dinner - £32.50 per head

Cheese board buffet - £4 per person

Cake:

Homemade - £20

Supermarket cake - £60

Fancy cake - £300

Entertainment:

DJ - £250

Band - £750

Simple dancefloor - £285

Light up dancefloor - £350

Photo booth - £280

Inflatable games - £500

Decorations:

Fairy lights - £35

Balloons - £10

Flowers - £50 per arrangement

Bunting - £60

Tablecloths - £9.30 per tablecloth



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Entertainment:

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Simple dancefloor – see below

Light up dancefloor – see below

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The plain edging for the floor costs 75p per metre.

The light up edging costs $\text{£}1.25$ per metre

As part of the plan for the wedding, you will need to design the dancefloor. Try several designs. You should take into account which designs are most sensible, but also think about which designs are most cost effective.

Fairy lights

If they hire a marquee, Sam and George are going to need fairy lights. They know that the marquee has an area of 72m^2 but they don't know its perimeter. The fairy lights cost 99p per metre.

As part of the plan for the wedding, you will need to find the potential cost of the fairy lights. You ought to find the minimum and maximum costs.



A new living room

Jehmail and Benson are moving into a new flat. The living room has an area of 28m^2 .

1. What are the possible layouts of the room (assuming that all of the corners are right angles)?
2. Calculate the cost of the different types of flooring for the room.

Flooring:

Laminate - £6 per m^2

Hard wood - £22 per m^2

Carpet - £15 per m^2



A new living room

Jehmail and Benson are moving into a new flat. The living room has an area of 28m^2 .

1. What are the possible layouts of the room (assuming that all of the corners are right angles)?
2. Choose your favourite layout for the room. The ceiling is 2.6m from the floor. Calculate all the possible costs of decorating the room (for example: laminate flooring with branded paint, carpet with own brand paint etc).

Flooring:

Laminate - £6.50 per m^2

Hard wood - £21.50 per m^2

Carpet - £15 per m^2

Paint:

Own brand – 75p per m^2 of coverage

Branded - £1.25 per m^2 of coverage



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1. What are the possible layouts of the room (assuming that all of the corners are right angles)?
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3. Jehmail are keeping the furniture from their old flat. Work out where to put all their furniture – draw a design of the room and make sure everything fits:

Flooring:

Laminate - £6.50 per m^2

Hard wood - £21.50 per m^2

Carpet - £15 per m^2

Paint:

Own brand – 75p per m^2 of coverage

Branded - £1.25 per m^2 of coverage

Furniture dimensions:

Armchair – 104cm x 88cm

Bookshelves x 2 – 80cm x 28cm

Coffee table – 118cm x 78cm

Side table – 55cm x 55cm

Sideboard – 157cm x 88cm

Sofa – 180cm x 88cm

TV bench – 90cm x 26cm



What are the statistics?

Use the statistics from the Stonewall School Report (2017) to answer the questions.

The Stonewall School report was a survey of 3,713 LGBT young people.

- Overall 45% of LGBT students are bullied for being LGBT
- 64% of trans students are bullied for being LGBT
- 57% of non-binary students are bullied for being LGBT
- 60% of disabled students are bullied for being LGBT
- 43% of non-disabled students are bullied for being LGBT
- 86% of LGBT pupils hear people using the phrase “that’s so gay”.
- 36% of LGBT pupils hear negative comments about bi people at school.
- 46% of LGBT pupils hear negative comments about trans people at school?
- 40% of LGBT students have been targeted online with homophobic, biphobic and transphobic abuse.
- 97% of LGBT students see homophobia, biphobia and transphobia online.
- In 2012, 50% of students said that their school said that homophobic bullying is wrong. In 2017 that figure was 68%.
- In 2012, 53% of LGBT students hadn’t learned about LGBT issues in school. In 2017 that figure was 40%.

If you are worried about bullying or are experiencing bullying, please tell an adult or a member of school staff.

You can also visit the [Childline website](#) or call them on 0800 1111

Home Learning Pack: Maths



1. How many LGBT students reported being bullied for being LGBT?
2. How many LGBT students reported hearing the phrase "that's so gay"?
3. How many LGBT students had been targeted online?
4. How many LGBT students had seen homophobia, biphobia or transphobia online?
5. What was the difference in the percentage of disabled LGBT students that were bullied in comparison to percentage of non-disabled LGBT students?



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6. What was the difference in the percentage of LGBT students hearing negative comments about trans people in comparison to percentage who hear negative comments about bi people?
7. 1,614 young people took part in the 2012 school report. What is the percentage change (from 2012 to 2017) in LGBT students learning about LGBT issues in school?
8. What is the percentage change (from 2012 to 2017) in students saying that their school says that homophobic bullying is wrong?
9. Choose 3 statistics from the fact sheet, draw a pie chart for each.



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Activities for Key Stage 4 Students



The wedding

Sam and George are getting married and have a budget of £4,500 for their reception. 100 people are going to be at the wedding. Help them to plan the wedding reception, choosing from the different options to keep them on budget. You might want to create an Excel spreadsheet to help you.

Venue:

Village hall - £120 per day

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Cake:

Home-made - £20

Supermarket cake - £60

Fancy cake - £300

Entertainment:

DJ - £250

Band - £750

Simple dancefloor – see below

Light up dancefloor – see below

Photo booth - £280

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Decorations:

Fairy lights – see below

Balloons - £10

Flowers - £50 per arrangement

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The plain edging for the floor costs 75p per metre.

The light up edging costs $\text{£}1.25$ per metre

As part of the plan for the wedding, you will need to design the dancefloor. Try several designs. You should take into account which designs are most sensible, but also think about which designs are most cost effective.

Fairy lights

If they hire a marquee, Sam and George are going to need fairy lights. They know that the marquee has an area of 72m^2 but they don't know its perimeter. The fairy lights cost 99p per metre.

As part of the plan for the wedding, you will need to find the potential cost of the fairy lights. You ought to find the minimum and maximum costs.



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Research the costs online to help with the budget. You will need to think about:

- A venue
- Table and chair hire
- Food and drink
- Entertainment (for example a DJ or a band)
- Whether you need to hire a dancefloor
- A cake
- Decorations (for example flowers, fairy lights)



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A new living room

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2. Choose your favourite layout for the room. The ceiling is 2.6m from the floor. Calculate all the possible costs of decorating the room (for example: laminate flooring with branded paint, carpet with own brand paint etc).
3. Jehmail and Benson are keeping the furniture from their old flat. Work out where to put all their furniture – draw a design of the room and make sure everything fits:

Flooring:

Laminate - £6.50 per m^2

Hard wood - £21.50 per m^2

Carpet - £15 per m^2

Paint:

Own brand – 75p per m^2 of coverage

Branded - £1.25 per m^2 of coverage

Furniture dimensions:

Armchair – 104cm x 88cm

Bookshelves x 2 – 80cm x 28cm

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3. Jehmail and Benson are buying all new furniture. Use an online furniture store to find some furniture. You should check that it will all fit in the room and calculate how much it will cost.

As a minimum, they will need:

- A sofa
- An armchair
- A bookcase
- A coffee table
- A TV bench



A new living room

Jehmail and Benson are moving into a new flat. The living room has an area of 28m^2 .

1. What are the possible layouts of the room (assuming that all of the corners are right angles)?
2. Choose your favourite layout for the room. The ceiling is 2.6m from the floor. Look online to find the costs of: own brand paint, branded paint, laminate flooring, hard wood flooring and carpet. Calculate all the possible costs of decorating the room (for example: laminate flooring with branded paint, carpet with own brand paint etc).
3. Jehmail and Benson are buying all new furniture. Use an online furniture store to find some furniture. You should check that it will all fit in the room and calculate how much it will cost.

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- 97% of LGBT students see homophobia, biphobia and transphobia online.
- In 2012, 50% of students said that their school said that homophobic bullying is wrong. In 2017 that figure was 68%.
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Home Learning Pack: Maths



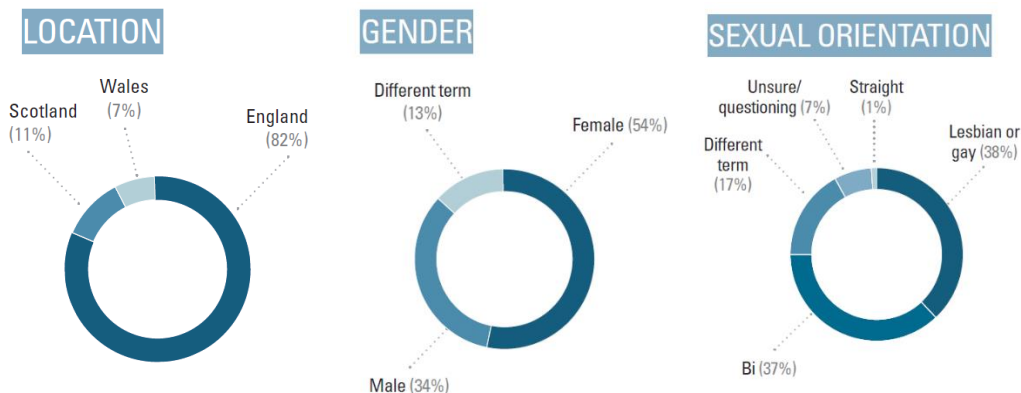
1. How many LGBT students reported being bullied in school for being LGBT?
2. How many more LGBT students had been targeted for online bullying than they had been in school?
3. How many more LGBT students had seen homophobia, biphobia or transphobia online than had personally experienced online bullying?
4. What was the difference in the percentage of disabled LGBT students that were bullied in comparison to percentage of non-disabled LGBT students?
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6. 1,614 young people took part in the 2012 school report. What is the percentage change (from 2012 to 2017) in LGBT students learning about LGBT issues in school? Represent the change using a graph of your choice.
7. What is the percentage change (from 2012 to 2017) in students saying that their school says that homophobic bullying is wrong? Represent the change using a graph of your choice.
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1. How many students from Scotland and Wales combined took part in the survey?
2. How many more girls than boys took part in the survey?
3. How many more girls than people who didn't identify as a boy or a girl took part in the survey?
4. How many students were bi or used a different term for their sexual orientation?
5. How many more LGBT students had seen homophobia, biphobia or transphobia online than had personally experienced online bullying?
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What are the statistics?

Use the statistics from the Stonewall School Report (2017) to answer the questions.

You will find it online [here](#).

Note: *The Stonewall School Report includes some upsetting statistics relating to bullying, mental health difficulties, self-harm and suicide. If you don't want to read this information, look instead at the statistics on the  sheet.*

If you are worried about bullying or are experiencing bullying, please tell an adult or a member of school staff. If you are worried about your own mental health or the mental health of anyone else, talk to an adult or a member of school staff.

You can also contact:

Childline via their [website](#) or call them on 0800 1111

Payrus via their [website](#) or call them on 0800 0614141

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5. What percentage of trans students reported being bullied for being LGBT?
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