2020 Christmas Camp

Parents Guide & Answer Booklet

RocketLearn

Welcome to the RocketLearn Christmas Camp

Welcome to our Christmas Camp booklet!

This booklet gives you the answers to the questions posed in the student workbooks together with some tips on how we teach certain topics which we hope you will find useful.

Each day your child will have an online lesson in Maths and English – maths lessons will go live at 9:30am, 10am and 10:30am for years 3-4, 5-6 and 7-8 respectively (if they miss it, the lessons will remain available – we find children prefer to have a set time though). The English session is daily at 11am and here we will be helping children write their own 500 word story. Each afternoon at 2pm there will be "Afternoon Antics" with our co-founder Mr Garner. Mr Garner will be posing questions to make children think, together with some optional tasks and opportunities to win prizes. Those of you who are RocketLearn members will be familiar with Mr Garner having seen him in our weekly broadcasts.

We have provided each child with a workbook – we ask that you mark the maths using this booklet. For those children who are RocketLearn members, there will also be corresponding work set on our online platforms which will adjust using AI to your child's individual ability.

We very much hope your child enjoys this RocketLearn Camp. RocketLearn is a new way to learn and boost academic achievement. Our members have access to cutting edge online learning platforms overseen by a personal academic coach who sets work and provides monthly reports on progress. We aim to bring the best of education technology to families directly with professional teacher intervention and support where needed. Completing an hour of RocketLearn activities weekly is extremely beneficial for the academic achievement of children and it also inspires a love of learning. The individual approach means that RocketLearn works for all – children who need stretching or those who need a little extra support.

We hope the camp gives you a flavour of RocketLearn, and if you think your child would benefit from signing up to their own tailored programme please do visit www.rocketlearn.co.uk – we have a heavily discounted pilot launching in Jan '21.

The RocketLearn Team.

Answers

Bronze – Mathematics

Day 1 – Equivalent Fractions

Answers

(1) $^4/_8$ (2) $^4/_6$ (3) $^2/_5$ (4) $^2/_8$ (5) $^8/_{12}$ (6) $^4/_{10}$ (7) $^2/_8$ (8) $^4/_6$ (9) $^4/_{12}$

(10) A diagram with either 3/4 or 9/12 segments coloured in (11) A diagram with with 1/2 or 4/8 segments coloured in.

(12) $^2/_4 = {^4/_8} = {^8/_{16}}$ (13) $^2/_8 = {^3/_{12}} = {^4/_{16}}$ (14) $^2/_{10} = {^3/_{15}} = {^4/_{20}}$

(15) $^4/_6 = {^6/_9} = {^8/_{12}}$ (16) $^8/_{12} = {^{10}/_{15}} = {^{12}/_{18}}$ (17) $^{16}/_{20} = {^{20}/_{25}} = {^{24}/_{30}}$

(18) $^8/_{28} = {^{10}/_{35}} = {^{12}/_{42}}$ (19) $^{24}/_{54} = {^{28}/_{63}} = {^{32}/_{72}}$

Notes for parents:

Fractions are hard for children; fractions look strange and they exist as a concept almost entirely outside of children's daily experience. If your child is struggling, this is quite normal at first! The key points to emphasise are:

- Fractions are numbers between 0 and 1
- Different fractions can be exactly the same size
- The bottom of a fraction is the underlined denominator; the denominator determines how many segments '1 whole' has been split into. Please use the correct terminology at all times when discussing mathematics with your child - this is important.
- The top of the fraction is the numerator. The underlined numerator tells you how segments of the denominator are being referred to.

There are some underlined fraction walls in day one of the booklet which are useful for explaining these concepts. Showing your child visually that 2 halves = one whole, 4 quarters = one whole etc., can be quite powerful and this also leads nicely into discussions around how $\frac{1}{2} = {^2/_4} = {^4/_8}$. Explaining this concept as you break up a large bar of chocolate is also a sure-fire way to get your child's attention (and have lots of fun!) with this challenging topic.

The Day 1 activities also introduce the concept of using mathematics to work out equivalent fractions in addition to using the fraction walls. It does this in the form of sequences and this affords the opportunity to emphasise that if you multiply or divide the numerator and denominator by the same amount, then you are left with a fraction that is exactly the same number, despite looking different.

Finally, don't worry if your child doesn't finish all of the questions - please ask your child to stop after 30 minutes. We've got a whole week to revisit concepts and we want to keep your child nice and enthusiastic!

Answers

Bronze – Mathematics

Day 2 – Counting in fractions

Answers

(1) $^6/_9$ & $^8/_9$ (2) $^2/_7$ & $^5/_7$ (3) ⅕ & ⅗ (4) $^5/_{10}$ & $^7/_{10}$ & 1 (5) $^2/_4$ & ¾ & 1 (6) ⅕ & ⅖ & ⅗ & ⅘ & 1

In the Zone: ⅓ & ⅔ & 1

(7) $^2/_{10}$ & $^4/_{10}$ & $^6/_{10}$ & $^8/_{10}$ & 1 (8) $^2/_8$ & $^4/_8$ & $^6/_8$ & 1 (9) 1 ⅔ & 2 & 2 ⅔ & 3

(10) 1 ½ & 2 & 2 ½ & 3 (11) $^9/_{10}$ & 1 $^5/_{10}$ & 2 $^1/_{10}$ & 2 $^4/_{10}$

Notes for parents:

In today's lesson, we focus on how only the numerator changes when we count in fractions. We particularly focus on when we get to 'one whole' – as this reinforces our definition that a fraction is a number between 0 and 1. This is why we also look at mixed numbers today so that the children get a sense of counting up 'in-between' numbers.

Day 3 – Tenths and hundredths

Answers

Up and running (Left to right): One tenth & $^1/_{10}$. / seven tenths & $^7/_{10}$ / three tenths & $^3/_{10}$ / nine tenths & $^9/_{10}$

In the Zone: Letter X (a) two tenths (b) $^2/_{10}$ / Letter Y (a) five tenths (b) $^5/_{10}$ / Letter Z (a) Eight tenths (b) $^8/_{10}$

(1) $^6/_{10}$ (2) $^8/_{10}$ (3) $^1/_{10}$ (4) 1 or $^{10}/_{10}$

Genius Level Part 1: (1a) Thirty-four hundredths (1b) $^{34}/_{100}$ (2a) Seventy-eight hundredths (2b) $^{78}/_{100}$

Genius level Part 2: (5) $^{70}/_{100}$ (6) $^{40}/_{100}$ (7) $^8/_{10}$ (9) $^4/_{10}$ (10) $^5/_{10}$ & $^{50}/_{100}$ (11) $^2/_{10}$ & $^{20}/_{100}$ (12) $^8/_{10}$ & $^{80}/_{100}$ (13) $^{43}/_{100}$ (14) $^6/_{10}$ & $^7/_{100}$

Answers

Bronze – Mathematics

Day 4 - Counting in fractions

Answers

Getting up and running: (1) ¾ (2) $^{5}/_{10}$ (3) ⅘ (4) $^{5}/_{9}$ (5) $^{9}/_{10}$ (6) $^{4}/_{12}$

In the zone now: (7) ⅔ (8) $^{2}/_{4}$ or ½ (9) $^{9}/_{11}$ (10) $^{4}/_{11}$ (11) $^{2}/_{9}$ (12) $^{7}/_{12}$

Genius Level: (13) $^{6}/_{9}$ or ⅔ (14) $^{6}/_{12}$ or ½ (15) $^{1}/_{11}$ (16) ⅜ (17) $^{4}/_{7}$ (18) $^{1}/_{15}$

Day 5 - Round up and quiz

After today's lesson, there is an online quiz. Your child can undertake this at: bit.ly/RLXMASMATH

This is a multiple choice quiz to help the children review what they have learned (RocketLearn members - your academic coach will go through any gaps with you). It is based upon all the work that we have completed in the booklet this week. The children will immediately see how they have scored and they can re-take it if they wish. Scores of 10+ will result in an electronic certificate being sent to you.

Answers

Silver – Mathematics

<u>Day 1 - Simplifying fractions</u>

Answers

Getting up and running: (1) $\frac{1}{5}$ (2) $\frac{3}{4}$ (3) $\frac{1}{2}$ (4) $\frac{2}{3}$ (5) $\frac{5}{6}$ (6) $\frac{1}{3}$

in the zone now: (7) $\frac{4}{5}$ (8) $\frac{1}{3}$ (9) $\frac{1}{4}$ (10) $\frac{2}{3}$ (11) $\frac{5}{6}$ (12) $\frac{4}{5}$ (13) $\frac{1}{3}$ (14) $\frac{2}{3}$

Getting harder: (15) $\frac{3}{10}$ (16) $\frac{17}{20}$ (17) $\frac{3}{5}$ (18) $\frac{11}{25}$ (19) $\frac{2}{5}$ (20) $\frac{7}{12}$ (21) $\frac{7}{8}$ (22) $\frac{4}{9}$

Notes for parents:

Fractions are hard for children; fractions look strange and they exist as a concept almost entirely outside of children's daily experience. If your child is struggling, this is quite normal at first! The key points to emphasise are:

- Fractions are numbers between 0 and 1
- Different fractions can be exactly the same size
- The bottom of a fraction is the <u>denominator;</u> the denominator determines how many segments '1 whole' has been split into. Please use the correct terminology at all times when discussing mathematics with your child - this is important.
- The top of the fraction is the numerator. The <u>numerator</u> tells you how segments of the denominator are being referred.

The Day 1 activities introduce the concept of using mathematics to simplify fractions. It does so by introducing <u>common factors</u> (numbers that you can divide the numerator and denominator by). To find the most simplified form of a fraction, you need to use the <u>highest common factor.</u> Simplifying fractions shows children the importance of knowing their times tables by heart.

Finally, don't worry if your child doesn't finish all of the questions - please ask your child to stop after 30 minutes. We've got a whole week to revisit concepts and we want to keep your child nice and enthusiastic!

Answers

Silver – Mathematics

Day 2 – Equivalent Fractions

Answers

Getting up and running: (1) $\frac{4}{5}$ & $\frac{8}{10}$ (2) $\frac{2}{3}$ & $\frac{4}{6}$ (3) $\frac{1}{2}$ & $\frac{4}{8}$ (4) $\frac{5}{8}$ & $\frac{10}{16}$

in the zone now: (5) $\frac{4}{16}$ & $\frac{5}{20}$ & $\frac{6}{24}$ (6) $\frac{8}{12}$ & $\frac{10}{15}$ & $\frac{12}{18}$ (7) $\frac{12}{40}$ & $\frac{15}{50}$ & $\frac{18}{60}$ (8)

Genius level: (9) $\frac{8}{12}$ (10) $\frac{6}{14}$ (11) $\frac{42}{48}$ (12) $\frac{40}{100}$ (13) $\frac{16}{36}$ (14) $\frac{75}{100}$

And finally: (15) $\frac{6}{7}$ (16) $\frac{11}{12}$ (17) $\frac{7}{20}$ (18) $\frac{2}{3}$ (19) $\frac{5}{6}$ (20) $\frac{3}{4}$ (21) $\frac{3}{8}$ (22) $\frac{17}{25}$

Notes for parents:

In today's session, we introduce <u>common multiples</u> as the opposite of common factors. We are also reinforcing that with equivalent fractions, whatever you do to one part of a fraction, you must do to the other. We also practice simplifying fractions once more using common factors.

Day 3 – Comparing / Ordering Fractions

Answers

Getting up and running: (Less than half) $\frac{40}{100}$ & $\frac{10}{40}$ & $\frac{3}{7}$ (one half) $\frac{25}{50}$ & $\frac{2}{4}$ & $\frac{16}{32}$ (between half and one) $\frac{4}{6}$ & $\frac{8}{14}$

in the zone now: (2) $\frac{5}{8}$ (3) $\frac{2}{5}$ (4) $\frac{3}{4}$ (5) $\frac{1}{3}$

Genius level: (6) > (7) < (8) < (9) > (10) < (11) > (12) < (13) >

Day 4 – Fractions; Addition / Subtraction

Answers

Getting up and running: (1) $\frac{2}{3}$ (2) $\frac{2}{4}$ or $\frac{1}{2}$ (3) $\frac{9}{11}$ (4) $\frac{4}{11}$ (5) $\frac{2}{9}$ (6) $\frac{7}{12}$

in the zone now: (7) $\frac{4}{8}$ & $\frac{7}{8}$ (8) $\frac{10}{12}$ & $\frac{1}{12}$ (9) $\frac{3}{9}$ & $\frac{8}{9}$ (10) $\frac{8}{10}$ & $\frac{1}{10}$

Genius level: (11) $\frac{4}{6}$ or $\frac{2}{3}$ (12) $\frac{9}{10}$ (13) $\frac{4}{6}$ or $\frac{2}{3}$ (14) $\frac{5}{12}$

Answers

Silver - Mathematics

Day 5 - Round up and quiz

After today's lesson, there is an online quiz. Your child can undertake this at: bit.ly/RLSILVERMATHS

This is a multiple choice quiz to help the children review what they have learned (RocketLearn members - your academic coach will go through any gaps with you). The children will immediately see how they have scored and they can re-take it if they wish. Scores of 10+ will result in an electronic certificate being sent to you.

Answers

Gold – Mathematics

Day 1 – Simplifying fractions

Answers

Getting up and running: (1) ½ (2) ¼ (3) ⅓ (4) ¼ (5) ⅕ (6) ⅗ (7) ⅔ (8) ⅔ (9) ¾

in the zone now: (10) ¾ (11) ⅖ (12) ¾ (13) $^7/_{10}$ (14) ⅘ (16) ⅔

Getting harder: (17) a ⅒ b ¼ c ¾ d $^7/_{10}$ (18) a ⅒ b ⅛ c $^1/_{20}$ d ⅝

Genius Level: (19) ⅝ (20) $^{13}/_{20}$

_____

Notes for parents:

Fractions are hard for children; fractions look strange and they exist as a concept almost entirely outside of children's daily experience. If your child is struggling, this is quite normal at first! The key points to emphasise are:

- Fractions are numbers between 0 and 1
- Different fractions can be exactly the same size
- The bottom of a fraction is the denominator; the denominator determines how many segments '1 whole' has been split into. Please use the correct terminology at all times when discussing mathematics with your child - this is important.
- The top of the fraction is the numerator. The numerator tells you how segments of the denominator are being referred to.

The Day 1 activities introduce the concept of using mathematics to simplify fractions. It does so by introducing common factors (numbers that you can divide the numerator and denominator by). To find the most simplified form of a fraction, you need to use the highest common factor. Simplifying fractions shows children the importance of knowing their times tables by heart.

We also introduce some mastery level word problems to really challenge!

Finally, don't worry if your child doesn't finish all of the questions - please ask your child to stop after 30 minutes. We've got a whole week to revisit concepts and we want to keep your child nice and enthusiastic!

Answers

Day 2 - Comparing / Ordering Fractions

Answers

Getting up and running: (Less than half) $^{40}/_{100}$ & $^{10}/_{40}$ & $^{3}/_{7}$ (one half) $^{25}/_{50}$ & $^{2}/_{4}$ & $^{16}/_{32}$ (between half and one) $^{4}/_{6}$ & $^{8}/_{14}$

In the zone now: (2) ⅝ (3) ⅖ (4) ¾ (5) ⅓

You're totally flying now: (6) > (7) < (8) < (9) > (10) < (11) > (12) < (13) >

Genius Level Part 1: (14) ⅙, ¼, ⅓, $^{5}/_{12}$ (15) ⅛, $^{3}/_{16}$, ¼, $^{3}/_{2}$ (16) $^{13}/_{10}$, $^{7}/_{5}$, $^{145}/_{100}$, $^{3}/_{2}$

Genius Level Part 2: (14b) $^{2}/_{6}$, $^{2}/_{7}$, ¼, ⅕ (15b) $^{11}/_{12}$, ⅚, ⅘, ⅔ (16b) $^{15}/_{8}$, $^{9}/_{5}$, $^{7}/_{4}$, $^{17}/_{10}$

Super challenge: (17) $^{9}/_{40}$ (18) $^{4}/_{9}$

Day 3 - Fractions; Addition / Subtraction

Answers

Getting up and running: (1) $^{4}/_{8}$ & ⅞ (2) $^{3}/_{9}$ & $^{8}/_{9}$ (3) $^{10}/_{12}$ & $^{1}/_{12}$ (4) $^{8}/_{10}$ & ⅒

in the zone now: (5) $^{4}/_{6}$ or ⅔ (6) $^{9}/_{10}$ (7) $^{4}/_{6}$ or ⅔ (8) $^{5}/_{12}$

Genius level: (8) 2 + 3 = 4 $^{5}/_{7}$ (9) 61–37 = 3 $^{24}/_{100}$ or 3 $^{6}/_{25}$ (10) 1 $^{2}/_{12}$ or 1 ⅙ (11) $^{3}/_{6}$ or ½

(12) 3 $^{9}/_{12}$ or 3 ¾ (13) 2 $^{29}/_{100}$ (14) 7 $^{21}/_{40}$ (15) 6 $^{11}/_{18}$

Day 4 - Multiplying pairs of fractions

Answers

In the zone all the way: (1) ⅒ (2) $^{1}/_{12}$ (3) $^{3}/_{40}$ (4) $^{45}/_{120}$ / ⅜ (5) $^{12}/_{40}$ / $^{3}/_{10}$ (6) $^{28}/_{50}$ / $^{14}/_{25}$

(7) $^{24}/_{90}$ / $^{4}/_{15}$ (8) $^{14}/_{24}$ / $^{7}/_{12}$ (9) $^{66}/_{88}$ / ¾ (10) $^{20}/_{15}$ / $^{4}/_{3}$ / 1 ⅓ (11) $^{78}/_{63}$ / $^{26}/_{21}$ / 1 $^{5}/_{21}$

(12) $^{72}/_{30}$ / $^{12}/_{5}$ / 2 ⅖

Answers

Gold - Mathematics

Day 5 - Round up and quiz

After today's lesson, there is an online quiz. Your child can undertake this at: bit.ly/RLGOLDMATHS

This is a multiple choice quiz to help the children review what they have learned (RocketLearn members - your academic coach will go through any gaps with you). The children will immediately see how they have scored and they can re-take it if they wish. Scores of 10+ will result in an electronic certificate being sent to you.

Guidance

English

The focus for the English is to encourage your child to write a Christmas-themed 500 word story. Many children will already be familiar with this type of fiction writing, given that millions of children enter the BBC Radio 2 five-hundred word competition each year.

Your child will already receive lots of guidance on SPAG (Spelling, Punctuation and Grammar) - that is, technical proficiency in writing, at school. So rather than looking at (and worrying) about this, we're going to deliberately focus on the creative side of the story writing process.

So we're going to be thinking about genres and characters and plotting and dilemmas and backstories and story mountains! All the good stuff that encourages imagination and is great fun (and reminds children that THEY DO really love English!)

The only rule with this story is that none of the characters are allowed to expire, perish, croak, give up the ghost or otherwise exsanguinate (you'd be amazed at the number of children, who, rather than think up a compelling ending for their fabulous story, simply bump off all the main characters with a flick of the pen in a cataclysmic asteroid impact / volcanic explosion / alien invasion etc!)

Do support your child with the story if you are able - we guarantee that you will have a fabulous time going on flights of fancy together as you think up new characters and story lines!

If your child would like to enter our 500 word competition, please submit their entries to info@rocketlearn.co.uk We don't mind if these are submitted in typed form, or by way of taking photos of the stories. The deadline for submissions is 23:59 on the 31st December 2020 - with Amazon vouchers being awarded for the best entries.

Thank you from the founders

We hope your child(ren) enjoyed the Christmas Camp and it has given you a little insight into us. As former Heads we are passionate about using the best of educational technology together with teacher expertise to give children a personalised learning journey.

On RocketLearn there is no need for booklets or scheduled lessons – all work is done via the latest electronic learning platforms, using Artificial Intelligence (AI) so that children have questions that adapt to their pace of learning.

We believe every child is different and learns differently. We also know how important it is that parents are involved in their child's learning journey. An important aspect of our programme is the monthly feedback in the form of a report enabling you to see how your child has progressed and to enable targeted intervention where needed. For example it might be that a child is outstanding at mathematics yet struggles with a certain topic; with our platforms, we can immediately difficulties and remedy these through specific learning.

In short, RocketLearn combines the best of technology with years of teaching experience to offer a cost-effective and efficient way to improve academic performance – irrespective of your child's present academic ability.

We currently have pupils who are working way beyond the expectations for their year group together with those who have fallen behind. Spending an hour a week on our programme leads to significant improvement for children. We are proud of RocketLearn and believe there to be nothing else like it on the market – having launched in September 2020 we have been overwhelmed with the positive feedback we have received from our small, but growing, community.

If you would like to learn more please do give us a call, visit our website or email us at info@rocketlearn.co.uk. In the meantime Happy Christmas!

Philip Garner & David Winfield
Founders, RocketLearn

PS, in January we are launching a heavily discounted 12 week programme for families. If you would like to see how RocketLearn could boost your child's performance and equip you as a parent with the tools and knowledge to further support them, please do sign up!