

# Discussion Problems

## Step 1: Months and Years

### National Curriculum Objectives:

Mathematics Year 3: (3M4e) [Know the number of seconds in a minute and the number of days in each month, year and leap year](#)

### About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 3 Time](#) resources.

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Months and Years

1. Read the information about Alice to work out the answers to the questions below.

I was born on 29<sup>th</sup> February 2004 and I am 15 years old. When it is a leap year, I celebrate my birthday on 29<sup>th</sup> February but all other years I celebrate on the 28<sup>th</sup>. My grandma sends me an extra special birthday card when I celebrate on the 29<sup>th</sup>.



- A. List the years when Alice has been able to celebrate on 29<sup>th</sup> February.
- B. List the years when Alice has celebrated on 28<sup>th</sup> February.
- C. How many extra special birthday cards has she received?
- D. Will she receive an extra special card from her grandma on her 18<sup>th</sup> birthday?

DP

2. The Trans-Siberian train travels 9,289km from Moscow to Vladivostok.

The journey takes 7 days.

Departs Moscow	Arrives Vladivostok
30.1.19	
	4.4.19
28.4.19	
	2.6.19
30.8.19	

Complete the table above with the correct dates.

DP

Months and Years

1. Read the information about Alice to work out the answers to the questions below.

I was born on 29<sup>th</sup> February 2004 and I am 15 years old. When it is a leap year, I celebrate my birthday on 29<sup>th</sup> February but all other years I celebrate on the 28<sup>th</sup>. My grandma sends me an extra special birthday card when I celebrate on the 29<sup>th</sup>.



A. List the years when Alice has been able to celebrate on 29<sup>th</sup> February.

2008, 2012, 2016

B. List the years when Alice has celebrated on 28<sup>th</sup> February.

2005, 2006, 2007, 2009, 2010, 2011, 2013, 2014, 2015, 2017, 2018, 2019

C. How many extra special birthday cards has she received?

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D. Will she receive an extra special card from her grandma on her 18<sup>th</sup> birthday?

No, she will not turn 18 during a leap year.

DP

2. The Trans-Siberian train travels 9,289km from Moscow to Vladivostok.

The journey takes 7 days.

Departs Moscow	Arrives Vladivostok
30.1.19	6.2.19
28.3.19	4.4.19
28.4.19	5.5.19
26.5.19	2.6.19
30.8.19	6.9.19
Children may complete the blanks with various answers, for example:	
26.9.19	3.10.19

Complete the table above with the correct dates.

DP