Lesson Printables

Be a rockstar and only print what you need!

Planners: 2-3		
Challenge Cards Sunlight: 4 Twilight: 5 Midnight: 6	**Extras** Recording Log: 7 Sentence Stems: 8	**Answers** Sunlight: 9 Twilight: 10 Midnight: 11

**Printing in the US? Scale to 'fit to printable area' in order to get the best print.*

LESSON 1: Division - Making equal groups

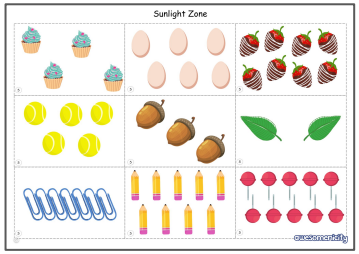
Starter	Main Activity and Input: Explore which numbers can be shared between equal groups.	Plenary
Jersey Match: Can students match the missing numbers on the shoes to a jersey number? **To support:** 1. Ask students how they could rewrite some of the sentences in order to help them find a match. For example, 7 + ? = 17 could be written as 17 - 7 = ?. Students could also count on from 7 until they reach 17. **To challenge:** 1. Students could write their own number sentences using any operation that could match each jersey.	*This lesson is set up as an exploration into dividing numbers into equal groups. It will be helpful for students to have their own counters, blocks or manipulatives, so they can physically divide them into equal groups. Please note, in this lesson we have not explicitly covered any division vocabulary like dividend, divisor, quotient or remainder. These will be discussed at length in future lessons. If appropriate, you might wish to discuss these terms with your class during the lesson.* **Input:** 1. Slide 6 shows the division symbol. What does it mean? What words could connect to it? How does it work when used in a number sentence? Get students to share their ideas as a class. These might include discussing words like divide, split, share, give, equal groups, etc. 2. Slide 7 shows 8 donuts. Ask students how they could share the donuts equally. Provide students with counters or blocks so that they can physically explore all the different ways they can divide 8 into equal groups. What does equal mean? Elicit from students that each group must have the same amount of donuts in order for the groups to be equal. All of the possible groupings are modelled on the remaining slides of the lesson. 3. Slides 8 and 9 show that 8 donuts could be shared or divided into 8 equal groups. Slide 9 provides a division number sentence and tape diagram to match the thinking steps. They show that 8 can be divided into 8 groups with 1 donut in each group. You could get students to physically do this with their counters in order to concretely show dividing 8 into 8 groups. Students would gather 8 counters and then draw 8 circles to represent the 8 groups. Next, they would place a counter in each group until they run out of counters. Ask students if each group has the same amount of counters. Yes, so 8 can be divided evenly by 8. 4. This process is repeated for slides 10 to 15. Continue to use the same terminology. For example, '8 donuts shared/divided between x groups'. You could continue to get students to physically create each division scenario using their counters or blocks. For example, for 8 ÷ 2, draw 2 groups/circles and then count out 8 counters, alternating placing the counters in one circle and then the other until they run out of counters. 5. Slide 16 is animated to show all of the different ways students could have shared 8 between equal groups. 6. The whole process is repeated on slides 16 to 21 to show sharing the number 7. Slide 20 shows that 7 can't be shared between 2 equal groups. This means it is not divisible by 2. You could extend this and ask students if 7 can be shared between 3 groups. Can they draw 3 circles and then count out 7 counters, alternating between the groups? What do they notice? Are the groups equal? Elicit from students that the groups are not equal, so 7 can not be shared between 3 equal groups. **Activity: Exploring sharing.** 1. Print and cut out the picture cards and number cards. Provide students with counters or blocks and let them explore how many different ways each number can be shared equally. Students could stick the cards in their books or take one, solve it and then return it to a pile for others to use. *Note, students do not need to complete all of the challenge cards. This activity could be complete individually, in pairs or small groups.* **To support:** 1. Sunlight Zone explores dividing numbers up to 10. 2. Provide students with the optional organiser in order to help them show their thinking. Sentence stems can also be used to help students describe how they have made equal groups. See printables. **To challenge:** 1. Encourage students to write a division number sentence to match their picture. Can they use the words 'share' and 'groups' to explain their thinking?	**Get Grouping:** How many different ways can students group the class equally? This could have many permutations. E.g. How could you group the boys/girls? How would you group the number of students that have pets? Etc. **Discuss:** 1. Can students identify any equal groups found in the class?

Things that might be useful for this lesson:

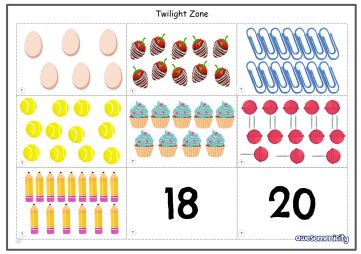
- Individual whiteboards:
  - ➔ Help students to record their thinking and share ideas with others.
- Counters/blocks:
  - ➔ Help students to physically divide items into equal groups.

Peek at the Printables:

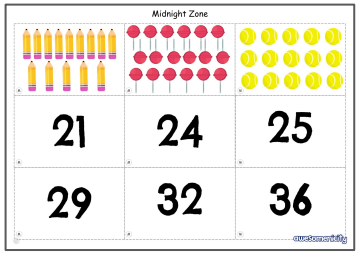
Sunlight Zone



Twilight Zone



Midnight Zone



Greener Alternatives:

➔ Create your own collections of items in stations around the class. E.g. Put a rubber band around 10 pencils and then ask students to explore how many different ways they can evenly share 10 pencils. You could also include just numbers as per the printables. Students could move from station to station to create their number sentences.

Sunlight Zone

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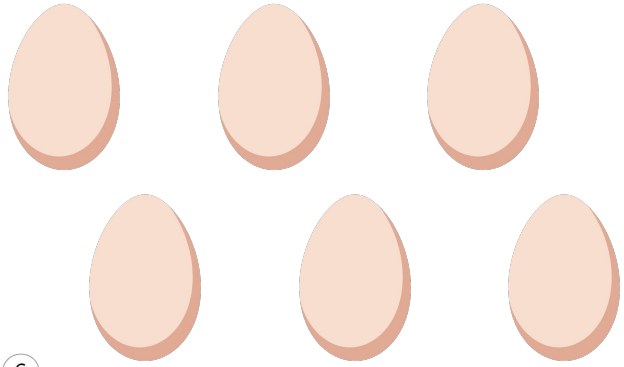

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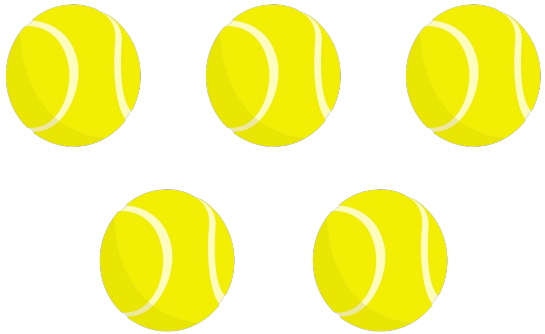

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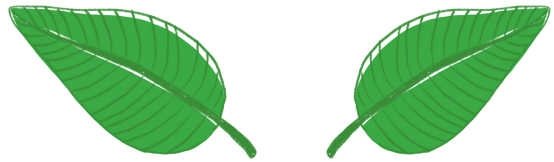

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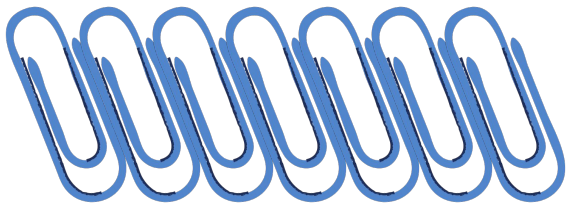

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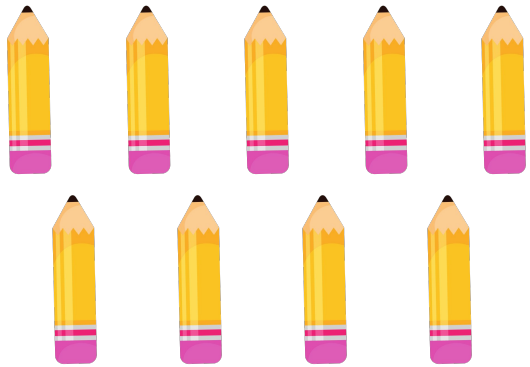

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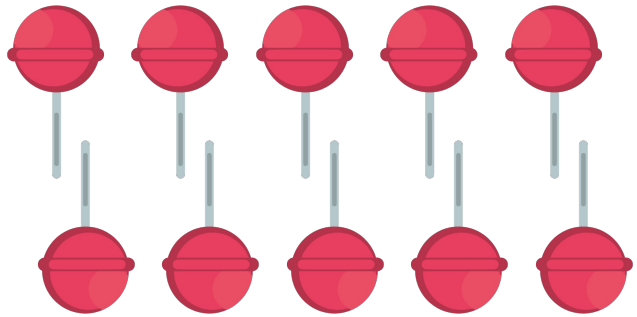

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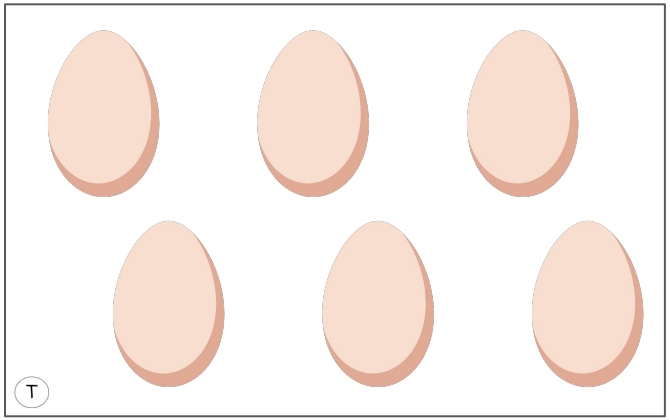
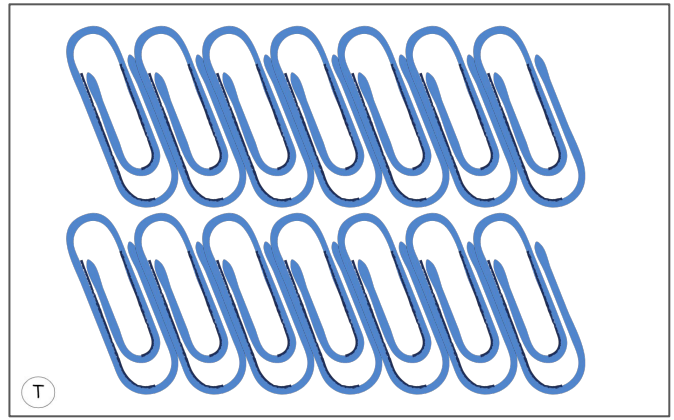
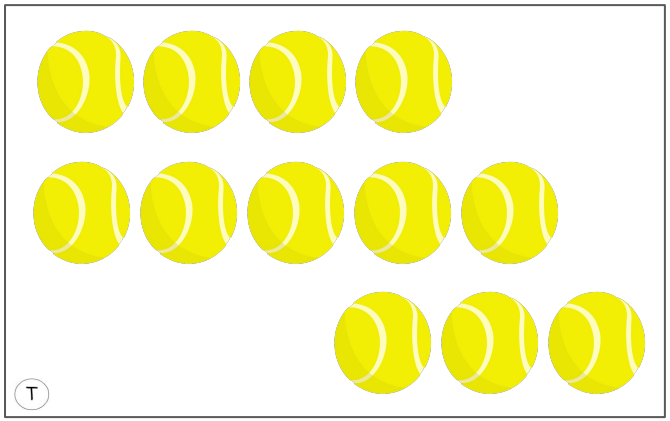
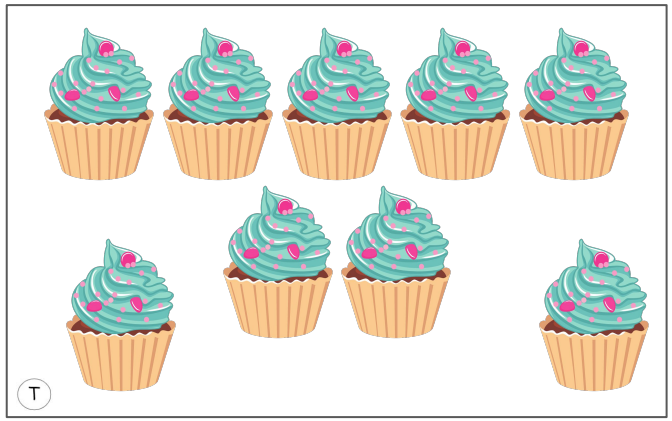
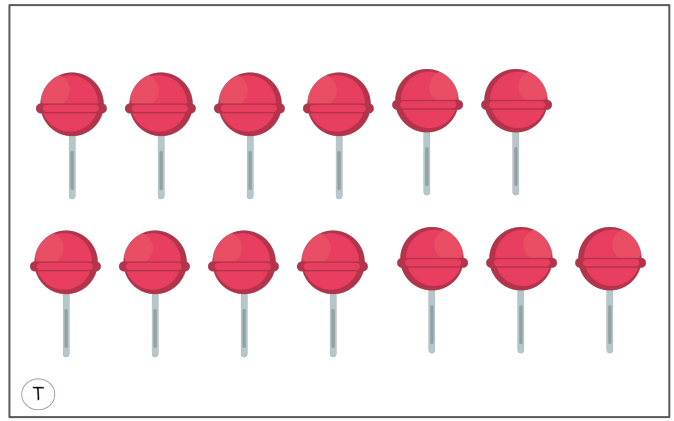
Twilight Zone

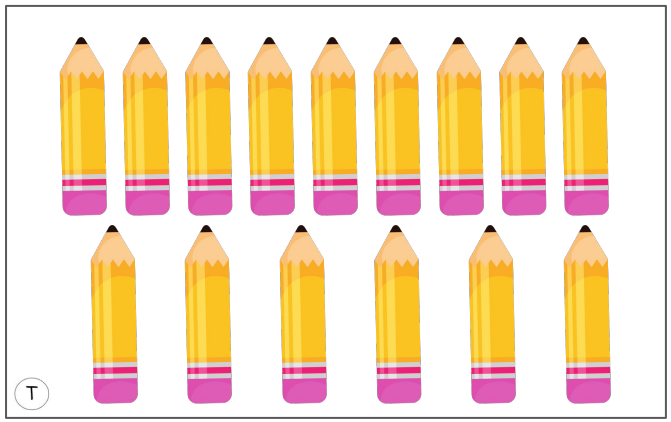












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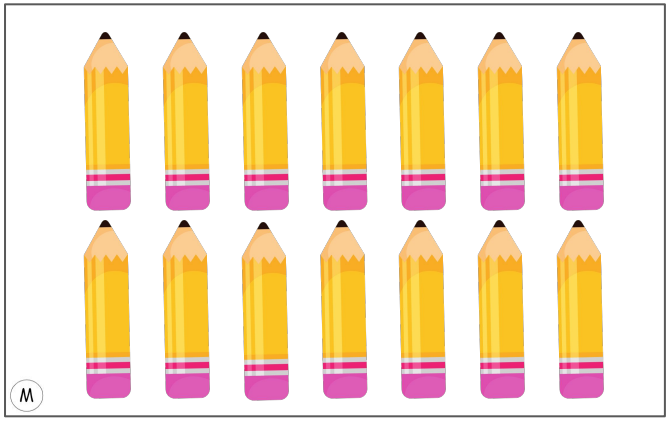
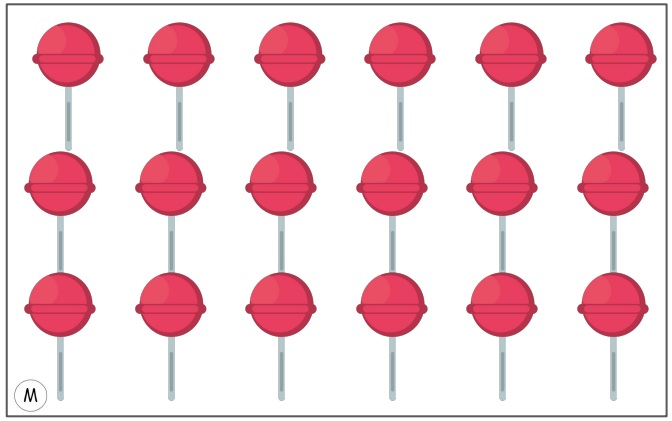
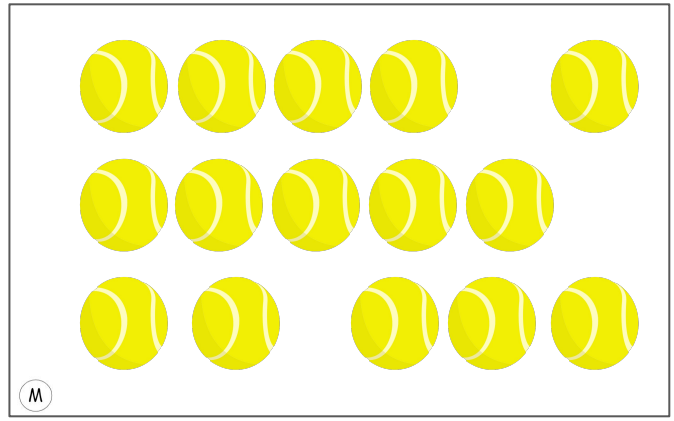
Midnight Zone







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24

25

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32

36

Optional Organiser

Picture

Number Sentence

I shared _____ between _____ groups.

There are _____ in each group.

Picture

Number Sentence

I shared _____ between _____ groups.

There are _____ in each group.

Sentence Stems

I shared _____ between _____ groups.

There are _____ in each group.

I shared _____ between _____ groups.

There are _____ in each group.

I shared _____ between _____ groups.

There are _____ in each group.

I shared _____ between _____ groups.

There are _____ in each group.

I shared _____ between _____ groups.

There are _____ in each group.

I shared _____ between _____ groups.

There are _____ in each group.

Sunlight Answers

Below shows all of the possible solutions. Students do not need to find all solutions.

Cupcakes	4 ÷ 4 = 1 4 ÷ 2 = 2 4 ÷ 1 = 4
Eggs	6 ÷ 6 = 1 6 ÷ 1 = 6 6 ÷ 2 = 3 6 ÷ 3 = 2
Strawberries	8 ÷ 8 = 1 8 ÷ 1 = 8 8 ÷ 2 = 4 8 ÷ 4 = 2
Tennisballs	5 ÷ 5 = 1 5 ÷ 1 = 5
Acorns	3 ÷ 1 = 3 3 ÷ 3 = 1

Leaves	2 ÷ 1 = 2 2 ÷ 2 = 1
Paperclips	7 ÷ 1 = 7 7 ÷ 7 = 1
Pencils	9 ÷ 1 = 9 9 ÷ 9 = 1
Lollipops	10 ÷ 10 = 1 10 ÷ 1 = 10 10 ÷ 2 = 5 10 ÷ 5 = 2

Twilight Answers

Below shows all of the possible solutions. Students do not need to find all solutions.

Eggs	6 ÷ 6 = 1 6 ÷ 1 = 6 6 ÷ 2 = 3 6 ÷ 3 = 2
Strawberries	10 ÷ 10 = 1 10 ÷ 1 = 10 10 ÷ 2 = 5 10 ÷ 5 = 2
Paperclips	14 ÷ 14 = 1 14 ÷ 1 = 14 14 ÷ 2 = 7 14 ÷ 7 = 2
Tennisballs	12 ÷ 12 = 1 12 ÷ 1 = 12 12 ÷ 2 = 6 12 ÷ 6 = 3 12 ÷ 4 = 3 12 ÷ 3 = 4
Cupcake	9 ÷ 1 = 9 9 ÷ 9 = 1

Lollipops	13 ÷ 1 = 13 13 ÷ 13 = 1
Pencils	15 ÷ 1 = 15 15 ÷ 15 = 1 15 ÷ 3 = 5 15 ÷ 5 = 3
18	18 ÷ 1 = 18 18 ÷ 18 = 1 18 ÷ 2 = 9 18 ÷ 9 = 2 18 ÷ 3 = 6 18 ÷ 6 = 3
20	20 ÷ 1 = 20 20 ÷ 20 = 1 20 ÷ 2 = 10 20 ÷ 10 = 2 20 ÷ 4 = 5 20 ÷ 5 = 4

Midnight Answers

Below shows all of the possible solutions. Students do not need to find all solutions.

Pencils	14 ÷ 14 = 1 14 ÷ 1 = 14 14 ÷ 2 = 7 14 ÷ 7 = 2
Lollipops	18 ÷ 1 = 18 18 ÷ 18 = 1 18 ÷ 2 = 9 18 ÷ 9 = 2 18 ÷ 3 = 6 18 ÷ 6 = 3
Tennisballs	15 ÷ 1 = 15 15 ÷ 15 = 1 15 ÷ 3 = 5 15 ÷ 5 = 3

21	21 ÷ 1 = 21 21 ÷ 21 = 1 21 ÷ 3 = 7 21 ÷ 7 = 3
24	24 ÷ 1 = 24 24 ÷ 24 = 1 24 ÷ 2 = 12 24 ÷ 12 = 2 24 ÷ 3 = 8 24 ÷ 8 = 3 24 ÷ 4 = 6 24 ÷ 6 = 4
25	25 ÷ 1 = 25 25 ÷ 25 = 1 25 ÷ 5 = 5

29	29 ÷ 1 = 29 29 ÷ 29 = 1
32	32 ÷ 1 = 32 32 ÷ 32 = 1 32 ÷ 2 = 16 32 ÷ 16 = 2 32 ÷ 4 = 8 32 ÷ 8 = 4
36	36 ÷ 1 = 36 36 ÷ 36 = 1 36 ÷ 2 = 18 36 ÷ 18 = 2 36 ÷ 4 = 9 36 ÷ 9 = 4 36 ÷ 3 = 12 36 ÷ 12 = 3 36 ÷ 6 = 6