

# Lesson Printables

Be a rockstar and only print what you need!



**Planners: 2-3**

## **Playing Cards**

(print double-sided)

Sunlight: 4-9

Twilight: 10-15

Midnight: 16-21

## **Extras**

Time Converters: 22

Recording Log: 23

Small Recording Log: 24

Rules: 25

## **Answers**

Sunlight: 26

Twilight: 27

Midnight: 28

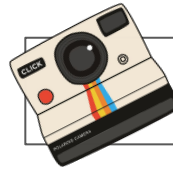
*\*Printing in the US? Scale to 'fit to printable area' in order to get the best print.*

## LESSON 1: Time - Intro to converting between days, weeks, months and years

Starter	Main Activity and Input: Exploring the connection between days, weeks, months and years.	Plenary
<p><b>Teapot Trouble:</b> Using the digits 1 to 9, can students make three 3-digit numbers that meet each teapot challenge? (The rounding is up for interpretation. E.g. Round to the nearest 10, 100 or 1,000 if applicable.)</p> <p><b>To support:</b> 1. Review using a number line to round numbers. 2. If students know the first number must round to 520, what do you know? E.g. You know the number is being rounded to the nearest 10. You know the number has to start with a 5, etc.</p> <p><b>To challenge:</b> 1. How many different solutions can students find? 2. Students could round all of their answers to the nearest 10, 100 and 1,000.</p>	<p><b>Input:</b></p> <ol style="list-style-type: none"><li>Slide 6 asks students what time increments they already know. Share ideas as a class. Note, for this lesson we will explicitly explore days, months, weeks and years. Students might offer other time increments (century, minutes, etc.). If these come up in conversation, it could be worth taking time to discuss what students already know so that you have an idea of any prior learning.</li><li>Slide 7 shows that humans organise time into days and weeks. What units of time make up a day or a week? Share ideas as a class. Slide 8 reveals that in one day, we have 24 hours (the amount of time it takes the Earth to complete one rotation), and in 1 week there are 7 days. Using this information, how many hours are in 3 days? How many days are in 3 weeks? Give students time to explore how they could work this out. Slide 9 reveals tape diagrams that show each solution. Ask students if there is more than one way to reach each answer. E.g. To find how many hours are in 3 days you could add 24 three times or multiply 24 by 3.</li><li>Slide 9 also asks if there are bigger units of time. Slide 10 reveals that weeks can be organised into months. What do students already know about months? Slide 11 reveals that we have 12 months. Months are 'about' 4 weeks long, (this is connected to the cycle of the moon) but different months have different numbers of days. Slide 11 is colour-coded to show this.</li><li>Slide 12 asks students to identify a time measurement that is bigger than a month. How many days are in this unit of time? Slide 13 reveals that when the Earth makes a complete orbit around the sun, we call this a year. It is made up of 365 days or 366 days on a leap year. Using this information, how many days are in 3 years if one of those days is a leap year? Slide 14 reveals possible thinking steps.</li><li>Slides 15 to 21 model the main activity: playing Time Challenge.<ul style="list-style-type: none"><li>Deal out cards. Students call 3, 2, 1 and all flip over a card to reveal what they have 'won'.</li><li>Calculate how many days are in the time increment that you won. This is the number of points you have scored in that round.</li><li>Time sucker cards mean you lose time. (If students lose more points than they have, they just go down to 0 points.)</li><li>The player with the most points when time is called or all the cards have been used is the winner.</li></ul></li></ol> <p><b>Activity: Convert weeks, months and years into days.</b></p> <ol style="list-style-type: none"><li>Print the double-sided game cards for each learning zone. This game could be played in pairs or groups of 4. Students could record their points on the recording logs found in the printables.</li></ol> <p><b>To support:</b></p> <ol style="list-style-type: none"><li>Sunlight Zone converts 2, 5 or 10 week increments.</li><li>Print the time conversion cards for students to reference. See printables.</li></ol> <p><b>To challenge:</b></p> <ol style="list-style-type: none"><li>Twilight Zone includes 2 to 12 week increments.</li><li>Midnight Zone includes more than one unit of time. E.g. 3 weeks and 5 days.</li><li>Encourage students to put their cards in order from the shortest amount of time to the longest amount of time.</li></ol>	<p><b>Time Toss:</b> Using a ball or soft object, shout a unit of time and toss it to a student. The student who catches the item, tells you how many days are in that unit of time and throws the object back to you. Repeat.</p> <p><b>Check for understanding:</b></p> <ol style="list-style-type: none"><li>Can students identify the correct number of days in the unit of time that was called? E.g. 'leap year' would get the answer '366 days'.</li></ol>

## Things that might be useful for this lesson:

- Individual whiteboards:
  - Help students to record their thinking and share ideas with others.
- Print the time converter cards:
  - For students who need additional scaffolding.



## Peek at the Printables:

**Sunlight Zone**      **Twilight Zone**      **Midnight Zone**

The printables are organized into three columns: Sunlight Zone (yellow header), Twilight Zone (blue header), and Midnight Zone (green header). Each column contains a stack of cards. The top card in each stack is a 'Time Challenge Cards' title card. Below it is a 'Time to' card with a clock icon and a time value (e.g., 'Time to: 1 hour'). The bottom card is a grid of challenge cards, each with an illustration and a task. For example, in the Sunlight Zone, one card says 'You Win: 2 weeks of a water park for you and your friends.' In the Twilight Zone, one card says 'You Win: 4 weeks of a water park for you and your friends.' In the Midnight Zone, one card says 'You Win: 2 weeks of a water park for you and your friends.'

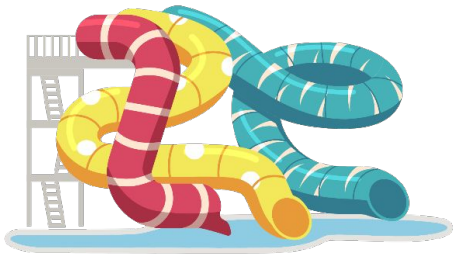


## Greener Alternatives:

- Instead of playing the game, you could print and cut out a page or two of each of the times cards from each learning zone. Students could pick a card, convert the time and then pick up a new card.
- Alternatively, you could write time scenarios on whiteboards or sticky notes and put them up around your room in stations. Students could move from one station to another.



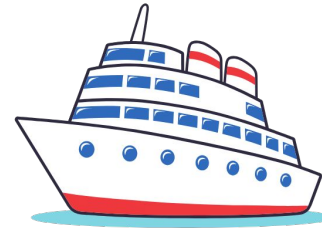
# Sunlight Time Challenge Cards



**You Win:**  
2 weeks at a water park for you and your friends.



**You Win:**  
5 weeks of free ice cream sundaes.



**You Win:**  
A cruise for the whole month of February. (leap year)



**You Win:**  
Win a drone to use for 10 weeks.



**You Win:**  
2 weeks of awesome camping for you and your friends.



**You Win:**  
10 weeks of free horse riding lessons.

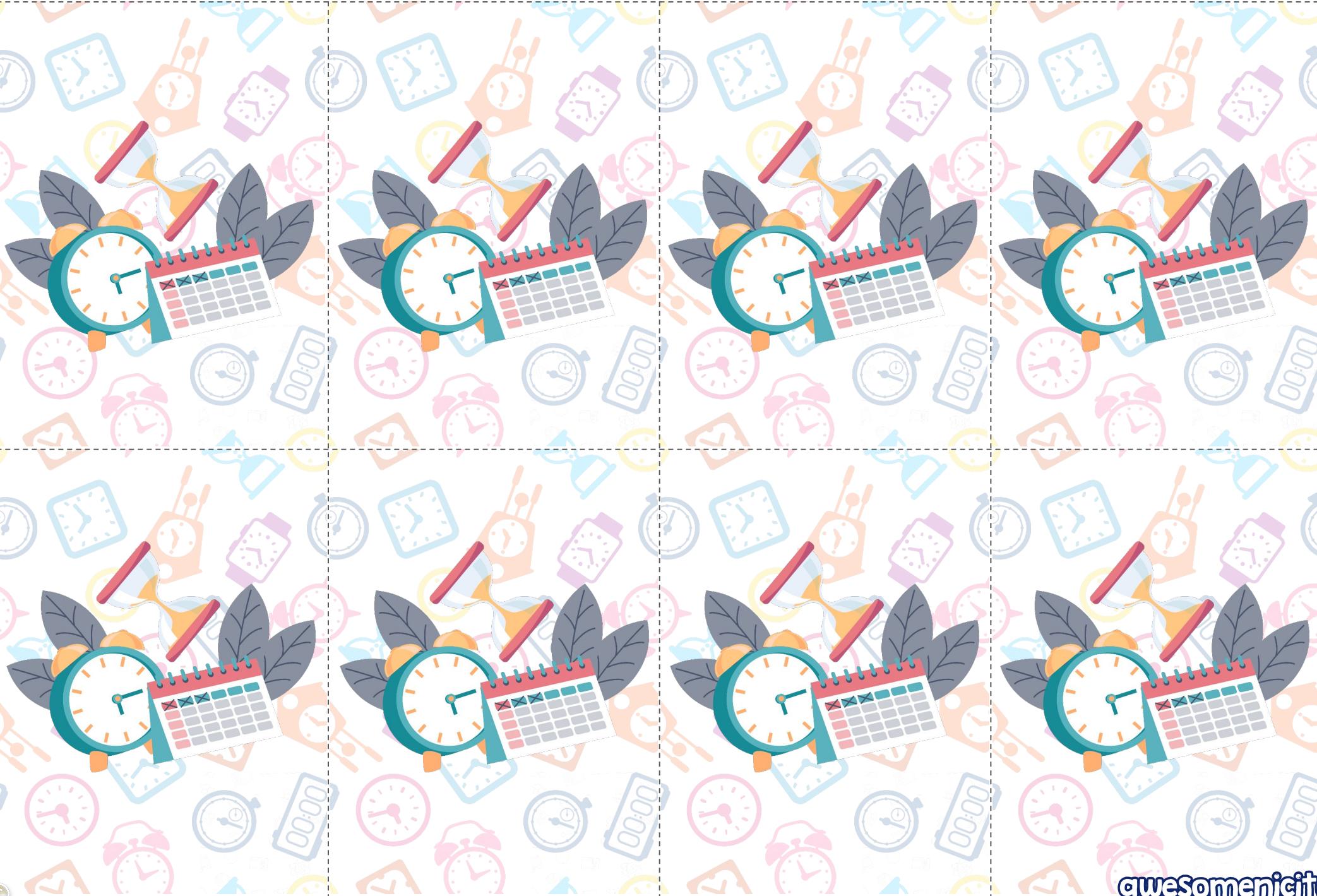


**You Win:**  
Free ziplining for the whole month of June.



**You Win:**  
Free safari for the whole of December.

# Sunlight Time Challenge Cards



# Sunlight Time Challenge Cards



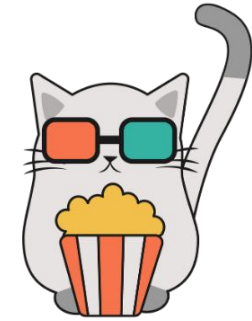
**You Win:**  
Free surf lessons  
for the whole of  
March.



**You Win:**  
Free jetski for 5  
weeks.



**You Win:**  
Free arcade  
tickets for a  
whole year.  
(normal year)



**You Win:**  
Free movie  
tickets for the  
whole month  
of January.



**You Win:**  
Free pass to  
Legoland for a  
whole year.  
(leap year)



**You Win:**  
An ATV adventure  
for the months of  
March and April.



**You Win:**  
Volunteering  
with baby  
tigers for the  
whole of July.



**You Win:**  
A trampoline to  
use for the  
whole of August.

# Sunlight Time Challenge Cards



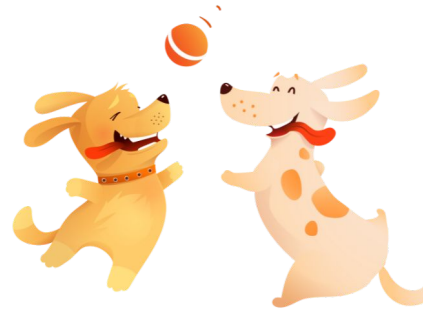
# Sunlight Time Challenge Cards



**You Win:**  
A scuba trip for  
the whole  
month of May.



**You Win:**  
You win a free  
bouncy castle for  
the whole of  
October and  
November.



**You Win:**  
The whole of  
September in a  
sports/games  
camp.



**You Win:**  
Kitten and  
puppy cuddles  
for the month  
of October.



**You Win:**  
Spa treatment  
for 2 weeks.



**Time Sucker**  
**You lose:**  
5 weeks worth  
of points.

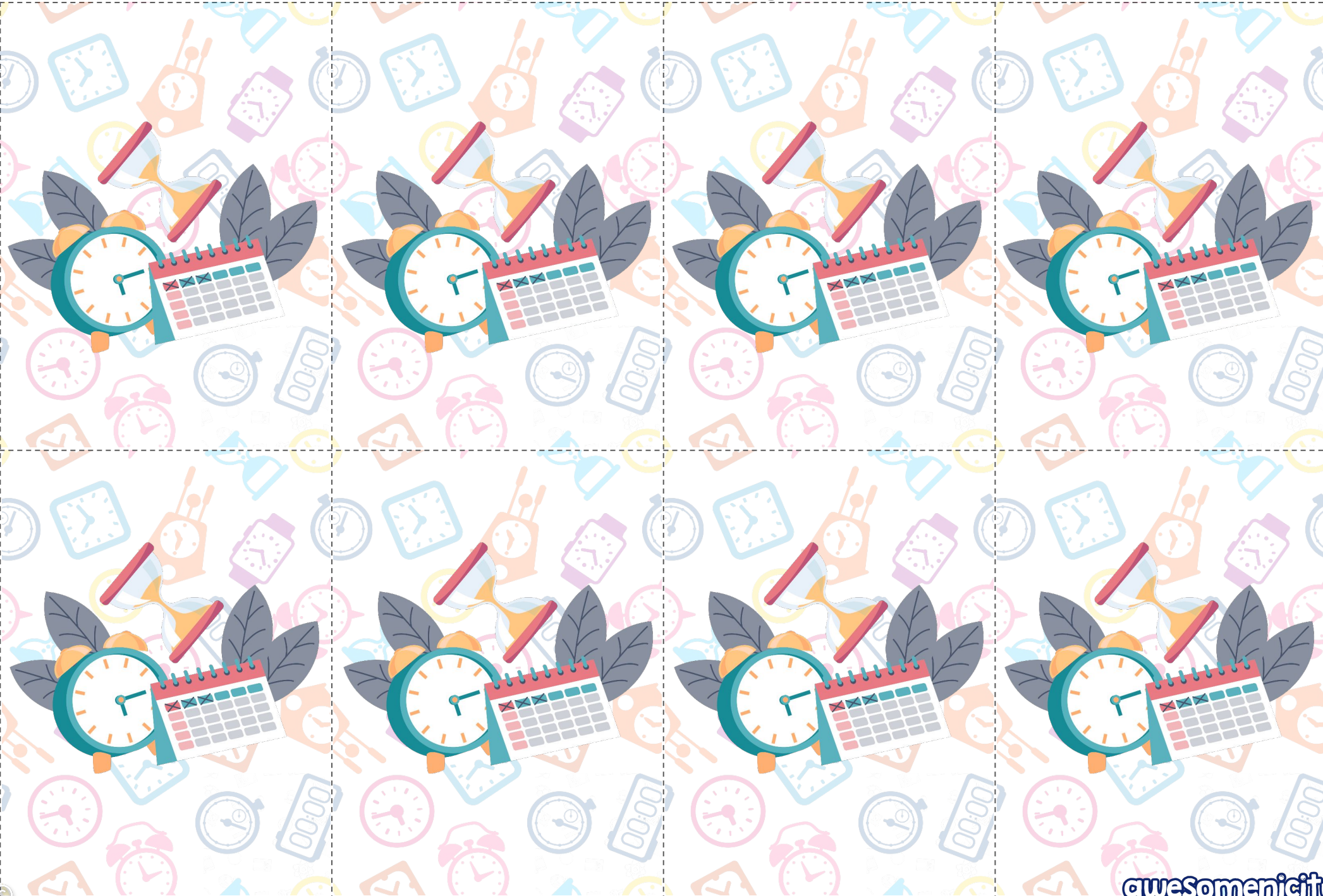


**Time Sucker**  
**You lose:**  
The points equal to  
the month of  
December.

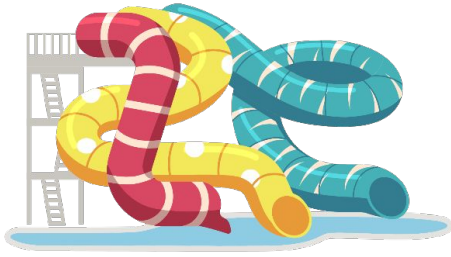


**Time Sucker**  
**You lose:**  
3 weeks worth  
of points.

# Sunlight Time Challenge Cards



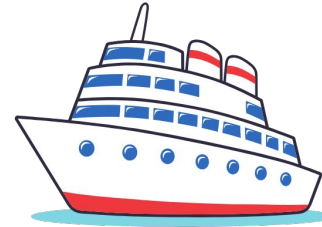
# Twilight Time Challenge Cards



**You Win:**  
6 weeks at a waterpark for you and your friends.



**You Win:**  
5 weeks of free ice cream sundaes.



**You Win:**  
A cruise for the months of February and March.  
(leap year)



**You Win:**  
Win a drone to use for 3 weeks.



**You Win:**  
9 weeks of awesome camping for you and your friends.



**You Win:**  
24 hours of horse riding lessons.



**You Win:**  
Free ziplining for the whole of June and July.



**You Win:**  
Free safari for the whole of November and December.

# Twilight Time Challenge Cards



# Twilight Time Challenge Cards



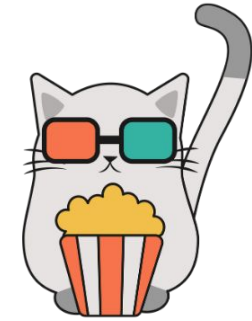
**You Win:**  
Free surf lessons  
for the whole of  
April and May.



**You Win:**  
Free jetski for  
the first  
3 months of  
the year.  
(normal year)



**You Win:**  
Free arcade  
tickets for a  
whole year.  
(leap year)



**You Win:**  
48 hours worth  
of free movie  
tickets.



**You Win:**  
Free pass to  
Legoland for  
2 whole years.  
(normal years)



**You Win:**  
An ATV adventure  
for the whole  
month of June and  
1 week of July.



**You Win:**  
Volunteering with  
baby tigers for  
4 weeks and  
6 days.



**You Win:**  
A trampoline to use  
for every month  
ending in 'er'.

# Twilight Time Challenge Cards



# Twilight Time Challenge Cards



**You Win:**  
A scuba trip for  
7 weeks.



**You Win:**  
You win a free  
bouncy castle  
48 hours.



**You Win:**  
Sports/games  
camp for the  
whole of  
February.  
(leap year)



**You Win:**  
Kitten and  
puppy cuddles  
every day for  
8 weeks.



**Time Sucker**  
**You lose:**  
3 months worth  
of points.  
April, May, June.



**Time Sucker**  
**You lose:**  
72 hours worth  
of points.



**Time Sucker**  
**You lose:**  
The points equal to  
the month of July.

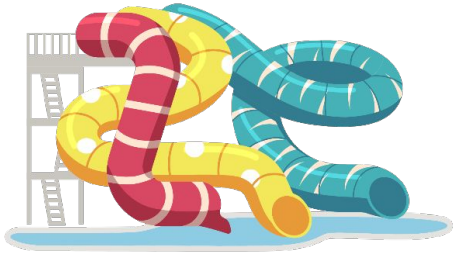


**Friendly**  
**Time Sucker**  
**Give:** 3 weeks  
worth of points to a  
player in the game.  
(You lose this amount.)

# Twilight Time Challenge Cards



# Midnight Time Challenge Cards



**You Win:**  
3 weeks and  
4 days at a  
waterpark for you  
and your friends.



**You Win:**  
5 weeks and  
5 days of free  
ice cream  
sundaes.



**You Win:**  
A cruise for the  
first 3 months of  
the year.  
(leap year)



**You Win:**  
Win a drone to  
use for  
7 weeks and  
5 days.



**You Win:**  
9 weeks and  
3 days of  
awesome  
camping for you  
and your friends.



**You Win:**  
144 hours  
of free horse  
riding lessons.



**You Win:**  
Free ziplining for  
the whole of June  
and July and  
2 weeks of  
August.



**You Win:**  
Free safari for  
the whole of  
November and  
December.

# Midnight Time Challenge Cards



# Midnight Time Challenge Cards



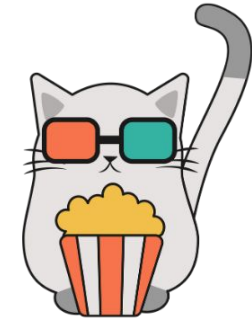
**You Win:**  
Free surf lessons  
for the first  
6 months of the  
year.  
(normal year)



**You Win:**  
Free jetski for  
the any month  
ending in 'y'.  
(normal year)



**You Win:**  
Free arcade  
tickets for  
5 years  
(1 leap/4 normal)



**You Win:**  
Free movie  
tickets for  
192 hours.



**You Win:**  
Free pass to  
Legoland for  
12 weeks and  
9 days.



**You Win:**  
An ATV adventure  
for the whole  
month of August  
and 1 extra week.



**You Win:**  
Volunteering with  
baby tigers for the  
whole of  
September and  
1 week of October.



**You Win:**  
A trampoline to  
use for 96 hours.

# Midnight Time Challenge Cards



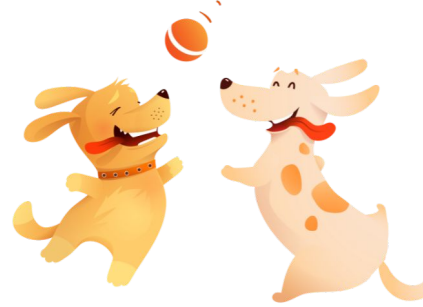
# Midnight Time Challenge Cards



**You Win:**  
A scuba trip for  
1 year and  
2 weeks.  
(normal year)



**You Win:**  
You win a free  
bouncy castle for  
3 years.  
(normal year)



**You Win:**  
Sports/games  
camp for any  
month ending  
in 'er'.



**You Win:**  
Kitten and  
puppy cuddles  
for two lots of  
48 hour sessions.



**Time Sucker**  
**You lose:**  
2 weeks and  
3 months (March,  
May, Jun)  
worth of points.



**Time Sucker**  
**You lose:**  
A leap year  
worth of points.



**Time Sucker**  
**You lose:**  
The 72 hours worth  
of points.



**Friendly**  
**Time Sucker**  
**Give:** 6 weeks worth  
of points to a player  
in the game.  
(You lose this amount.)

# Midnight Time Challenge Cards



# Time Converters

1 (normal) year
365 days
12 Months

1 (leap) year
366 days

1 week
7 days

1 (normal) year
365 days
12 Months

1 (leap) year
366 days

1 week
7 days

1 (normal) year
365 days
12 Months

1 (leap) year
366 days

1 week
7 days

<b>January</b> 31 days	<b>February</b> 28 days (29 in a leap year)	<b>March</b> 31 days
<b>April</b> 30 days	<b>May</b> 31 days	<b>June</b> 30 days
<b>July</b> 31 days	<b>August</b> 31 days	<b>September</b> 30 days
<b>October</b> 31 days	<b>November</b> 30 days.	<b>December</b> 31 days

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<b>July</b> 31 days	<b>August</b> 31 days	<b>September</b> 30 days
<b>October</b> 31 days	<b>November</b> 30 days.	<b>December</b> 31 days

# Recording Log

My original prize	My prize in days	Total Points

# Small Recording Logs

My original prize	My prize in days	Total Points

My original prize	My prize in days	Total Points

## Time Challenge Rules

1. Shuffle cards and place them upside down in a pile.
2. Each player picks up 1 card and flips it over.
3. Convert the amount of time on the card into days.  
→ This is the number of points you win.
4. Record your points.
5. Repeat.
6. If you get a 'Time Sucker', follow the instructions on the card.  
→ If you lose more points than you have, your points total goes down to 0.
7. The player with the most points when the cards run out or time is called is the winner!



## Time Challenge Rules

1. Shuffle cards and place them upside down in a pile.
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## Time Challenge Rules

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# Answers

Sunlight Answers	
Waterpark 2 weeks	14 days
Sundae 5 weeks	35 days
Cruise February (leap year)	29 days
Drone 10 weeks	70 days
Camping 2 weeks	14 days
Horse Riding 10 weeks	70 days
Zipline June	30 days
Safari December	31 days

Sunlight Answers	
Surf lessons March	31 days
Jetski 5 weeks	35 days
Arcade (normal year)	365 days
Movie tickets January	31 days
Legoland (leap year)	366 days
ATV March and April	61 days
Tigers July	31 days
Trampoline August	31 days

Sunlight Answers	
Suba trip May	31 days
Bouncy Castle October and November	61 days
Sports camp September	30 days
Kitten/puppy October	31 days
Spa 2 weeks	14 days
Lose 5 weeks	35 days
Lose December	31 days
Lose 3 weeks	21 days

# Answers

Twilight Answers	
Waterpark 6 weeks	42 days
Sundae 5 weeks	35 days
Cruise Feb + March (leap year)	60 days
Drone 3 weeks	21 days
Camping 9 weeks	63 days
Horse Riding 24 hours	1 day
Zipline June + July	61 days
safari Nov + Dec	61 days

Twilight Answers	
Surf lessons April + May	61 days
Jetski First 3 months (normal year)	90 days
Arcade (leap year)	366 days
Movie tickets 48 hours	2 days
Legoland 2 (normal years)	730 days
ATV June and 1 week	37 days
Tigers 4 weeks and 6 days	34 days
Trampoline Sept, Oct, Nov, Dec	122 days

Twilight Answers	
Suba trip 7 weeks	49 days
Bouncy Castle 48 hours	2 days
Sports camp February (leap year)	29 days
Kitten/puppy 8 weeks	56 days
Lose 3 months April, May, June	91 days
Lose 72 hours	3 days
Lose July	31 days
Give 3 weeks	Give 21 days to another player

# Answers

Midnight Answers	
Waterpark 3 weeks 4 days	25 days
Sundae 5 weeks 5 days	40 days
Cruise First 3 months (leap year)	91 days
Drone 7 weeks 5 days	54 days
Camping 9 weeks 3 days	66 days
Horse Riding 144 hours	6 days
Zipline June, July + 2 weeks of August	75 days
safari Nov + Dec	61 days

Midnight Answers	
Surf lessons First 6 months (normal year)	181 days
Jetski Jan, Feb, May, July	121 days
Arcade 5 years (1 leap/4 normal)	1,826 days
Movie tickets 192 hours	8 days
Legoland 12 weeks 9 days	93 days
ATV August + 1 week	38 days
Tigers Sept + 1 week	37 days
Trampoline 96 hours	4 days

Midnight Answers	
Suba trip 1 year + 2 weeks (normal year)	379 days
Bouncy Castle 3 years (normal year)	1,095 days
Sports camp Sept, Oct, Nov, Dec	122 days
Kitten/puppy 2 lots of 48 hour sessions	4 days
Lose 2 weeks 3 months (March, May, June)	106 days
Lose A leap year	366 days
Lose 72 hours	3 days
Give 6 weeks	Give 42 days to another player