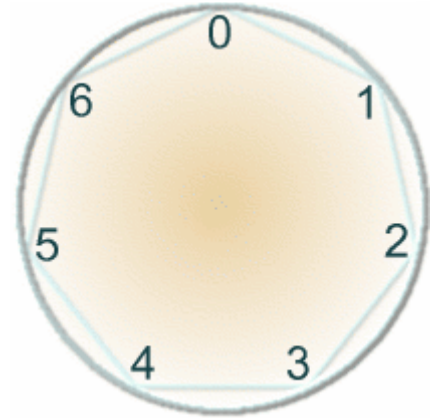


If today is Monday we know that in 702 days' time (so in 100 weeks and 2 days' time) it will be Wednesday.

**What day will it be in 15 days? 26 days? 234 days?**



In 2, 9, 16 and 23 days from now, it will be a Wednesday.

**What other numbers of days from now will be Wednesdays? Can you generalise what you have noticed?**

Choose a pair of numbers and find the remainders when you divide by 7. Then find the remainder when you divide the total by 7. For example:

$$15 \div 7 = 2 \text{ remainder } 1$$

$$26 \div 7 = 3 \text{ remainder } 5$$

$$15 + 26 = 41$$

$$41 \div 7 = 5 \text{ remainder } 6$$

Choose some more pairs of numbers.

**Is there a relationship between the remainders when you divide each by 7, and the remainder when you divide their total by 7.**

Now find the remainder when you divide the **product** of 15 and 26 by 7. What happens?

Choose some more pairs of numbers.

**Is there a relationship between the remainders when you divide each by 7, and the remainder when you divide their product by 7?**

What about when you divide by numbers other than 7?

Can you explain what you've noticed?

**How could you use these ideas to work out on which day of the week your birthday will be next year?**