

# Virtual classroom 2021

## Hanley Castle High School



Please find resources for the following subjects in this pack:

- Maths
- PSD
- Biology
- Physics
- Chemistry

# Maths

## Hanley Castle Maths Activity Notes

### Instructions

- Print pages **2** and **3** of this document as a worksheet for learners
- *Either:*
  - Play the 5-minute video; learners can name shapes as they appear in the video. The video could be paused if needed.
- *Or:*
  - Show the 5-minute video first. Learners fill the worksheet afterwards.

### Possible Answers

- |                                  |  |
|----------------------------------|--|
| 1) Rectangle / Oblong            | 9) Arc   |
| 2) Part of a circle / Sector     | 10) Triangle / Right-angled isosceles triangle |
| 3) Semi-circle                   | 11) Trapezium / isosceles trapezium            |
| 4) Rectangle / Oblong            | 12) Octagon / Regular octagon                  |
| 5) Triangle / Isosceles triangle | 13) Circles / Ring / Annulus                   |
| 6) Square / Rectangle            | 14) Trapezium / Right-angled trapezium         |
| 7) Cylinder and Cone             | 15) Pentagon / Irregular pentagon              |
| 8) Hexagon / Irregular hexagon   | 16) Circle                                     |

# Hanley Castle Maths – Shape Hunt

We are spotting shapes on a walk around Hanley Castle High School.

Name the highlighted shapes!

1)



2)



3)



4)



5)



6)

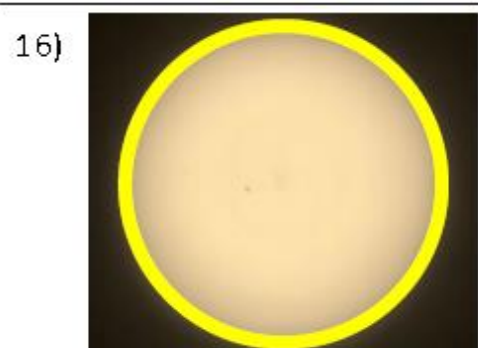


7)



8)

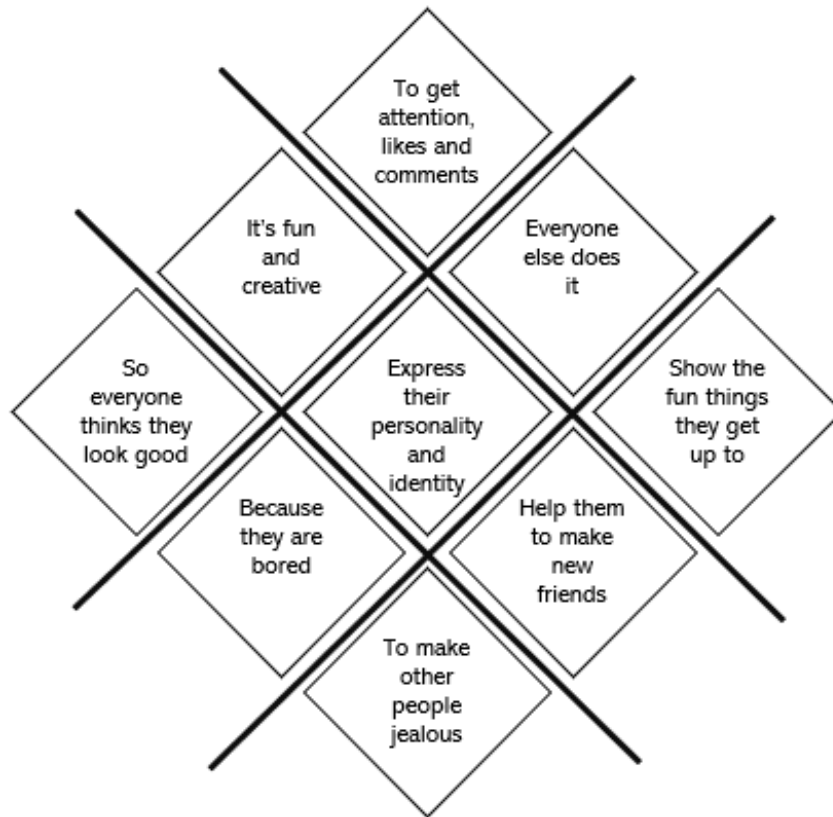




# PSD

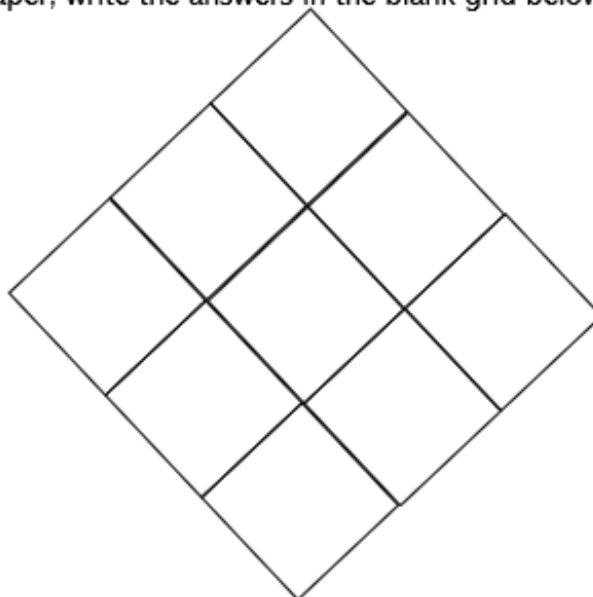
## Promoting Emotional Wellbeing:

Task 1:



Rearrange the squares in the diamond so that they show what *you* think are the main reasons why people post on social media (on any app) with the most common at the top of the nine, and the least common at the bottom.

If you are working on paper, write the answers in the blank grid below.





7:30am

Taylor wakes up and starts to get ready for school. While eating breakfast, Taylor opens a picture sharing app and scrolls through mostly looking at pictures of celebrities, friends and cats. Taylor notices a favourite celebrity has posted a picture at a new film opening, and thinks "Wow! I could never look that good!".



8:00am

On the way into school Taylor meets a friend on the bus and they take selfies and videos that they send to everyone in their friendship group. They are mostly just pulling silly faces and telling jokes. Some people send snaps back and they have a real laugh.



8:30am

Taylor goes to registration and some people snigger about the selfies they sent earlier. Two girls seem to be whispering behind Taylor's back. Taylor starts to wonder if something they said or did was really embarrassing.



9:00am

In first lesson, Taylor is bored, so posts a new status under the desk with the hashtag #uglyboringteachers. The post gets 100 likes and 30 shares within five minutes.



10:30am

Its break time and Taylor is looking at a photo-sharing app again. Everyone else seems to be having such an amazing time. And everyone else looks so stunning and has so many more interesting things to post. Taylor takes a range of selfies, chooses the best one, adds a filter, crops it, then posts it.



1:00pm

Taylor briefly checks to see if there are any notifications on new posts. The selfie Taylor posted at break has had a few negative comments and hardly any likes. After a while Taylor deletes the photo and decides to skip lunch.



3:30pm

Taylor leaves school with a group of friends and they show each other their favourite videos online, including a new one by Taylor's favourite band.



4:00pm

Taylor goes to an intensive exercise class for 45 minutes. The class is part of a 'programme' that's recently been in the media a lot with loads of videos of celebrities doing the workouts because it gave them a '10/10 body' in less than a month. Hopefully it will work the same for Taylor?



7:00pm

After a quick dinner with the family, Taylor spends a couple of hours playing an online game with players around the world. Taylor beats the others and gets the highest score. In the chatroom, the others all start accusing Taylor of using a cheat site. Someone starts referring to Taylor as "The\_Chubby\_Cheater" so Taylor logs off.



11:00pm

Taylor spends an hour checking all the social media sites, scrolling through news feeds, leaving comments and liking / sharing friends' posts. Taylor eventually falls asleep, with phone in hand, just after midnight.

1. Look back at Task 1. What reasons do you think Taylor might give for posting on social media?
2. Overall, do you think Taylor enjoys using social media or not? Why do you think this?
3. What gender do you think Taylor is and why?

# Biology – Cell Structure

## Task 1

Organisms of made of building blocks called cells. There are certain features of cells that animals, plants and bacteria have in common. Use the animation to find the answers to the following questions.

1. A cell needs energy to do things, what molecule provides this energy?
2. DNA, found inside cells, contains all the instructions needed for an organism to live and make more cells. DNA can be divided into segments, what are these segments called?
3. What is main barrier called that separates a cell from the outside world?
4. What structure inside cells read genes?
5. Where do large waste molecules travel to in the cell?

## Task 2

<https://learn.genetics.utah.edu/content/cells/gallery/>

Click on the link above to examine how different cells look.

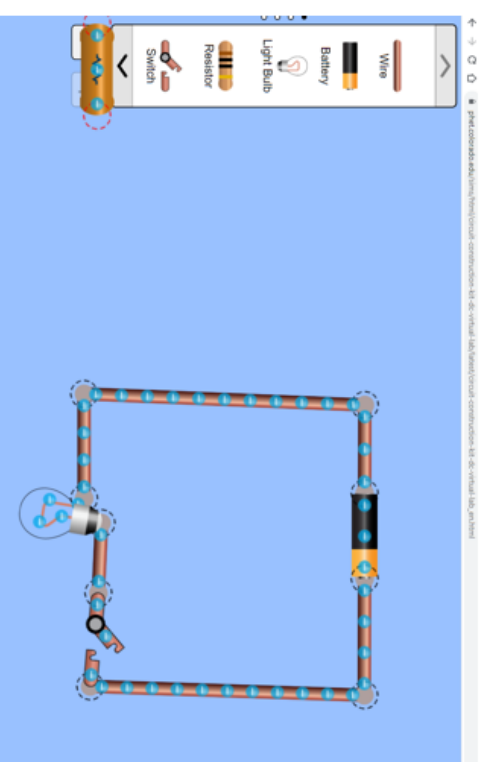
## Biology

# Physics – Electricity and Circuits

## Task 1:

Is the bulb bright, normal, dim or not lit? Record your results

| Object replacing the switch | Brightness of bulb |
|-----------------------------|--------------------|
| Paper clip                  |                    |
| Coin                        |                    |
| Dog                         |                    |
| Eraser                      |                    |
| Pencil                      |                    |
| Hand                        |                    |
| 2 batteries                 |                    |



## Task 2

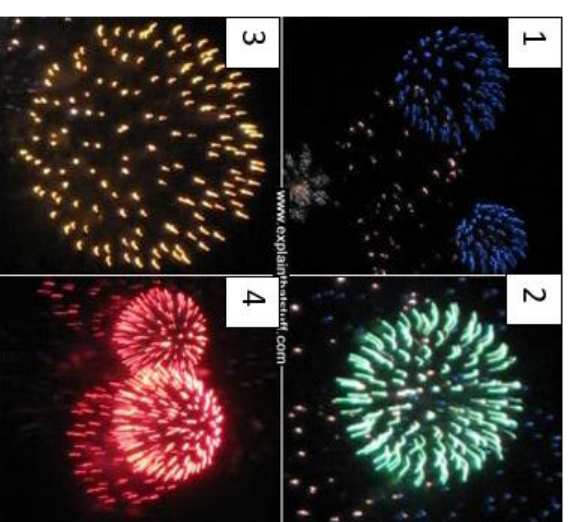
List the objects that made the bulb light up. These are known as conductors.



# Chemistry – flame tests

## Task 1

|                | Colour |
|----------------|--------|
| Metal Chloride |        |
| Calcium        |        |
| Potassium      |        |
| Strontium      |        |
| Sodium         |        |
| Barium         | Green  |



## Chemistry

### Task 2

**Metal salts** commonly used in **firework** displays. Look at the firework pictures shown on the right. Identify which metals are found in these fireworks using your results.

- 1.
- 2.
- 3.
- 4.