Name: __________________________

Tutor Group: ____________

Year 7
Knowledge Organisers

Module 3 2020/21

Make sure this knowledge organiser is brought into school every day!
How to use your knowledge organisers

Knowledge organisers contain the most fundamental knowledge for the topics you are studying. You are required to study and quiz yourself on a section of your knowledge organiser for at least **20 minutes each evening** to make sure you have the knowledge ready to use in lessons and for assessments. Many knowledge organisers contain lots of information and therefore you may need to start by mastering a small section first before moving on to another. It’s important that you revisit sections you have already studied again to make sure you can still remember it - this is called ‘spaced practice’ and enhances your knowledge retention.

**How to ‘quiz’ using the knowledge organiser**

When quizzing yourself, one method you can use is ‘look, say, cover, write, check’. You could also transfer information to flash cards with a question/keyword on the front and the answer/definition on the back. You can then quiz yourself using these. You could also ask someone that you live with or your friends to help quiz you on the knowledge contained in your knowledge organisers.

![LOOK, SAY, COVER, WRITE, CHECK](image)

**Remember to bring your knowledge organisers to school every day!** Your teachers may get you to use them in lessons to support with your learning and they will also point out which sections to focus on when using them at home.
1.1 **Primary** colours are colours which cannot be made by mixing any other colours together. These are red, blue and yellow.

1.2 **Secondary** colours are made when you mix two primary colours together. 
- Red + Blue = Purple
- Red + Yellow = Orange
- Yellow + Blue = Green

1.3 **Tertiary** colours are colours which mix primary and secondary colours together. They are ‘all other’ colours.

1.4 **The Colour Wheel** is a useful tool when knowing how to mix colours. Please turn over to see the colour wheel.

1.5 **Warm** and **Cool** colours tell you how much red or blue is in a piece of work. 
- **Warm colours** are more red, including yellow and orange.
- **Cool colours** include more blue, like purple and green.

1.6 **Monochrome** is one colour in a variety of tones. (Image 2)
Opposite colours on the colour wheel are called **complementary** colours. They stand out when put next to each other and complement each other.

Colors which are next to each other on the colour wheel are **Harmonious**. These colors blend in with each other.

You can use the colour wheel to work out what colours mix together to make! If you mix yellow and red, you will get orange. The two colors either side of orange are red and yellow. But remember, you can't make red by mixing purple and orange, because red is a primary color.
Computational thinking vocabulary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorithm</td>
<td>A list of steps that you can follow to finish a task</td>
</tr>
<tr>
<td>Decompose</td>
<td>Break a problem down into smaller pieces</td>
</tr>
<tr>
<td>Abstraction</td>
<td>Pulling out specific differences to make one solution work for multiple problems</td>
</tr>
<tr>
<td>Pattern Matching</td>
<td>Finding similarities between things</td>
</tr>
<tr>
<td>Program</td>
<td>Sequence of instructions for a computer</td>
</tr>
<tr>
<td>Programming</td>
<td>The process of writing a computer program</td>
</tr>
<tr>
<td>Flowchart</td>
<td>A diagram that shows an algorithm or process</td>
</tr>
<tr>
<td>Decision</td>
<td>The program will do one thing or another based on something that has happened</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Achieving the same result with less instructions or effort</td>
</tr>
<tr>
<td>Input</td>
<td>Allows the user to input data in the algorithm</td>
</tr>
<tr>
<td>Output</td>
<td>The result of an algorithm is outputted</td>
</tr>
<tr>
<td>Pseudocode</td>
<td>Fake code (written in English) to show how a program is solved</td>
</tr>
<tr>
<td>Strings</td>
<td>Data type containing characters</td>
</tr>
<tr>
<td>Integers</td>
<td>Data type containing whole numbers</td>
</tr>
<tr>
<td>Float</td>
<td>Data type containing decimal numbers</td>
</tr>
</tbody>
</table>

Programming is writing computer code to create a program, in order to solve a problem. Programs consist of a series of instructions to tell a computer exactly what to do and how to do it. To tell a computer to do something, a program must be written to tell it exactly what to do and how to do it. If an algorithm has been designed, the computer program will follow this algorithm, step-by-step, which will tell the computer exactly what it should do.
A **flowchart** is a diagram that represents a set of **instructions**. Flowcharts normally use standard symbols to represent the different types of instructions. These symbols are used to construct the flowchart and show the step-by-step solution to the problem. Flowcharts can be used to plan out programs.

<table>
<thead>
<tr>
<th>Name</th>
<th>Symbol</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start or Stop</td>
<td><img src="image" alt="Start/Stop" /></td>
<td>The beginning and end points in the sequence.</td>
</tr>
<tr>
<td>Process</td>
<td><img src="image" alt="Process" /></td>
<td>An instruction or a command.</td>
</tr>
<tr>
<td>Decision</td>
<td><img src="image" alt="Decision" /></td>
<td>A decision, either yes or no.</td>
</tr>
<tr>
<td>Input or Output</td>
<td><img src="image" alt="Input/Output" /></td>
<td>An input is data received by a computer. An output is a signal or data sent from a computer.</td>
</tr>
<tr>
<td>Connector</td>
<td><img src="image" alt="Connector" /></td>
<td>A jump from one point in the sequence to another.</td>
</tr>
<tr>
<td>Direction of flow</td>
<td><img src="image" alt="Direction of flow" /></td>
<td>Connects the symbols. The arrow shows the direction of flow of instructions.</td>
</tr>
</tbody>
</table>

Planning a program that asks people what the best subject they take is, would look like this as a flowchart:
DT & Engineering
DT Knowledge Organiser: Wooden Puppet

**Statement of Inquiry:** A local invention can diffuse into a global market through successful and targeted communication.

**Areas of Assessment**
- **Criterion: A**
  Inquiring & analysing
- **Criterion: C**
  Creating the solution

**Cross-halving joint**

**Species of Softwood** | **Species of Hardwood** | **Manufactured Board** (examples of)
---|---|---
Pine | Oak | MDF
Larch | Balsa | Plywood
Cedar | Beech | Chipboard

**Command Terms:**
- **Analyse:** To identify parts and relationships, and to interpret information to reach conclusions.
- **Create:** To evolve from one’s own thought or imagination, as a work or an invention.
- **Design:** Produce a plan, simulation or model.
- **Develop:** To improve incrementally, elaborate or expand in detail.
- **Outline:** Give a brief account or summary.
- **Present:** Offer for display, observation, examination or consideration.

**Key Vocabulary:**
- Timber, Grain, MDF (Medium density fibreboard), hardwood, softwood,

**Key Concept:** Global Interactions

**Related Concepts:** Adaption, Form; Function

**Global Context:** Globalization and Sustainability.
### DT Knowledge Organiser: Bloodhound

#### Statement of Inquiry:
The demand for use plastic fast cars is strong as ever, however due to devastating costs to the environment, the demand for Affordable and Clean Energy is ever more important.

<table>
<thead>
<tr>
<th>Species of Softwood</th>
<th>Species of Hardwood</th>
<th>Manufactured Board (examples of)</th>
<th>Command Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine</td>
<td>Oak</td>
<td>MDF</td>
<td>REfuse</td>
</tr>
<tr>
<td>Larch</td>
<td>Balsa</td>
<td>Plywood</td>
<td>REthink</td>
</tr>
<tr>
<td>Cedar</td>
<td>Beech</td>
<td>Chipboard</td>
<td>REDuce</td>
</tr>
</tbody>
</table>

- **Refuse**: ...is it wasteful in any way?
- **Refuse**: ...is this design choice the most sustainable?
- **Reduce**: ...can material, energy or transport be cut down?
- **Reuse**: ...can you extend a product’s life or repurpose it?
- **Repair**: ...can you fix it instead of throw it away?
- **Recycle**: ...can the product be recycled?

#### Key Vocabulary:
- Aerodynamics, wind tunnel, performance, weight, rockets, aesthetics, sustainability the six r’s.

#### Key Concept:
- Global Interactions

#### Related Concepts:
- Form; Function; Sustainability

#### Global Context:
- Globalization and Sustainability.
English
<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onomatopoeia</td>
<td>A word which imitates the sound it is describing.</td>
</tr>
<tr>
<td>Semantic field</td>
<td>A group of words which create a particular feeling.</td>
</tr>
<tr>
<td>Contrasting</td>
<td>Showing the same event from two different characters to show how it can be viewed differently.</td>
</tr>
<tr>
<td>perspective</td>
<td></td>
</tr>
<tr>
<td>Purpose</td>
<td>The reason you are writing the text.</td>
</tr>
<tr>
<td>Audience</td>
<td>Who you are writing the text for.</td>
</tr>
<tr>
<td>Descriptive</td>
<td>Giving a detailed account in an interesting way.</td>
</tr>
<tr>
<td>Narrative</td>
<td>The story of a piece.</td>
</tr>
<tr>
<td>Structure</td>
<td>The order in which a narrative is told.</td>
</tr>
<tr>
<td>Exposition</td>
<td>Background information which is vital to a narrative.</td>
</tr>
<tr>
<td>Rising action</td>
<td>A series of events which propels the narrative forwards.</td>
</tr>
<tr>
<td>Climax</td>
<td>The main event, the peak of the action.</td>
</tr>
<tr>
<td>Falling action</td>
<td>After the climax of a narrative where a resolution is found.</td>
</tr>
<tr>
<td>Resolution</td>
<td>Where the problems of a narrative are solved and a new normal is found.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Method</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Imagery</td>
<td>Creating a picture in the reader’s mind.</td>
</tr>
<tr>
<td>Telescoping</td>
<td>To describe something in minute detail.</td>
</tr>
<tr>
<td>Similes</td>
<td>Comparing one thing to another using like or as.</td>
</tr>
<tr>
<td>Sensory Description</td>
<td>Using the five senses to create an image.</td>
</tr>
<tr>
<td>Personification</td>
<td>To make something non-human sound human.</td>
</tr>
<tr>
<td>Pathetic Fallacy</td>
<td>Using the weather to create a mood or atmosphere.</td>
</tr>
<tr>
<td>Alliteration</td>
<td>The repetition of a sound in a series of words close together.</td>
</tr>
<tr>
<td>Metaphors</td>
<td>Comparing one thing to another without using like or as.</td>
</tr>
</tbody>
</table>

**Paragraphing**
- Paragraphs are just a group of sentences sharing the same idea.
- They structure your writing to make it easier for readers to follow.
- Always start a new paragraph when you change the focus of your writing.

**ToPTiPs** - change paragraph when you change:
- **Topic**
- **Place**
- **Time**
- **Person**
- **Speaker**

**Senses**
In real life we perceive the world with our five senses:
- Smell, touch, taste, hear and see.

**Purpose**
- To help your reader experience your fictional world.
- Sensory stimulation helps transport the reader into your character’s story.
- To create powerful imagery.
**German Knowledge Organiser: Year 7 Module 3: Local and international Places**

**Statement of Inquiry:** Discovering differences and similarities between places helps connect communities and provide cultural contexts.

**Global Context:** Orientation in time and space

**Key Concepts:** Connections

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**In der Stadt**

- Es gibt ... *There is/are a...*
- Es gibt ein/eine/einen ... *There isn't/aren't a...*
- in der Nähe von ... *near to*
- in der Nähe ... *nearby*
- der Bahnhof(-e) *railway station(s)*
- der Imbiss(-e)/die Imbissstube(-n) *snack stand(s)*
- die Kegelbahn(-en) *bowling alley(s)*
- das Kino(-s) *cinema(s)*
- die Kirche(-n) *church(es)*
- der Marktplatz(-e) *market square(s)*
- der Park(-s) *park(s)*
- das Schloss(-er) *castle(s)*
- das Schwimmbad(-er) *swimming pool(s)*
- die Eisbahn(-en) *ice rink(s)*
- der Fischmarkt(-e) *fish market(s)*
- das Kindertheater(-) *children's theatre(s)*
- der Radweg(-e) *cycle path(s)*
- das Sportzentrum (die Sportzentren) *sports centre (sports centres)*
- der Stadtpark(-s) *city/town park(s)*
- der Wasserpark(-s) *water park(s)*

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**Souvenirs**

- der Aufkleber *sticker*
- das Freundschaftsband *friendship bracelet*
- die Kappe *(baseball) cap*
- der Kuli *biro*
- das Kuscheltier *cuddly toy*
- die Postkarte *postcard*
- der Schlüsselanhänger *key ring*
- die Tasse *mug/cup*
- das Trikot *(football) shirt*

**Verkaufsgespräch**

- Ich gehe einkaufen. *I am going shopping.*
- Ich möchte ... *I would like ...*
- Ich möchte ... kaufen. *I would like to buy ...*
- Haben Sie ...? *Do you have ...?*
- Kann ich dir helfen? *Can I help you?*
- Sonst noch etwas? *Anything else?*
- alles zusammen *all together*

**Week 1**

**Week 2**

- Wie viel kostet ...? *How much does ... cost?*
- Wie viel kostet das? *How much does it cost?*
- Es kostet €16. *It costs 16 Euros.*

**Week 3**
German Knowledge Organiser: Year 7 Module 3: Local and international Places

Statement of Inquiry: Discovering differences and similarities between places helps connect communities and provide cultural contexts.

Global Context: Orientation in time and space

Key Concepts: Connections

Week 4
Snacks und Getränke kaufen
Buying snacks and drinks

die Bratwurst fried sausage
der Hamburger hamburger
die Pizza pizza
die Pommes chips
der Salat salad
das Eis ice cream
die Cola cola
das Mineralwasser mineral water
der Tee tea
das Fleisch meat
der Ketchup ketchup
die Mayo(nnaise)/Majonäse mayo(nnaise)
der Senf mustard

Week 5
Ich möchte
I would like

einmal/zweimal/dreimal…
one/two/three …

ich hätte gern … I would like …

Das macht €8. That’s €8.

Ich esse … gem. I like eating …

Ich trinke … gern. I like drinking…

Week 6
Oft benutzte Wörter High-frequency words

sehr very

nicht sehr not very

ziemlich quite

immer always

nicht immer not always

oft often

nicht oft not often

eine never

eines everything
dort there

teufer expensive

Grammatik

Man kann is used to talk about what people in general can do. It is used with an infinitive at the end of the sentence. Man kann Insekten essen. ‘One’/people/you can eat insects. What examples of man kann, can you find in exercise 6?

Ich möchte means ‘I would like’ and ‘he/she would like’ is er/sie möchte. Like other modal verbs you know, dürfen (darf) and können (kann), it is used with an infinitive at the end of the sentence, as in Ich möchte ein Souvenir kaufen (‘I would like to buy a souvenir’). However, you can also simply say Ich möchte einen/eine/ein …, e.g. Ich möchte ein Souvenir (‘I would like a souvenir’).
Individuals & Societies
## Module 3: Who is the most significant person of all time?

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the definition of the word 'significant'?</td>
<td>To be great, important or noteworthy.</td>
<td></td>
</tr>
<tr>
<td>What did Al Khwarizmi bring to Europe from Baghdad?</td>
<td>The current 0-9 number system that we still use today!</td>
<td></td>
</tr>
<tr>
<td>Where do most students first encounter the work of Descartes?</td>
<td>University</td>
<td></td>
</tr>
<tr>
<td>How did Confucius say rulers should treat their people?</td>
<td>With kindness and respect as if they were members of their own family.</td>
<td></td>
</tr>
<tr>
<td>What did Al Khwarizmi create that was used throughout Medieval Times?</td>
<td>A map of the world.</td>
<td></td>
</tr>
<tr>
<td>What does ‘cogito ergo sum’ mean?</td>
<td>‘I think, therefore I am.’</td>
<td></td>
</tr>
<tr>
<td>Which country was Confucius born in?</td>
<td>China</td>
<td></td>
</tr>
<tr>
<td>What do we believe Shikibu was the first to accomplish?</td>
<td>Writing a novel.</td>
<td></td>
</tr>
<tr>
<td>How many words do we think Shakespeare invented?</td>
<td>Over 2000!</td>
<td></td>
</tr>
<tr>
<td>What job did Confucius hold?</td>
<td>Teacher</td>
<td></td>
</tr>
<tr>
<td>How did Shikibu learn Chinese?</td>
<td>Through listening to her brother’s lessons through the door.</td>
<td></td>
</tr>
<tr>
<td>How many plays did Shakespeare write?</td>
<td>Thirty-seven (37)</td>
<td></td>
</tr>
<tr>
<td>What aspect of Mathematics did Euclid develop?</td>
<td>Geometry</td>
<td></td>
</tr>
<tr>
<td>What was the name of Shikibu's novel?</td>
<td>The Tale of Genji</td>
<td></td>
</tr>
<tr>
<td>What genre of music do we believe Beethoven created?</td>
<td>Romantic</td>
<td></td>
</tr>
<tr>
<td>What was the title of the mathematics book that Euclid collated?</td>
<td>Elements</td>
<td></td>
</tr>
<tr>
<td>What did Descartes claim humans should never fully trust?</td>
<td>Human senses</td>
<td></td>
</tr>
<tr>
<td>Marie Curie was awarded Nobel prizes in which 2 areas?</td>
<td>Chemistry and Physics</td>
<td></td>
</tr>
</tbody>
</table>
Module 3 MYP Mathematics

3.1 Angle Facts

Vertically opposite
Where two straight lines cross, opposite angles are equal

Around a point
All angles around a point will add up to make 360°

A straight line
All angles on a straight line will add up to make 180°

3.1 b Angle facts

Alternate
‘Z’ shape
Alternate angles are the same

Co-Interior
‘C’ shape
Co-interior angles make 180°

3.3 Circle facts

3.3 a Constructing two sides & angle

Two sides and the included angle are equal to the corresponding sides and included angle of the other triangle

Key Concept: Form
Related concepts: Measurement
Global Context: Personal and cultural expression.
Statement of Inquiry: Artistry and creativity are enhanced through an understanding of how measurement helps to define forms.

3.3b 2D shapes

Equilateral
All sides equal

Isosceles
Two equal sides

Scalene
No equal sides

Isosceles
All angles equal (60°)

Scalene
No equal angles

No line of symmetry

Module 3 MYP Mathematics
Physical Education
Module 3 Aesthetics

MYP: Statement of inquiry. Using balance and space, develop movement patterns to communicate your personal cultural views.

- Balance
- Movement
- Space

Gymnastics 1.1

Movement:
- Teddy bear roll
- Forward roll
- Cartwheel
- Log roll
- Side roll
- Round off
- Side roll

How can rolls be added into a routine/sequence?

Why is it important to the the centre of the movement and roll?

Balance 1.2

Balance / Counter Balance / Counter Tension/ Group balance/ Pair balance.

What are key terms? How do we give practical examples for each? Can they be included in sequence work?

Balance
- Shoulder stand

Movement:
- Teddy bear roll
- Forward roll
- Cartwheel
- Log roll
- Side roll
- Round off
- Side roll

Group balance
- Pair Balance
- Single balance

The different points of contact and movement when performing a forward roll.

Space 1.3

Exploring the space and area that you and your partner will be using for your performance.

Incorporating.
- Movement
- Coordination
- Communication
- Expression

Travelling:
What is a travelling move?
Students to explore examples and then demonstrate to others.
Partner sequence.

Reflection 1.4

Reflection on performance, group feedback, teacher feedback, written feedback and video feedback.
Science
# Y7 Science Knowledge Organiser
## Unit 3 - Forces

### Definitions

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td><strong>Force</strong></td>
<td>A push or pull</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td><strong>Contact force</strong></td>
<td>A force that acts when objects are touching</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td><strong>Non-contact force</strong></td>
<td>A force that acts regardless of whether objects are touching</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td><strong>Friction</strong></td>
<td>A contact force between two moving surfaces</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td><strong>Mass</strong></td>
<td>The amount of matter an object has</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td><strong>Weight</strong></td>
<td>The force acting on an object due to gravity</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td><strong>Elastic</strong></td>
<td>A material that can be stretched and then return back to its original shape after the force has been removed</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td><strong>Elastic limit</strong></td>
<td>The point after which a spring will not return back to its original length after the force has been removed</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td><strong>Hooke’s law</strong></td>
<td>A law that describes the relationship between force and extension - if you double the force, the extension will double</td>
</tr>
</tbody>
</table>

### Recall Questions

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>What are the <strong>units</strong> for force?</td>
<td>N (newtons)</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>What do force arrows show?</td>
<td>The size (length of arrow) and direction of the force</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Name some <strong>contact</strong> forces.</td>
<td>Friction, air resistance, upthrust, contact force, tension</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Name the 3 <strong>non-contact</strong> force fields.</td>
<td>Gravitational, electrostatic and magnetic fields</td>
</tr>
<tr>
<td><strong>5</strong></td>
<td>How can you reduce <strong>friction</strong>?</td>
<td>Use lubrication</td>
</tr>
<tr>
<td><strong>6</strong></td>
<td>Name two <strong>drag</strong> forces.</td>
<td>Water and air resistance</td>
</tr>
<tr>
<td><strong>7</strong></td>
<td>How can you reduce <strong>drag</strong> forces?</td>
<td>Make the object more streamlined</td>
</tr>
<tr>
<td><strong>8</strong></td>
<td>What are the <strong>units</strong> for weight?</td>
<td>N (newtons)</td>
</tr>
<tr>
<td><strong>9</strong></td>
<td>What are the <strong>units</strong> for mass?</td>
<td>kg (kilograms)</td>
</tr>
<tr>
<td><strong>10</strong></td>
<td>What are <strong>units</strong> for gravitational field strength?</td>
<td>N/kg</td>
</tr>
<tr>
<td><strong>11</strong></td>
<td>What is the gravitational field strength on Earth?</td>
<td>10 N/kg</td>
</tr>
<tr>
<td><strong>12</strong></td>
<td>What piece of equipment is used to measure weight?</td>
<td>Newton meter (of force meter)</td>
</tr>
<tr>
<td><strong>13</strong></td>
<td>Which direction do magnetic field lines go?</td>
<td>From North to South</td>
</tr>
<tr>
<td><strong>14</strong></td>
<td>Name two methods to find out the shape of a magnetic field.</td>
<td>1. Using a plotting compass 2. Using iron filings</td>
</tr>
</tbody>
</table>

### Keywords & Spellings

- contact
- force
- repel
- attract
- weight
- mass
- newtons
- friction
- streamlined
- magnetic
- gravity
- resistance
- resultant
- unbalanced
- compress
- stretch