SHOLING INFANT SCHOOL

Science Learning Journey Planning



How can I keep healthy and why is it important?



What does exercise do to our bodies? What would happen if we did not exercise? Which parts of the bodies get stronger when we exercise? What things do we need to do to have good hygiene? What happens if we have poor hygiene? Is all food the same? How can I have a balanced diet?

PRIOR LEARNING: I already know the name and location of basic external body parts e.g. arm, head, leg, nose, ear, mouth, foot, elbow, knee, wrist, shoulder, neck. When provided with the five senses, I know which body part is used for each sense. **PSHE** - I can already talk about what healthy means. I can already talk about how we can keep healthy e.g. diet, exercise, brush teeth, sleep. I already know how to stop germs from spreading and basic hygiene routines e.g. washing hands.

VOCABULARY (highlighted words - children have to know and explain):

Exercise - muscles, exercise, fat, healthy, heart rate, breathing, sweat, active, strength, energy, obese.

<u>Hygiene</u> - germs, bacteria, illness, <mark>sick</mark>, healthy, hygiene, clean, dirty, spread, wash, clean, teeth, hair, body, shower, bath.

<u>Diet</u> - balanced diet, healthy, food, water, carbohydrates, protein, fruit, vegetables, fats, dairy, energy, vitamins, calcium, bones, food groups.

Working scientifically: data, record, investigation, prediction, results, conclusion

NC REFERENCE

Substantive Knowledge

Pupils will be able to

 Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

Disciplinary Knowledge

Pupils will be able to:

- Perform simple tests
- Gather and record data

WHAT (CONTENT)

Lesson 1: What is exercise and what does it do to our bodies?

Recap: Last year in year 1 we learnt about different parts of the body (both internal and external) as well as learning about which body parts are used for which senses.

Retrieval Practise: quiz on senses and internal body parts to recap Year 1 (books).

Teach: Explain to the children that this half term we will be learning about being healthy and the impact this has on different parts of our body. Teach that one way that we can stay healthy is by doing regular exercise. Explain that exercise is any physical activity that we do that gets our bodies moving (being active). Share some examples of common exercise and create a mind map — get children to share some ideas to add to map.

Today we are going to do an investigation to answer the question: what does exercise do to our heart rate? Our heart rate is the speed that our heart beats and pumps blood around the body. We are going to be using heart rate monitors to measure our heart rate before and after each exercise. Show chn how to use heart rate monitor — put finger in, it will beep and tell you your heart rate. We are going to work with our partners today and answer our investigation question. We will be working scientifically to perform a simple test to see how exercise affects our heart rate and gather and record data by using a heart monitor and writing our results in a table. Talk through table and explain that we need to pick 3 different exercises to see how it affects our heart rate — we can use our mind map to help us to think of some exercises.

I Do: model choosing 1 exercise and filling in table. Model measuring your resting heart rate and recording it. Do the exercise for 1 minute. Then measure your heart rate again. Sentence stem: My heart rate was quicker before/after exercise because... Teach that when we are exercising, our heart rate goes up (i.e. gets faster) because our heart is working harder to pump blood. This makes it stronger, which is why exercise is so important.

We Do: children to help to select an exercise. Model measuring a child's resting heart rate and recording it. All children do the exercise for 1 minute. Then measure the heart rate again (show monitor under visualiser and get children to help read it and record it.) Think nest, pair, share — My heart rate was quicker before/after exercise because... Send childring off to complete task.

HOW (PEDAGOGY)

Lesson 1:

Class mind map of different exercises.

Children to select three different exercises and record them in the table. Children to work in mixed ability pairs to record resting heart rate and heart rate after completing each activity.

Exercise (1 min)		
heart rate before		
heart rate after		

Children to record what they found out using the sentence stem: My heart rate was quicker before/after exercise because...

OUTCOME (EVIDENCE)

Lesson 1:

Table filled in containing sections for exercise, heart rate before and heart rate after.

Children to write sentence about what they found out using the sentence stem.

Lowest 20%: children to be supported by work in mixed ability pairs. Scribing if needed to complete sentence stem.





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Lesson 2: Why is exercise important for humans?

Recap: Last lesson we learnt about the importance of exercise. We did some exercises and collected data using the heart rate monitors.

Retrieval Practise: Miss Russell thinks it is important to exercise because it helps our heart rate to get faster, which is good for the body. Miss T thinks we should not exercise because if our heart rate is fast, that is bad for us. Who do you agree with? Sentence stem: *I agree with Miss Russell / Miss T because...*

Teach: Explain that exercise is important for humans because it has lots of positive effects on different parts of the body, particularly our internal body parts (we call these organs). Remind children of their learning from last week about the effect of exercise on the heart — when we exercise, our heart rate gets faster because our heart is working harder, and this makes our heart muscle stronger. Teach that exercise strengthens your muscles so you get stronger and can do more things. Also, exercise helps makes our lungs stronger because we breathe faster when we are active to get more oxygen. When we exercise, our brain releases a chemical that can improve our mood (i.e. make us happier). Exercise also has many more benefits such as getting more energy, helping you to be more flexible and helping you to maintain weight or lose excess body weight.

I Do: Model writing sentence about what happens to the heart when we exercise: When we exercise, our heart beats faster and pumps blood around the body. This is important because it makes our heart stronger.

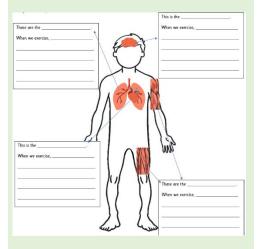
We Do: Children to help to write a sentence about what happens to the lungs when we exercise – think, nest, pair, share with sentence stem 'when we exercise...' (e.g. When we exercise, our lungs work harder and take in more oxygen. This is important because it makes them stronger and better at their job.)

You Do: Children to pick either the brain or muscles and write a sentence on their boards to explain what happens to them when we exercise. Children to use the sentence stem: when we exercise... and key vocabulary displayed on IWB. Use AfL to see who to send off to task (children can copy their sentence into books).

Lesson 2:

HOW (PEDAGOGY)

Children to complete sheet where they need to identify the different internal organs and use the sentence stems and key vocabulary to explain what impact exercise has.



Lesson 2:

Children to write the impact of exercise on each of the internal body parts, using provided sentence stems and key vocabulary.

Lowest 20%: fill in the blanks to say the impact of exercise on each of the internal body parts. Scribing if needed.

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WHAT (CONTENT)

Lesson 3: Why should humans have good hygiene?

Recap: Last lesson, we learned that exercise is important to keep us fit and healthy. If we do not exercise, we will become unfit (discuss impact on organs) and gain weight.

Retrieval Practise: Match the internal body part with what happens when we exercise (in books).

Teach: Today we are going to be looking at hygiene — this is how we keep ourselves and the world around us clean so we can stay healthy. Use character of Dirty Bertie (his story on the slides) to explore what constitutes poor hygiene (e.g. not having a bath, not brushing teeth). Explore some of the different things that we can do to have good hygiene and talk about why it is important to our health: brushing hair, wearing clean clothes, having a bath or shower, brushing teeth, washing hands, using a tissue etc. Teach the consequences of poor hygiene — germs and bacteria can make us and the people around us sick, and good hygiene can help to prevent the spread of germs and bacteria and stop it getting into our bodies. Having good hygiene also helps us to get rid of any dirt and avoid becoming smelly.

Bertie's family need our help. They need us to create a poster that they can put in their home to remind Bertie how to have good hygiene.

I Do: Model drawing a picture of a toothbrush with toothpaste and model writing sentence next to it: *Brush your teeth to protect your teeth and get rid of germs.*

We Do: Draw a bath and shower – children to help to think of the accompanying caption (think, nest, pair, share). E.g., *Take a bath or a shower to get rid of dirt and germs from your body.*

You Do: Share a picture of tissue box - chn to write a sentence on their board to explain what hygiene practice this represents. Use AfL to see who to send off to task (children can copy their sentence into books).

HOW (PEDAGOGY)

Lesson 3:

Children to create a poster to show what we can do to have good hygiene. Children to draw pictures and write a sentence to explain.

Children to complete sentence: If we have poor hygiene...

OUTCOME (EVIDENCE)

Lesson 3:

Poster in books on how to have good hygiene and answer to question 'what happens if we have poor hygiene?' using provided sentence stem.

Lowest 20% — draw pictures in books and write simple sentences: wash your hands, brush your teeth etc. Scribe more detailed answers if needed.

Deepen: Model an odd one out task with exercise (4 pictures – 3 showing good exercise and 1 not). Model saying which one is the odd one out and why using sentence stem: The odd one out is _____ because...

Children to complete odd one out task with hygiene pictures (4 pictures – 3 showing good hygiene practices, one not). Sentence stem: The odd one out is _____ because...

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Lesson 4: What happens if we have poor hygiene?

Recap: Last lesson we looked at hygiene and why it is important to have good hygiene.

Retrieval Practise: Miss Cooper has sorted the pictures into things that show good hygiene and things that show poor hygiene. Do you agree with the way she has sorted the pictures. Sentence stem: I agree / disagree with Miss Cooper because...

Teach: Does soap help get rid of germs? Today we are going to do an experiment to see if this is true or not. When scientists are doing an experiment to find an answer to a question, they can make a prediction of what they think will happen. For our investigation, we need to think about whether we think soap will help to get rid of germs or not. Let's make a prediction together as a class. We predict that... (copy prediction onto sticker template and print so chn can stick in books).

Explain the method of the experiment: In our experiment we need to compare what happens when we use soap, to what happens when we don't use soap. This is called a comparative test. We will have a bowl of water with germs in - the germs are represented by the pepper granules. First, we will dip our finger in and see what happens. Then we will put soap on our finger and dip it in to see what happens. (Children to complete experiment and come back to the carpet.)

I Do: We now need to record our results, just like we did for the exercise experiment a few weeks ago. Discuss what happened when we did not have soap on our finger then model writing a sentence about it. The germs stuck to our finger.

We Do: Children to help write a sentence to explain what happened when we had soap on our finger. Think, nest, pair, share: When we had soap on our finger... (i.e. the germs moved away from our finger).

You Do: based on our experiment, is this true or false? *Using soap* when we wash our hands is better than using no soap. Children show using thumbs up/down and explain why. *I think this because...* Send children away to complete results section of the table.

Bring children back — share concept cartoon of 3 children who have written a sentence about hand washing. Explain task — which sentence best fits with the results we found in our experiment. Send children off to complete.

Lesson 4:

HOW (PEDAGOGY)

Class prediction in books (sticker to be stuck onto sheet).

Children to complete soap experiment, and after discussion, record findings as a class and talk about the science behind the results (germs stick to oil on our hands and soap helps to remove the oil so germs do not remain on our hands).

Children to decide which sentence best fits the results we found in our investigation. I agree with ______ because....



Lesson 4:

Class prediction and results recorded in books. Children to select the person whose sentence best fits the results that they found in the investigation and reason why.

Lowest 20% to be supported by working in mixed ability groups to complete the investigation. Scribing if needed for results aspect of the experiment.

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WHAT (CONTENT)

Lesson 5: Is all food the same?

Recap: Last lesson we conducted an experiment to find out if soap helps to get rid of germs. We found out that we should wash our hands using soaps, as this gets rid of germs.

Retrieval Practise: Write three ways humans can have good hygiene (in books).

Teach: Explain that this week, we will be looking at the importance of a balanced diet. Remind children that diet is what we eat. We must make sure we eat a variety of food from the different food groups. Show video to help children better understand why we need food and why a balanced diet is important - https://www.youtube.com/watch?v=mMHVEFWNLMc

Show children trio of lunchbox pictures (one full of fats, one full of fruit and veg and one with a mix of food) — go through each one and explain which one shows a balanced diet. Address misconceptions that just eating healthy foods is the best diet. Emphasise the need for a balanced diet as we need different foods to help our bodies with different things (to get the nutrients that we need).

In year 1 we learnt about fruit and vegetables, today we are going to build on this and learn about five different food groups (carbohydrates, protein, dairy, fruit and vegetables, fats) and their role in the body. Watch video:

https://www.twinkl.co.uk/go/resource/tgv2-sc-11-food-groups-30-second-video.

Discuss each food group and what it provides the body with: carbohydrates (provide energy), proteins (help our muscles stay strong and helps the body to repair itself), dairy (give us calcium and vitamins to keep our bones and teeth strong), fats (give us energy and keep us warm) and fruits and vegetables (provide us with vitamins and minerals).

Children to have a go at sorting activity on tables in mixed ability groups — matching food groups and pictures of food. Bring chn back to the carpet and show the food pyramid and discuss the proportions of the food groups — there are some food groups we should eat lots of (like carbohydrates, fruit and vegetables) and others we should not eat as much of (like fats).

I Do: model drawing a couple of bits of food in the correct place on the food pyramid. Explain thinking using sentence stems: A ______ goes in the _____ group. We should / should not eat lots of this because... (e.g. A loaf of bread goes in the carbohydrates group. We should eat lots of this because it gives us energy).

We Do: Choose a food and get chn to help you decide which food it should go in. Use above sentence stems (think, nest, pair, share).

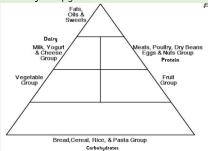
You Do: show broccoli. Children to record on whiteboards the food group it goes into. Verbally come up with sentence stems using think, nest, pair, share.

HOW (PEDAGOGY)

Lesson 5:

Food sorting activity — mixed ability groups chn to sort food into one of the 5 different groups.

Food pyramid activity — children to draw some examples of food in the correct place on the food pyramid.



Children to complete sentence stems: We should eat lots of _____ because...

We should not eat lots of _____ because...

OUTCOME (EVIDENCE)

Lesson 5:

Children to complete blank food pyramid – draw and label pictures of food that go into each of the food groups.

Children to complete sentence stems to explain which groups we should eat lots of and which groups we should not eat loads of and why.

Lowest 20% to complete the cloze procedure.

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Lesson 6 - Deepen

Recap: in the previous lesson, we looked at the importance of having a balanced diet and eating foods from the different food groups.

Retrieve: have all the foods been placed in the correct place on the food pyramid? Sentence stem: The ______ is in the wrong place. It should be in the ______ group.

Teachers to first model a debate scenario, focusing on clearly speaking and getting ideas across in full sentences. Show how we can build on certain ideas, using words such as also, another reason is etc.

Question: what is the most important factor in staying healthy — a balanced diet, doing regular exercise or having good hygiene?

Children to be split into groups of 3 and given either diet, exercise or hygiene. They need to make a list of arguments to support the idea that theirs is the most important factor in staying healthy, using what they have learnt this half term about why we need to do these things/what would happen if we did not do these things. Provide children with sentence stems to guide their ideas. After 10 minutes of preparation, children to present to the class the reasons they have chosen. Remind children of how we can be a good listener (giving attention, not interrupting).

After all children have shared, display concept cartoon.

Child 1 thinks that having a balanced diet is the most important factor in staying healthy.

Child 2 thinks that doing regular exercise is the most important factor in staying healthy.

Child 3 thinks that having good hygiene is the most important factor in staying healthy.

HOW (PEDAGOGY)

Lesson 6:

Children to work in mixed ability groups to prepare their response to the question. They will practise being good speakers and good listeners.

Children to think carefully about all the reasons shared and decide which child they agree with on the concept cartoon.

I agree most with _____ because...

OUTCOME (EVIDENCE)

Lesson 6:

Children to take part in oracy deepen.

Children to write their response to the concept cartoon, using the provided sentence stem and key vocabulary they have learnt.

Lowest 20% to be supported by mixed ability groups during oracy task. Ideas for concept cartoon to be scribed if needed.

Sticky Knowledge - All children will:

- 1. I know at least three examples of exercise and know some reasons why it is important for humans.
- 2. I know at least three ways that we can have good hygiene and explain simply what would happen if we had poor hygiene.
- 3. I know that we need to eat different foods to have a balanced diet and know that we need to eat more of certain food groups than others.